## Brooklyn College Bulletin



Undergraduate Programs

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2000-2003
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## College of Liberal Arts and Sciences School of General Studies



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## Brooklyn College

Brooklyn College is a member unit of the City University of New York, the nation's leading public urban university. The university comprises eleven senior colleges, seven community colleges, one technical college, a graduate school, a law school, and a medical school. More than 200,000 students are enrolled in the academic programs offered at campuses located throughout the five boroughs of New York City.

## A historical view

It is more than seventy years since Brooklyn saw the establishment of the first public coeducational liberal arts college in the City of New York. 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. 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 Midwood 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 Georgianstyled buildings. On November 4, 1999, that same shovel was used in the groundbreaking ceremonies that launched the $\$ 54.4$ million expansion of the college's library.

Since its opening, Brooklyn College has distinguished itself as one of the nation's leading public institutions of higher education. In 1989 the college was cited in a report by the National Endowment for the Humanities for developing "a core that has led to revitalization of Brooklyn College and drawn much public attention and praise." In 1987, when the Carnegie Foundation for the Advancement of Teaching surveyed academic deans from across the country and asked them to name institutions where general education was succeeding, Brooklyn College was among the five most frequently cited. In 1992 Brooklyn College was one of six colleges and the only public institution to have students receive both a Rhodes Scholarship and a Marshall Scholarship.

The college's innovative programs continue to win national recognition. Its Freshman Year College received the Theodore M. Hesburgh Award in 1998 and the Noel-Levitz Retention Excellence Award in 1999. The college was cited in 1999 for leadership by The Templeton Guide: Colleges that Encourage Character Development.

Brooklyn College's reputation has attracted an outstanding faculty. Known throughout the nation and the world for their scholarly achievements, more than 90 percent of the college's faculty members hold the highest degree in their fields. Its professors include Academy Award-winning actor F. Murray Abraham, Pulitzer Prize-winning historian Edwin G. Burrows, novelist and screenwriter Carey Harrison, composer Tania Léon, computer theorist Rohit Parikh, and nuclear physicist Carl Shakin.

The tradition of academic excellence is reflected in the accomplishments of Brooklyn College graduates. Four hundred Brooklyn College alumni are listed in Who's Who in America and 150 alumnae, in Who's Who in American Women. More than 300 Brooklyn College alumni are presidents, vice-presidents, or chairpersons of the boards of major corporations. Each year the college's graduates receive more than 350 acceptances to law schools and medical schools, including such institutions as Harvard, Yale, Stanford, and the University of Pennsylvania.

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 distinguished institutions of higher education.

## The mission of the college

Brooklyn College is a comprehensive, state-funded 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 primary goals are access and excellence.

Within the context of this broader mission, the particular mission of Brooklyn College is to provide a superior education in the liberal arts and sciences. The college offers a wide variety of programs, both in the liberal arts and in professional and career-oriented areas, leading to the baccalaureate and master's degrees and to undergraduate and advanced certificates. In addition, the college participates in the doctoral programs of the Graduate Center of The City University of New York, including campus-based programs in the sciences.

Distinctive in this liberal arts education is the core curriculum, which is required of all baccalaureate students. The core has long been a national model for general education programs and for faculty and curriculum development. The ten Core Studies courses expose students to the principal branches of learning-the arts, humanities, social sciences, and sciences-and provide a rigorous foundation for study in a major field.

Through its distinguished faculty, the college promotes excellence in teaching, advances the frontiers of knowledge through research and scholarship, and stimulates creative achievement and intellectual growth.

The overarching goal of the educational experience at Brooklyn College is to provide students with the knowledge and skills to live in a globally interdependent world and the support services to help them succeed. The college also seeks to develop a sense of personal and social responsibility by encouraging involvement in community and public service. It fosters a campus environment hospitable to multicultural interests and activities. Moreover, as an urban institution, it is able to draw upon the myriad resources of the city to enhance its educational mission.

## Accreditation

Brooklyn College is accredited by the New York State Department of Education; the Middle States Association of Colleges and Schools, 3624 Market Street, Philadelphia, Pennsylvania 19104 (telephone: 215-662-5606); the Association of American Universities; the American Association of University Women; the American Dietetic Association; and the American Board of Examiners in Speech Pathology and Audiology. Documentation is available in the Office of the Provost, 3137 Boylan Hall.

## Student enrollment

Student enrollment for the past three academic years has been as follows: 15,007 students in fall, 1997; 14,973 students in fall, 1998; and 15,057 students in fall, 1999.

## Undergraduate degree programs

Brooklyn College offers more than ninety-five undergraduate programs leading to bachelor of arts, bachelor of fine arts, bachelor of music, or bachelor of science degrees. Additional degree programs are described in the chapter "Special Programs."

Degree requirements and course descriptions are published in this Bulletin.

## Undergraduate divisions

The College of Liberal Arts and Sciences (CLAS) is the day session of the college; the School of General Studies (SGS) is the evening session. Weekend College offers courses on Saturday and Sunday.

Students may enroll in CLAS, SGS, or Weekend College and may study full time or part time in any division. They may transfer from one division to the other or take courses in other divisions without transferring. Classes are offered in fall, spring, and summer terms.

## Graduate study

The Division of Graduate Studies offers more than eighty programs leading to the degrees of master of arts, master of fine arts, master of music, master of science, master of science in education, and master of public health and to advanced certificates in education. City University doctoral courses are offered at Brooklyn College. The college offers combined undergraduate and graduate degree programs described in the chapter "Special Programs," including the master of professional studies.

Seniors whose scholastic work is superior may apply for admission to graduate courses for graduate or undergraduate credit.

## Undergraduate curriculum

A college education at Brooklyn is built on three kinds of study: the college-wide core curriculum, studies in a major field, and elective courses. The core curriculum establishes a level of knowledge and competence that is increased in individually selected ways in elective courses and in the major field of study. In addition, dual majors and minor programs of study are available in a number of fields.

The Brooklyn College core curriculum occupies approximately one-fourth of the total undergraduate program. Most students will take the Core Studies courses over their first two or three years. This permits early exploration and development of the major field as well as the immediate exercise, if desired, of elective course choices. The core curriculum consists of a set of interrelated courses, plus foreign language study, that offers a solid background in the liberal arts and sciences. These courses provide a foundation for more specialized study in the remaining three-quarters of a student's curriculum. Brooklyn's core curriculum provides a shared intellectual experience as the basis for a college education. Core Studies courses are described in this Bulletin in the chapter "Programs of Study."

Studies in a major field occupy up to one-half or, in some cases, more of the total undergraduate program at Brooklyn College. These studies provide a foundation for choosing a career and offer the strongest possible sequence of preparation for a major field of study. The major field is chosen by each student, with departmental advice, from among the programs listed in the "Inventory of Registered Programs" section of this Bulletin.

Elective courses permit further expression of a student's individual interests. Elective choices play a significant role in the education of every student at the college: well-chosen electives round out and continue the liberal studies of the core curriculum, adding breadth and depth to studies in the major field. Minor programs, consisting of at least twelve credits in advanced electives, have been established by a number of departments and programs. Formal and informal counseling from the faculty throughout the undergraduate program of study assists students to direct and shape their own educations at Brooklyn.

## Goals of the curriculum

The Brooklyn College undergraduate curriculum aims at enabling a student to attain the following goals at the time of graduation:

Development of the faculty of critical thought and the ability to acquire and organize large amounts of knowledge; along with this, the ability to write and speak clearly-to communicate with precision and force.

An informed acquaintance with the vistas of modern science and a critical appreciation of the ways in which knowledge of nature and the individual is gained.

An informed acquaintance with the major forms of literary and artistic achievement, past and present, and a critical appreciation of the contributions of literature and the arts to the life of the individual and society.

An informed acquaintance with the working and development of modern societies and with the various perspectives from which social scientists study these.

A sense of the past—of the foundations of Western civilization and the shaping of the modern world.

An appreciation of cultures other than one's own, including the diverse cultures represented in the collegiate community at Brooklyn.

Establishment of personal standards of responsibility and experience in thinking about moral and ethical problems.

Depth in some field of knowledge; a major field of concentration.
The core curriculum provides the groundwork for reaching these goals by exposing students in the most effective way to the principal branches of learning and the diverse points of view of our faculty. The Core Studies courses strike a balance between the traditional concerns of liberal learning and thoroughly contemporary perspectives, providing at the same time a well-balanced blend of approaches to learning-discipline-based, modular, integrated, and combinations of these. Through a sequence that is both complementary and cumulative, a fund of cross- reference for cross-disciplinary dialogue is established. In this way, the common-experience courses should increase the quality of the elective area of the curriculum and add a broader perspective to the student's chosen major.

## Brooklyn College Alumni Association

The primary charge of the Brooklyn College Alumni Association (BCAA) and the Brooklyn College Office of Alumni Affairs, 1239 Boylan 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, 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 world. Each spring alumni return to the campus for Alumni College Day, when the BCAA holds its annual awards luncheon and annual meeting, at which the Sam Levenson, '34, and Esther Levine Levenson, '34, Scholarships are awarded. Alumni also take part in class and special group reunions in the fall, when the BCAA honors an alumna and alumnus of the year.

The Office of Alumni Affairs (telephone: 951-5065) maintains a database of more than 86,000 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 the 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.

## Brooklyn College Foundation, Inc.

Incorporated in 1958, The Brooklyn College Foundation, Inc., which is governed by a board of trustees, was created by a group of loyal alumni and friends of the college to assist in its future development. The foundation raises funds "to encourage and promote the educational purposes of Brooklyn College of The City University of New York and the educational welfare of its students in their relations with each other, the members of the faculty, the alumni, and the community."

The foundation raises funds for scholarships and awards, fellowships, professorships, visiting scholar programs, lectureships, the libraries, campus improvements, art and music studios, and laboratories, among other projects. Funds are solicited from alumni, friends of the college, faculty and staff members at the college, foundations, and corporations.

The foundation office (telephone: 951-5074) is in 1122 Ingersoll Hall.

# College Libraries, Centers, Institutes, and Special Facilities 

## Libraries

## Brooklyn College Library

The Brooklyn College Library provides integrated information support for the college's instructional, research, and administrative activities. Collections total more than 1,280,000 volumes, 4,380 current serial subscriptions, and 21,000 audiovisual units (chiefly sound recordings and videotapes), as well as a substantial collection of electronic information resources. The library adds approximately 15,000 new titles each year to its comprehensive humanities, social sciences, and sciences collections and participates in cooperative activities and arrangements with other libraries in the Borough of Brooklyn, in the metropolitan area, in New York State, and nationally.

Construction has begun on a major capital improvement project for renovation of the existing library and the addition of 105,000 square feet of space. Expanded seating and stack areas, with an emphasis on advanced technology in library services, will enhance the library's role as the central information resource of the college.

Until the completion of the project, in 2001, the library will occupy temporary quarters. Circulation, Reference, the Archives, Research Services (interlibrary loan), administrative offices, and the circulating collections are located in the Field Library next to the athletic field. Government Publications, Microforms, Reserves, Periodicals, and Academic Information Technologies are located in the Roosevelt Library on the third and fourth floors of Roosevelt Hall and Roosevelt Extension. The Music Library is located in Gershwin Hall. The World Wide Web, the on-line catalog CUNY+, and full-text electronic journals and other resources are accessible from every temporary location as well as at the Library Café, the student Internet café located on the lower level of Whitehead Hall. The library's Web page, academic.brooklyn.cuny.edu/library/bclib.htm, provides maps and detailed information about the library's temporary locations and services.

The library's entire collection is represented in CUNY+, the on-line catalog. This catalog also shows the library's journal holdings and provides access to periodical indexes.
Brooklyn College librarians provide extensive reference service to faculty and students. An active library instruction program provides fundamental training in the use of library materials through freshman English classes and advanced subject lectures through upper-division courses.

Library resources and collections have been developed collaboratively by librarians and faculty. The library collection supports undergraduate and master's-level study in the humanities, social sciences, and sciences. The collection is especially strong and research-oriented in history and American and British literature; it also has research-oriented collections in chemistry, biology, and computer science. The library holds important special collections, among which are the Brooklyniana Collection, the Manuscripts Collection (including the materials of Oscar Handlin and Sam Levenson), the College Oral History Archives, the College Archives, and the Robert L. Hess Collection on Ethiopia and the Horn of Africa.

Further information about the library may be obtained by calling 951-5336.

## 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.

## Costas Memorial Classics Library

## 2405 Boylan Hall

The library contains more than 1,000 volumes of Greek and Latin texts and texts on classical topics donated by the late Professor Procope 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.

## Walter W. Gerboth Music Library

Named in memory of its principal founder and first librarian, respected teacher and scholar Walter W. Gerboth, the library offers facilities for music study, research, and listening. During the 1999-2000 academic year, the music library is temporarily located on the third floor of Gershwin Hall. Effective fall 2001, it will occupy space on the second floor of the newly renovated and expanded 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-ROM, 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.

## 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.

## Boyd V. Sheets Memorial Library 4433 Boylan Hall

The library supplements the Brooklyn College Library and serves as a research and study room for undergraduate and graduate speech-language pathology and audiology majors. It contains approximately 2,500 textbooks and ten volumes of technical journals, which were donated by students, alumni, staff, and colleagues or purchased through contributions. Students who are interested in using the facility should obtain permission from the Speech and Hearing Center, 4400 Boylan Hall.

## Centers and institutes

## Africana Research Center <br> 3107 James Hall, 951-5597

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

## Applied Sciences Institute <br> 3248 Boylan Hall, 951-5252

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

The research institutes of the ASI are also involved in a number of major university-wide economic development research programs, including the CUNY Center for Advanced Technology for Ultrafast Photonic Materials and Applications, which is sponsored by New York State, and the Higher Education Applied Technology Program, which is also funded by the 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 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, psychology, and physics 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 participate. The center publishes its findings.

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

The center is sponsored by the M.S. in education and advanced certificate for school psychologists programs 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, part of the Conservatory of Music, promotes musical and interdisciplinary projects using a variety of computer platforms and software applications. Its recording studio is equipped with sixteen-track digital recording, with mixdown capabilities. A variety of high-quality microphones, mixers, tape recorders, and signal processors is available.
The center's control room is linked to a medium-sized room for solo and chamber music recordings and to a fully equipped 500-seat theater for larger ensembles. The conservatory also offers courses in recording technology.

Since 1990, the Center for Computer Music has hosted the Electroacoustic Music Festival concert series, offering performances of music, video, film, and live electronic works by artists from universities and centers throughout the United States and abroad.

## Center for Diversity and Multicultural Studies <br> <br> 3309 James Hall, 951-5766

 <br> <br> 3309 James Hall, 951-5766}The center promotes and supports a dynamic multicultural academic environment. Policy initiatives and curriculum and faculty development are promoted through the Multicultural Studies Council and the Multicultural Assembly; students are empowered through participation in the Multicultural Action Committee and community-service learning programs.

The Office of Community Service Learning (OCSL), a branch of the center, develops models for urban public colleges and curricula in academic departments in order to serve community needs effectively, educate students, and support research.

## Center for Health Promotion

4145 Ingersoll Hall, 951-5565 or 951-5026
The Center for Health Promotion develops, coordinates, and centralizes a variety of outreach programs initiated by faculty members. The center organizes workshops, seminars, and conferences on health and nutrition topics. It serves as an information resource for health professionals, students, and community residents. It provides opportunities for students to learn through volunteer work and to serve the community through field work and independent studies on health promotion.

## Center for Human Relations 4611 James Hall, 951-5607

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 and political attitudes and behavior patterns of Italian Americans. Graduate and undergraduate students may participate in the center's research projects. The center sponsors conferences and cultural events. 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 900 volumes

## Center for Latino Studies <br> 1205 Boylan Hall, 951-5561

The center is an adjunct of the Department of Puerto Rican and Latino Studies. It serves students, faculty, and the community by stimulating interest in Puerto Rican and Latino affairs. It provides opportunities to sponsor conferences, workshops, lectures, seminars, internships, and noncredit courses. It encourages 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. Research at the center is supported by grants from external agencies.

## 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, and developed data bases on aspects of international television.

## Children's Studies Center <br> 3416 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 students in the exploration of careers related to children and youth services.

## 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, part of the Conservatory of Music, is a research center dedicated to the study, preservation, and presentation of a wide spectrum of American musics.

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. Its series of concerts and workshops, Sounds of Brooklyn, unites research, education, and community outreach.

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.

## 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 assure 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.

## Special facilities

## Art Gallery at Brooklyn College

Main Floor, La Guardia Hall
The gallery, which is associated with the Art Department, mounts several important, diverse national and international exhibitions each year, serving the Borough of Brooklyn, as well as the college community, and drawing visitors from throughout the New York area. In addition to many art shows, the gallery has presented exhibitions on such themes as folk art, history, and local lore. Its major source of support is the Donald E. and Edith Peiser Fund.

## Audiovisual Center

0118 Ingersoll Hall, 951-5327
Audiovisual equipment and materials are provided for the use of the college community. Consultation in their use is offered, and instruction is given in the operation of equipment. Equipment includes audio and video cassette players, projectors, and tape recorders. Materials include a wide range of audio and video recordings.

## Brooklyn Center for the Performing Arts at Brooklyn College (BCBC) 154 Gershwin Hall

The performing arts center is a cultural resource for both the campus and the wider community, serving more than 250,000 patrons each year. The center includes the George Gershwin Theater (capacity: 500), Walt Whitman Hall (capacity: 2,500), the Sam Levenson Recital Hall (capacity: 160), and the New Workshop Theater (capacity: 100), a studio facility .

More than 300 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 Wind Ensemble, Mainstage productions by the Department of Theater, and fully staged productions of the Brooklyn College Opera Theater.

BCBC presents eight guest artist series, featuring music and dance that represent a wide variety of cultural traditions-African, African American, American, Caribbean, Chinese, Cuban, Israeli, Italian, Mexican, Puerto Rican, South American, Spanish, Russian, and Ukrainian, among others. Through such series as Musical Masters, Sensational Saturdays, Swingin' Sundays, Caribbean Celebration, World of Dance, and FamilyFun, the center has presented world-renowned orchestras, soloists, dance companies, and popular entertainers. More than 50,000 young people attend BCBC's popular SchoolTime series.

The center's box office is in the lobby of the George Gershwin Theater. Program information may be obtained by calling 951-4500.

## 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-ROM; 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, two 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 Extension and Roosevelt Hall.

The Brooklyn College Preparatory Center for the Performing Arts, established in 1978, is the precollege component of the Conservatory of Music and the Department of Theater. The center offers a community program with classes in music, theater, and dance for children three-and-one-half to eighteen years of age
and for adults. 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.

## Center for Assistive Technology 4125 Boylan Hall, 951-3193

The center is a collaboration between the Brooklyn College Speech-Language Pathology and Audiology Program and Premiere HealthCare, a member agency of the Young Adult Institute, which serves individuals with disabilities throughout the New York City metropolitan area. The center 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 and computers, the center helps individuals with severe disabilities to develop communication and literacy skills. For students majoring in speech-language pathology, 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.

## Computer Center

## Plaza Building, 951-5787

The Atrium, one of the largest and most up-to-date computing facilities in the City University, is used by the students, faculty members, and instructional departments of the college. Each term, it offers instruction in the use of computer equipment and software to about 15,000 students and 400 faculty and staff members.

Brooklyn College provides enrolled students with access to microcomputer and terminal equipment at several locations on campus. A multifunction, 165 -workstation facility, located at 1306 Plaza Building, provides three computer classrooms equipped with Windows 95 and SUN computers, with additional machines of each type, including iMacs, in the Atrium open lab area.

Specially configured computers for students with disabilities are available for individualized instruction, homework, and research.

The Jack Wolfe Lab, a 100 -workstation microcomputer facility in 1300 Plaza Building, the lab features sixty Pentium computers, twenty-six Macintosh Power PC computers, and seventeen Sun Unix workstations, all connected to a variety of shared, high-speed laser printers. The Jack Wolfe Lab houses the college video-conferencing media distribution system. This system enables the college to broadcast and receive signals from similar facilities around the world. The room is primarly used for collaborative classes among the CUNY colleges, but also hosts live video satellite broadcasts, professional and educational conferences and seminars as well as administrative meetings and training.

The Morton and Angela Topfer Library Café is centrally located on the first floor of Whitehead Hall. The cafe's fifty state-of-the-art workstations provide access to the Web, free college e-mail service, and library databases.

All the above computers are tied together on Local Area Networks, which enable shared use of printing and other common facilities as well as access to the City University (UCC) mainframe computers and the Internet.

Smaller classroom facilities and instructor stations in Ingersoll Hall Extension and elsewhere support the core curriculum and other instructional programs.

Eligible students and faculty and staff members of Brooklyn College may use, via telecommunications, the mainframe computer at the University Computer Center of the City University of New York for academic and administrative purposes. The University Computer Center is one of the largest university computer installations in the country and includes super-computing (high-speed vector processing) facilities. Batch-job processing and teleprocessing services, all standard IBM languages, and numerous mathematical, health and nutrition, social science, and scientific application packages and database
services are available. The University Computer Center also provides extensive consulting, documentation, and educational services in cooperation with the staff of the Brooklyn College Computer Center.

## Language Laboratories 4311, 4315, and 4316 Boylan Hall, 951-5231

The laboratories are part of the Department of Modern Languages and Literatures. Lab I, in 4316 Boylan Hall, is equipped with a library of audiotapes and videotapes. Listening, viewing, and recording facilities are available for use in developing oral and aural language skills. Students use Lab I for course work or independent language study. Audiotapes and videotapes may be borrowed for use outside the lab. The services of Lab I are available to all members of the college community.

Lab II, the Computer Language Lab, 4315 Boylan Hall, is equipped with multimedia computers. Windows and Macintosh platform computers are available for language instruction. All systems are equipped with audio and video capabilities, and provide a wide variety of interactive foreign-language software.

Lab III, in 4311 Boylan Hall, is a classroom equipped with computers and a wide-screen television set for class work.

## Learning Center <br> 1300 Boylan Hall, 951-5821

The computer-equipped Learning Center offers peer tutoring to students in all divisions of the college. Using the latest technology, trained tutors collaborate with faculty to help students strengthen their study skills and master course work across the curriculum. Help is available for the mechanics of writing, outlining, revising, and developing a format for essays, research papers, résumés, or laborartory reports. In addition to support in writing, the Learning Center provides tutoring for most core courses and science courses as well as in economics, philosophy, foreign languages, mathematics, and others. The facility was funded by a federal Department of Education Title III-Developing Institutions grant, the New York City Council, the City University of New York, and the Brooklyn College Foundation, Inc.

## Office of Research and Program Development 2158 Boylan Hall, 951-5622

The goal of the office is to expand the external funding base of the college's research, teaching, and 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. 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 the college and the Research Foundation of The City University of New York.

## Speech and Hearing Center <br> 4400 Boylan Hall, 951-5186

The center provides quality clinical services on a fee basis for clients with such communication disorders as speech, 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 sound-proof, double audiometric booths containing the latest instrumentation for audiological testing and research.

## Speech Department Interpersonal Communications Skills Center 3430 Boylan Hall, 951-5282

The center is equipped with listening, recording, and video facilities. It contains a collection of readings of poetry, prose, and drama, including a special collection of historic speeches.

The room has tapes and records that focus on the improvement of voice and diction, the acquisition of effective listening skills, and strategies in public speaking. Instruction and help are given in selecting and using material.

## Television Center <br> 303 Whitehead Hall, 951-5585

The center provides production facilities and technical support for the Department of Television and Radio. Facilities are also available for rental by private clients. To help bridge the distance between academic experience and the workplace, the center employs students in the department's master of fine arts program as part-time professional assistants. They participate in all aspects of operation and provide crucial support for center activities.

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

## Morton, '59, and Angela Topfer Library Café First Floor, Whitehead Hall, 951-4672

The café, open twenty-four hours a day, features fifty networked computer stations in both PC and Macintosh environments. Each has the latest versions of multiple software packages and Internet browsers. Notebook computers, plugs-ins for personal laptops, and high-quality laser printers are available. There are three group-study areas and two for individual study or reading. Modeled on the style of Internet cafés, the sleek, state-of-the-art facility is a popular site for computing, study, student interchange, or merely having a sandwich, coffee, or a soda. Large picture windows provide natural lighting and face a landscape courtyard; the interior includes warm wood finshes and comfortable ergonomic seating. The snack bar is open from 9 a.m. to 7 p.m.

## Women's Center <br> 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 9 a.m. to $5 \mathrm{p} . \mathrm{m}$. weekdays.

# Special Programs 

Freshman Year College

Designed to help new students make the transition to college life, Freshman Year College offers a coordinated program of advisement, support services, and specially designated course sections for firsttime freshmen. Under the auspices of Freshman Year College, all entering students meet with faculty and peer advisers to plan their first-semester programs. Entering freshmen are encouraged to register for block programs, groups of courses chosen from among writing and communication courses and courses in the Core Curriculum. Freshman block courses are taught by selected faculty. Since the same group of students take all three courses in a given block, new students have the opportunity to establish informal learning communities, both in and outside of the classroom or laboratory. Course work in Freshman Year College is coordinated with the Learning Center and the Starr English-as-a-Second Language Center. For information, contact the Office of the Dean of Undergraduate Studies, 3208 Boylan Hall (telephone: 951-5771.)

## B.S.-M.P.S. program

Qualified students may apply for admission to a four-and-one-half-year B.S.-M.P.S. (Master of Professional Studies) degree program in computer and information science and economics. Information about the program is in the "Computer and Information Science" and "Economics" chapters in this Bulletin.

## Preprofessional studies in health-related careers

## B.A.-M.D. program

Brooklyn College and Downstate College of Medicine of the State University of New York at Brooklyn offer a joint B.A.-M.D. program for students who are graduating from high school and entering Brooklyn College as freshmen. The program is designed to produce physicans who are well educated in the humanities and social sciences as well as in science. Students have the opportunity to do research, work on honors projects, and participate in an internship at Downstate College of Medicine.

Students are admitted to the program only in the fall term. Further information, including special application forms and detailed requirements of the program, can be obtained from the Brooklyn College Office of Admissions and from the Honors Academy office. Additional information is in the "Admission" and "Interdisciplinary Studies" chapters in this Bulletin.

## Predental and premedical curriculum

Premedical and predental students may major in any liberal arts discipline but must complete the following minimum requirements in the sciences: one year of general biology, one year of general chemistry, one year of organic chemistry, and one year of general physics. Students should make certain that they are meeting the minimum requirements of the medical and dental schools of their choice by visiting the preprofessional adviser in the Personal Counseling and Career Services Center, 1305 James Hall.

## Health-related professions curriculum

Brooklyn College students, after earning sixty credits and meeting other specified requirements, may apply for admission to health-related degree programs at the State University of New York (SUNY) Health Science Center at Brooklyn. Programs are offered in health information management, occupational therapy, physical therapy, physician assistant training, and diagnostic medical imaging. Students should consult other professional schools about specific requirements for their programs.

## Engineering curriculum

Students who intend to major in engineering can complete the first two years of requirements for a four-year engineering degree by taking appropriate courses at Brooklyn College in chemistry, computer and information science, mathematics, physics, engineering, and liberal arts. Well-qualified students interested in engineering may also apply to the Honors Academy at Brooklyn College. Students should consult the engineering counselor about the entrance requirements of engineering schools. Information
may be obtained in the Physics Department, 3438 Ingersoll Hall. Additional information is in the chapter "Admission" in this Bulletin.

## Coordinated engineering programs

Brooklyn College has three coordinated engineering programs with the City College School of Engineering, with the College of Staten Island Engineering Science Program, and with Polytechnic University of New York. In these programs, the well-prepared student attends Brooklyn College for the first of two years of study in an engineering curriculum that includes courses in mathematics, computer science, chemistry, physics, and the liberal arts. In addition, courses in mechanical and electrical engineering are offered. Upon successful completion of the Brooklyn College component, the student is guaranteed transfer to Polytechnic University, the College of Staten Island, or the City College School of Engineering for an additional two years to fulfill bachelor of science degree requirements in one of the following fields: aerospace, chemical, civil and environmental, electrical, computer, industrial, mechanical, or metallurgical engineering; or engineering science. The Brooklyn College courses in these programs are fully transferable to City College, the College of Staten Island, or Polytechnic University, and they are generally acceptable at other engineering schools.

## Brooklyn College/Polytechnic University Coordinated Engineering Program

For the Polytechnic University program, students must complete their engineering studies with an index of 2.5 or better in required science, engineering, computer and information science, and mathematics courses in order to be guaranteed admission with junior-year status in the specific, corresponding Polytechnic engineering program. Areas of specialization comprise electrical and computer, chemical, civil and environmental, and mechanical and aeronautical engineering. Students transferring to Polytechnic University through this program may be required to complete certain courses during the summer before the junior year. The engineering degree will be awarded from Polytechnic University.

For further information, call the Brooklyn College engineering coordinator (951-5418) or the Polytechnic University Associate Director of Admissions (718-260-3100).

## Brooklyn College/City College Coordinated Engineering Program

For the City College program, students must complete their engineering studies with an index of 2.0 or better in required science, engineering, computer and information science, and mathematics courses in order to transfer with junior-year status to the City College School of Engineering. Areas of specialization comprise computer science, civil, electrical, and mechanical engineering. Students transferring to City College through this program may be required to complete certain courses during the summer before the junior year. For further information, call the Brooklyn College engineering coordinator (951-5418).

## Brooklyn College/College of Staten Island Coordinated Engineering Program

For the College of Staten Island program, students must complete their engineering studies with an index of 2.0 or better in required science, engineering, computer and information science, and mathematics courses in order to transfer with junior-year status to the College of Staten Island Engineering Science Program. Areas of specialization comprise electrical, environmental, and mechanical engineering. For further information, call the Brooklyn College Engineering Coordinator (951-5418).

## CUNY Baccalaureate Program

The CUNY Baccalaureate Program is a versatile program that enables students to design their own program of study leading to a B.A. or B.S. degree. Students who have completed at least 15 credits of college-level work with a scholastic index of 2.5 or higher for their recent work may apply to the program.

Under the guidance of a faculty mentor, participants develop an individual course of study. Program staff can help applicants recruit faculty members to serve as mentors. Applicants should have clear academic or career goals. Every student must complete 90 credits in regular course work and at least 30 credits while in the program. In some cases credits may be awarded for valid learning experiences that occurred prior to entering college.

Students admitted are eligible to study at any combination of the seventeen undergraduate colleges of the university. The degree is awarded centrally by the City University of New York. Students pay the same tuition and fees as Brooklyn College matriculants.

Information and application forms may be obtained in the Office of Adult Degree Programs, 1411 Boylan Hall (telephone: 951-5262) or from the CUNY Baccalaureate Program, 365 Fifth Avenue New York, New York 10016 (telephone: 212-817-8220).

## Professional option

Students may earn a B.A. or a B.S. degree from Brooklyn College if they have satisfactorily completed all requirements except 32 elective credits and have satisfactorily completed at least one year's work in an accredited medical, veterinary, dental, engineering, or law school.

Courses offered to fulfill degree requirements, including those completed in the professional school, must constitute an acceptable degree program approved by the Academic Advisement Center. A student's professional school record is examined for duplication of work done at Brooklyn College, the extent of liberal arts work, the appropriateness of the professional courses as supplementary work in a liberal arts program, and the quality of the work.

Students interested in engineering should consult the engineering coordinator in the Physics Department office, 3438 Ingersoll Hall. Students interested in health professions should consult a counselor in the Career Services Preprofessional Counseling Program, 1305 James Hall. Students interested in law should consult a prelaw counselor in 1305 James Hall.

## Honors Academy

The Brooklyn College Honors Academy, 2231 Boylan Hall, serves exceptionally well qualified, eager, imaginative students who are flexible in their interests and open to new discoveries and experiences. Its purpose is to stimulate students to develop their potential and to assume responsibility for educating themselves and, by learning collaboratively, for educating one another. The academy shares a suite of rooms with the Wolfe Institute for the Humanities.

The academy provides a coherent curriculum relevant to the needs of more than three hundred students. It offers students access to faculty members through smaller classes, closely monitored apprenticeships, and working relationships with successful local professionals; a student commons room; a collaborative community of students similarly interested, ambitious, and talented; computer facilities and room to work and study together; a tranquil setting with access to the scholarly and cultural resources of New York City; tutoring experience; and programmatic guidance insuring that students follow academic paths appropriate to their interests and talents.

The Honors Academy curriculum includes honors sections of English 1 and 2 and of Core Studies 1, 3, 4, 6, 10; an interdisciplinary sophomore seminar; the B.A.-M.D. colloquium; the Ford colloquium course sequence; and the senior colloquium for senior thesis support.

The academy brings together in one location seven subunits: the Scholars Program, a four-year program in interdisciplinary studies; the B.A.-M.D. program, a four-year program for students guaranteed entrance to the College of Medicine of the State University of New York Health Science Center at Brooklyn; Engineering Honors Program, a two-year engineering curriculum leading to transfer to engineering studies elsewhere; Dean's List-Departmental Honors Program; the Mellon Minority Fellowship, a two-year upper-division program for minority students considering scholarly study in the humanities; the Ford Colloquium, a twoyear upper-division program for students contemplating careers in college or university teaching; and the Special Baccalaureate Degree Program, an innovative program for adults.
Application forms for all seven programs may be obtained in the Honors Academy office and in the Office of Admissions. Admission criteria for the four-year programs may be found in the "Special programs" section of the "Admission" chapter in this Bulletin. For scholarships offered by Brooklyn College, see "Scholarships, Prizes, and Awards."

## Scholars Program

A four-year interdisciplinary liberal arts program, the Scholars Program is designed for a small community of well-prepared, academically ambitious students who are eager to extend themselves beyond normal course requirements. Its honors classes are small. Its curriculum encourages students to develop and pursue new interests by exploring relationships among different areas of knowledge. Students learn how to formulate, discuss, and write clearly about significant issues and to evaluate their work independently and realistically.

Scholars Program students carry the same course load as other students but each semester do honorslevel work in one or two of the courses they are carrying. As freshmen, they take an honors section of Freshman Composition that prepares them to work independently on interdisciplinary honors projects during their sophomore, junior, and senior years. They also take honors sections of selected Core Studies courses, a sophomore seminar, and a senior colloquium. The program encourages students in their junior year to broaden their experience with study at other colleges, study abroad, or involvement in workinternship programs in the New York City area.

Courses that Scholars Program students take for honors credit and pass with a grade of $\mathrm{A}, \mathrm{B}$, or P are indicated on their transcripts with an "H." Graduation from the program is marked with special recognition at Commencement, by a transcript notation and by a note on the diploma, "Honors in the Scholars Program." Curricular requirements for the Scholars Program are described in the "Interdisciplinary Studies" section of this Bulletin.

## B.A.-M.D. program

The B.A.-M.D. program is described under "Preprofessional studies in health-related careers" in this chapter. Curricular requirements for the B.A.-M.D. program are described in the "Interdisciplinary Studies" section of this Bulletin.

## Ford Colloquium

Created in response to a challenge grant from the Ford Foundation, the colloquium helps undergraduates prepare for graduate school and for careers in research and college teaching. The program, open to students in all disciplines, helps students find a mentor and undertake research in their major field. Students take four courses in the colloquium and receive opportunities to work closely with one another and with faculty members. Scholarship aid is provided. Students enter the program in the summer following their sophomore year.

Applicants should be open, although not necessarily committed, to an academic career. They should have a 3.5 grade point average and should submit an application and two letters of recommendation from faculty members before the announced deadline in the spring semester. Applications and further information are available in the Honors Academy office. Curricular requirements for the Ford Colloquium are described in the "Interdisciplinary Studies" section of this Bulletin.

## Mellon Minority Undergraduate Fellowship

Funded by the Mellon Foundation, the Mellon Minority Undergraduate Fellowship is open to African American, Hispanic, Caribbean-American, and Native American undergraduates who are interested in a career in college or university teaching and research in the humanities. Students are offered special courses and colloquia, faculty mentoring, research opportunities, and internships. The major requirements are those of the department in which the student enrolls and will not be modified for this program. Mellon fellows receive modest stipends for work done in the program.

Students may become Mellon Fellows at any point during their first two years at Brooklyn College. Requirements for entrance include evidence of solid academic achievement, two letters of recommendation from faculty members, a written essay describing career interests, and an interview by the screening committee. Applications for admission and additional information are available from the director.

## Engineering Honors Program

The Brooklyn College Engineering Honors Program prepares students for careers in such fields as computer design, communications, robotics, aerospace, industrial chemistry, environmental protection, and materials science.

During their two years in the Engineering Honors Program, students follow a course of study of more than 70 credits in engineering and the liberal arts that provides a solid foundation for transferring as juniors to major engineering schools. Course work includes physics, chemistry, biology, mathematics, and computer science as well as liberal arts courses in Brooklyn College's Core Studies program. Students also take courses in such subjects as engineering mechanics, electrical circuit analysis, data structures, and computer organization. These courses are equivalent to courses required during the first two years of study at most engineering schools.

Upon completion of the program, students are guaranteed enrollment as juniors at City College School of Engineering, the College of Staten Island Department of Applied Sciences, or Polytechnic University. They may also apply for admission to any other engineering school.

For members of Engineering Honors who decide not to pursue engineering, the program's Core Studies requirements enable students to continue in one of the seventy-five undegraduate majors available at Brooklyn College.

## Dean's List-Departmental Honors Program

Each year, well-qualified juniors (61-90 credits) may join the Honors Academy at Brooklyn College if they have been on the Dean's List for two consecutive semesters and are active candidates for departmental honors in their major.

Honors Academy students gather in the Honors Academy meeting and seminar rooms for work, study, and friendship with like-minded students from other academy programs. They have access to the academy's computer facilities and are offered honors courses and symposia, guidance in planning academic programs appropriate to their individual interests and abilities, and priority registration. Upon graduation, they receive "Honors Academy Graduate" certification on their transcript and diploma.

Students may apply for Deans List-Departmental Honors membership in the Honors Academy regardless of their major-humanities, sciences, social sciences, or the arts-if they have been on the Dean's List for two consecutive semesters. Students who are not yet candidates for departmental honors may begin work on departmental honors by asking the chair or honors coordinator of their major department to approve a plan of honors-level study.

To continue as a Dean's List-Departmental Honors member of the Honors Academy, students must maintain a GPA of 3.50 or higher, take one Honors Academy course or one Core Studies honors section during their first or second full semester as a member, and actively pursue departmental honors in their major. Their department honors adviser will keep the academy informed of their progress.

## Special Baccalaureate Degree Program

The Special Baccalaureate Degree Program, for exceptional students who are returning to college as adults, is described in the chapter "Adult Degree Programs" of this Bulletin. Special Baccalaureate students may be accepted into the Honors Academy after they have completed thirty credits of course work with a GPA of 3.5 or higher.

## Honors

Students may earn honors credit and graduate with honors in several ways at Brooklyn College: through membership in the Honors Academy, by completing honors work in a departmental major, and by doing independent study projects in regular courses.

## Departmental honors

Students may do honors-level work in any departmental major or interdisciplinary program at Brooklyn College. The college encourages students to begin making plans to graduate with departmental honors late in their sophomore year or early in their junior year. Students should begin making these plans by talking with a teacher in their major department, with the department chairperson, or with the department's honors committee chairperson. Some departments publish an honors brochure explaining the department's requirements for graduating with honors. Departmental honors courses, usually numbered 83 through 89 , are open primarily to juniors and seniors. Qualified upper sophomores may be admitted with the written permission of the department chairperson and the Academic Advisement Center. Honors credit may also be earned for completion of honors-level supplementary work in an introductory or advanced regular course in which the final grade is A, B, or P (see "Honors credit for regular courses," below). Honors credit is indicated on transcripts with an "H." Students must have permission of the course instructor before beginning honors-level work.

## Honors credit for regular courses

Students may earn honors credit by doing substantial supplementary work in an introductory or advanced course in the regular undergraduate curriculum after arranging with the instructor at the beginning of the semester to do an honors project in that course.
To apply to do an honors project, students should fill out an "Honors Credit in Regular Courses" form obtained from the Office of the Registrar, 1118 Boylan Hall, fill it out, and ask the instructor to sign it after discussing thoroughly the nature of work to be done.

At the end of the semester, the form should be returned to the instructor along with the completed honors project work. The instructor will submit the form with the grade roster for the course if the project has been satisfactorily completed. Honors credit will be allowed when the final grade in the course is A, B, or P. Honors credit is indicated on transcripts with an "H."

## Certificate programs

Credit-bearing certificate programs are offered in accounting, in computers and programming, and in film production. Credits earned in these programs are also applicable toward the baccalaureate degree. A description of the certificate program in accounting is in the "Department of Economics" section of this Bulletin.
A description of the certificate program in film production is in the "Department of Film" section of this Bulletin.

## Study abroad

For information about study-abroad programs, contact the Office of the Dean of Undergraduate Studies, 3208 Boylan Hall (telephone:951-5771).

## Brooklyn College-in-Spain

Brooklyn College students may study for a semester in Madrid at the Fundación José Ortega y Gasset. Courses are offered for both heritage and non-heritage students from high intermediate to advanced levels. All courses are taught in Spanish, with an emphasis on the development of written and spoken language skills, reading competency, and cultural knowledge. Internships are availablefor qualified students. Courses include "The Golden Age of Spanish Literature and the Arts" and "Conversation and Contemporary Spanish Culture." Participants live with carefully selected Spanish families.

## Summer Institute in Spain for Teachers

Brooklyn College offers a summer program in Madrid in collabration with the Fondación José Ortega y Gasset. The program responds to the interests and needs of New York State and New York City Teachers by providing the opportunity to earn six undergraduate or graduate credits in Spanish and Spanish culture. Program participants may be heritage or non-heritage speakers of Spanish, with skill levels varying from elementary to advanced.

## CUNY/Brooklyn College Program for Study in Israel

Brooklyn College undergraduate and graduate students may study for a semester, a year, or a summer in any of the following universities in Israel: Bar Ilan University, Ben Gurion University, University of Haifa, Hebrew University, or Tel Aviv University. Courses are taught in English, but students learn Hebrew as well. Internships and individualized, supervised study may be arranged to meet the special needs and interests of students. In addition, special activities, including archaeological digs, provide opportunities for students to become acquainted with the history, people, and culture of Israel.

Students earn full academic credit for courses taken in Israel. Some scholarships are available; and as students are enrolled at Brooklyn College during their study abroad, they remain eligible for most financial aid. For more information about the program, contact the director of the CUNY/Brookyn College Program for Study in Israel, 3608 James Hall (telephone: 951-5146).

## New York/Paris Exchange Program

The New York/Paris Exchange Program offers CUNY undergraduate and graduate students in all disciplines the opportunity to study at one of the Universities of Paris for one or two semesters. Participating students will register at their home colleges for a minimum of twelve blanket credits per semester before departing for France. When they return, the credits and grades they earned there may be applied toward their degrees as elective credits. Students of all departments are invited to apply. A minimal proficiency in French (three semesters of college French recommended) and a 2.7 overall grade point average are required. There is a representative of the program on each campus.
For further information or application, write or phone New York/Paris Exchange Program, 3208 Boylan Hall (telephone: 951-5771).

## Summer program in Africana studies

The Department of Africana Studies periodically offers, through Africana Studies 73, a six-credit summer seminar, usually in Africa, a Caribbean country, or one of the nations of South or Central America, or a region of the United States with a large population of people of African descent. Costs include Brooklyn College tuition and fees (including administrative fees) and a program fee that covers transportation and room and board. A graduate seminar is also available through Africana Studies 770X. For more information on Africana studies summer seminars and on plans for future seminars, contact the Department of Africana Studies, 3105 James Hall (telephone: 951-5597).

## Summer seminar in Puerto Rican and Latino studies

The Department of Puerto Rican and Latino Studies periodically offers a six-credit summer seminar that enables students to study in Puerto Rico, the Caribbean, or other Latin American geographical settings. In conjunction with a university or other institution of higher education in the host site, the summer seminar affords an opportunity for advanced work in Puerto Rican and Latino studies. In order to provide students with a broad Latino context, the seminar is occasionally held in a region of the United States that has a significant Latino population.
A graduate seminar is also available. Costs include Brooklyn College tuition and fees (including an administrative fee) and a program fee that covers transportation and room and board. For more information, contact the Department of Puerto Rican and Latino Studies, 1205 Boylan Hall (telephone: 951-5561).

## Summer program in London

Brooklyn College offers a five-week, six-credit summer program in Bloomsburg in English literature and culture to undergraduate students from the beginning of July to the first week in August. Courses include "Shakespeare," "Contemporary British and European Drama from 1950 to the Present," and "Creative Writing."

To participate in the program, students must pay Brooklyn College tuition and fees (including administrative fees) and a program fee that covers airfare, private room and English breakfast, bus and subway passes for unlimited travel in Central London, and admission to eight plays. For more information, contact the director of the Summer Program in London, Department of English, 2308 Boylan Hall (telephone: 951-5195 or 5258), before December 1.

## Summer programs

## Summer sessions

Brooklyn College offers two summer sessions to matriculated and nondegree students. Students may not take more than seven credits or two courses in each session. Students may, however, register for more than seven credits if they are in a single summer institute. For study-abroad summer programs, see above.

Information about registration, tuition and fees, and course offerings is in the summer Schedule of Classes, which may be obtained from the Office of Student Records, 1112 Boylan Hall. Departments have information about specific courses.

## Latin/Greek Institute

In the Latin/Greek Institute, Brooklyn College and the City University Graduate School offer college-level work in Latin or Greek language and literature. In intensive eleven-week summer programs, 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 Latin literature. The Greek curriculum consists of language study and reading and analysis of representative texts in Attic, lonic, and Koine Greek. Information and application forms may be obtained in the Department of Classics, 2408 Boylan Hall (telephone: 951-5191), or at the Latin/Greek Institute Office, 365 Fifth Avenue, New York, New York 10016 (telephone: 212-817-2081).

## Continuing Education Program

The Continuing Education Program offers students of all ages an opportunity for lifelong learning. New skills or careers may be acquired and talents developed in a friendly, professional atmosphere. Customized training programs are designed and delivered to businesses, industries, agencies, and corporations.

Noncredit courses offered for professional development and career enhancement, as well as those leading to training certificates, are given in the following areas: computer skills, child care, renal dialysis technology, medical billing, medical administration, bookkeeping, accounting, allied health professional training, paralegal studies, real estate, gerontology, and medical writing.

Students may explore a variety of noncredit programs in the humanities and foreign-language study. As goals are established, students develop skills that will enable them to progress academically and prepare for such tests as college entrance, English-as-a-second-language, and high school equivalency examinations.

The Children's University at Brooklyn College (CUB), for preschool through high school, is a program in which students explore recreational and academic studies in a nurturing, creative environment. Courses are taught by experienced teachers who are certified by New York State or professionals who are accomplished in their fields. Students may attend a summer day-camp program.

Catalogs and information may be obtained in the Continuing Education Program office, 1212 Boylan Hall (telephone: 951-4141).

## Institute for Retirees in Pursuit of Education

The Brooklyn College Institute for Retirees in Pursuit of Education offers opportunities for retired people to continue their education, develop creative talents, share life experiences, and foster social and interpersonal relationships. Courses vary in duration and subject matter and may include traditional disciplines, current events, trips, concerts, and workshops. Information may be obtained in 3160 Boylan Hall or by calling 951-5647.

## Campus high schools

## Midwood High School at Brooklyn College

Midwood High School is the affiliated campus high school of Brooklyn College. The campus high school project reflects the college's continuing concern for strengthening public secondary education and building professional working relationships between its faculty and teachers in the city's schools. Its goal is to strengthen the preparation of Midwood High School students for college and expand the constituency from which those students are drawn.

In this partnership, Midwood High School remains under the jurisdiction of the New York City Board of Education. In matters of curriculum design, school organization, and high school-college articulation, the president of Brooklyn College maintains contact with the chancellor of the New York City public schools, the High School Division of the Board of Education, and the Midwood High School principal.

## Brooklyn College Academy

The Brooklyn College Academy is a middle college high school on campus for students who can benefit from smaller classes, more individual attention, and a nurturing environment. The Senior Institute, on campus, houses grades eleven and twelve; "Bridges to Brooklyn," a new off-campus annex, houses grades seven through ten. The mission of the academy is to strengthen student performance and to expand students' horizons to include postsecondary educational opportunities and career goals.

Curriculum and alternative teaching strategies are developed through the collaborative efforts of the college and academy faculties. An integral part of the curriculum is a career education program that places students in self-selected working environments where they can acquire skills, experience, and selfconfidence while serving the community and earning high school credit. Enriched educational experiences are also offered through collaborations with cultural, civic, and educational institutions in the community.

Admission to the academy is open to Brooklyn residents, who may apply through their elementary school, junior high school, or high school guidance counselor.

## Adult Degree Programs

Adult degree programs leading to a B.A or B.S. degree extend higher education opportunities to adults. Brochures for these programs may be obtained from the Office of Adult Degree Programs, 1411 Boylan Hall (telephone: 951-5262).

The educational philosophy of adult degree programs proposes that age, job, and personal responsibilities should not bar a student from pursuing his or her higher education; that a student who needs a second chance for higher education, or a first chance later in life, should have that opportunity; and that study of the liberal arts and sciences provides the basic foundation for personal enrichment and career advancement. Convenient scheduling is an important feature of all degree programs for adults, which may be attended on day, evening, or weekend schedules.

## Weekend College

In recognition of the multiple responsibilities of adult students, Weekend College offers classes on Saturdays and Sundays. Courses are offered leading to degrees in business, management, and finance; English; sociology; computer and information science; and elementary education. Students wishing to pursue other majors may combine weekend study with weekday or weeknight courses. Weekend College students are given priority in registration for weekend sections, but weekend classes are open to all Brooklyn College students, providing additional flexibility in scheduling in order to enable students to progress more quickly toward a degree. For information, contact the director of Weekend College, 1411 Boylan Hall (telephone: 951-5262).

## Special Baccalaureate Degree Program for Adults

Qualified adult students enrolled in this program may apply for life-experience credit for courses in which they can document or demonstrate mastery of the theoretical and practical content. Life-experience credit is awarded only on completion of the second-year seminars.

Students may concentrate in any academic major that the college offers during the day, evening, or weekend. Interdisciplinary seminars in communications and humanities, social sciences, and natural sciences make up 52 of the credits required for a B.A. or B.S. degree and satisfy the Core Studies requirements of the college. Students may earn a B.A. or B.S. degree in three-and-one-half to four-and-one-half years. Class size is limited. A counseling staff provides academic counseling and career guidance.

Admission to the program is based on application, testing, and a personal interview. Courses are listed in this Bulletin. The program office is in 1411 Boylan Hall (telephone: 951-5262).

Students with a Dean's List average (3.50) at the end of their first year in the program may become members of the Honors Academy. For more information, see the "Special Programs" section of the Bulletin or contact the director of the Honors Academy, 2231 Boylan Hall (telephone: 951-4114).

## Small College Program

The Small College Program is a full-time or part-time structured evening program in which adults may earn a B.A. or B.S. degree. The program offers a planned course of study required of all students pursuing a degree. It also schedules courses for students majoring in economics; accounting; business, management, and finance; education; English; sociology; psychology; computer and information science; health and nutrition sciences (B.A.); mathematics; philosophy (option 2); and political science. Students may also select any other major offered by the college, provided that the major is available in the evening or on the weekend.

Admission is based on an application, testing, and a personal statement. Consideration is given to a student's potential and motivation as well as prior education. Transfer students may be given credit for previous college work. Courses are listed in this Bulletin. The program office is in 1411 Boylan Hall (telephone: 951-5262).

## Admission

This chapter outlines procedures and requirements for admission consideration to regular and special programs for freshman, transfer, and nondegree applicants.

Applications for admission are available from the CUNY Office of Admission Services, 1114 Avenue of the Americas, New York, New York 10036, or from the Office of Admissions, Brooklyn College, 1203 Plaza Building, Brooklyn, New York 11210. Applications for admission to the freshman class may also be obtained from city high schools. Nondegree applicants must contact Brooklyn College directly at the above address.

## Matriculated students

A matriculated student is one who is accepted and recognized by the college as working toward a degree. Students may attend Brooklyn College on a full- or part-time basis and be considered matriculated students. Four types of students may apply for admission as matriculated students: freshmen and SEEK, transfer, and Adult Degree Program students.

As one of the colleges of the City University of New York, Brooklyn College participates in centralized application procedures for freshman, SEEK, and transfer students. Application forms should be submitted to the City University Application Processing Center, P.O. Box 350136, Brooklyn, New York 11235-0001. Applicants are encouraged to file early.

## Freshmen

Freshmen are students who have not attended any college since graduating from high school or receiving a General Equivalency Diploma (GED).

All recent graduates from domestic high schools who apply to Brooklyn College baccalaureate programs are required to submit Scholastic Assessment Tests (SAT) or ACT scores.

Applicants are considered for admission on the basis of their high school academic average, academic units, course selection, SAT scores, and/or GED scores. A diploma from an accredited high school, an equivalency diploma, or a United States Armed Forces Institute diploma is required for entrance to the college. A high school certificate is not acceptable.

Applicants who are not accepted for admission may file a written appeal of the decision with the Director of Admissions.

## Recommended academic preparation

It is recommended that preparation for baccalaureate study include the following high school academic units:

English: four units.
Social studies: four units.
Foreign language: three units of one foreign language: French, German, Greek, Hebrew, Italian, Latin, Russian, Spanish, or another acceptable foreign language.

Mathematics: three units consisting of one unit of elementary algebra (9th-year mathematics), one unit of plane geometry (10th-year mathematics), and one unit of intermediate algebra and trigonometry (11th-year mathematics); or Courses I, II, and III of the New York State Sequential (integrated) Mathematics Curriculum.

Science: three units consisting of one unit of any of the following: general biology, general science, chemistry, physics, physiography or earth science, advanced biology, botany, or zoology. (It is
recommended that students intending to major in a math- or science-related area have four units each of science and math.)

Regular academic subjects and any other subjects credited in a recognized high school: four units.

## Basic skills proficiency requirements

Each student must meet the standards of proficiency in the basic skills areas of mathematics, reading, speech, and writing as established by the college and the City University. All students are tested in these areas before admission to Brooklyn College. Students who do not initially meet these standards are encouraged to participate in the college's Skills Immersion Program (summer, for fall matriculants; intersession, for spring matriculants) and Prelude to Success/Semester-in-Residence Program. In addition, the Board of Trustees of The City University of New York has mandated that students meet a City University level of skills proficiency before entering the upper division.

Specific basic skills proficiency requirements are in the chapter "Academic Standing."

## Advanced placement

Students who have completed college-level courses in high school may be considered for exemption, with or without credit, from equivalent college courses on the basis of Advanced Placement Program tests given by the College Entrance Examination Board, Box 592, Princeton, New Jersey 08541. Brooklyn College gives exemption examinations in subjects not offered by the board. Each department makes decisions regarding exemption and credit.
Students who want to apply for advanced placement based on scores received on College-Level Examination Program tests or on New York State College Proficiency Examination tests should contact the Transfer Evaluations Office, 1122 Boylan Hall, Brooklyn College, Brooklyn, New York 11210.

Students who have taken the Advanced Placement Program Test and College Proficiency Examination must request the administering agency to forward their test booklets to the Transfer Evaluations Office, 1122 Boylan Hall, Brooklyn College.

## Regular admission appeals

Students who applied to Brooklyn College but who were denied admission may appeal that decision by making an appointment for an interview with an admissions counselor (telephone: 951-5001). Appeals may only be approved for regular admissions.

## SEEK program students

The Search for Education, Elevation, and Knowledge (SEEK) program of the City University of New York assists in providing higher education opportunity for economically and educationally disadvantaged students. The program at Brooklyn College provides support through a financial-aid stipend, academic support, tutorial services, and specialized counseling.

The SEEK application procedure is the same as the freshman application procedure. Applicants should complete the special SEEK section of the freshman application.

## Transfer students

Applicants who have attended any accredited college or university are considered for admission with advanced standing on the basis of liberal arts and science credits completed as follows:

1. Up to six credits completed with an overall average of 2.00 or higher and the required high school academic average.
2. Seven to 14 credits completed with an overall average of 2.50 or higher, or an overall average of 2.00 and the required high school academic average.
3. Fifteen to 23 credits completed with an overall average of 2.25 or higher, or an overall average of 2.00 and the required high school academic average.
4. Twenty-four or more credits completed with an overall average of 2.00 or higher.
5. An associate degree completed with an overall average of 2.00 or higher.

In order to transfer to a senior college of the City University after graduating from a CUNY community college, students entering the City University must meet the standards of proficiency in the basic skills areas of mathematics, reading, and writing established by the university and Brooklyn College.

As of fall 2000, students transferring to CUNY from non-CUNY colleges with 45 or more credits (including those in progress) are exempt from taking and/or passing the University Skills Assessment Tests. At the college's discretion, these students may be asked to take one or more of the University Skills Assessment Tests for placement purposes.

Applicants who have been dismissed from another college for academic reasons are not admitted as transfer students.

Students needing additional information may come to the Transfer Evaluations Office, 1122 Boylan Hall, or to the Office of Admissions, 1203 Plaza Building.

## Evaluation of transfer credit

All transfer students, particularly those educated outside the United States, must provide college bulletins and official copies of transcripts from their former institutions for transfer credit evaluations.

The Transfer Evaluations Office may assign credit for courses equivalent to courses at Brooklyn College completed with a grade of D or higher at colleges of the City University and/or with a grade of C or higher at other accredited colleges. Credit may also be assigned, if the department recommends it, for courses for which there are no specific equivalents at Brooklyn College. Credit cannot be earned twice for the same course.

Transfer students who have taken courses on a pass/fail basis at another institution must provide a letter from that institution stating that a $P$ grade represents competence of a level of $C$ or better in the course or indicating what standard of competence was required to obtain a pass grade.

After the completion of 64 credits, no credit will be given toward the baccalaureate degree for work completed at a two-year college.

## Academic residence requirement

Candidates for a baccalaureate degree at Brooklyn College are required to complete a minimum of 48 credits at Brooklyn College, including the last 32 credits taken toward the degree and at least 18 credits in advanced courses in one department or program.

## General information

## Student immunization requirement

New York State Law requires all students to submit documentation 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; blood test results
showing immunity to each disease or an exact date of having had mumps or measles (disease history is not considered 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, 1115 Plaza Building (telephone: 951-4505). While certain students may
be exempt because of age, medical reasons, or religious belief, they must still submit documentation of exemption before registering. Students who are not exempt must submit proof that they have received one dose each of measles, mumps, and rubella vaccine before registering; they have thirty days to submit proof of the second dose of the measles vaccine. After thirty days, students who have not submitted complete documentation will be prohibited from attending classes and will receive a WA grade in all courses for the semester. Tuition will not be refunded, and there may be consequences with regard to financial assistance.

## Readmission

Information on readmission to the college after a term or more of absence is in the chapter "Academic Standing."

## International students

Applications and information about special admission requirements for international students may be obtained from the City University of New York Office of Admission Services, 1114 Avenue of the Americas, New York, New York 10036.

All students educated abroad, including permanent residents and foreign nationals, should file the appropriate CUNY application form: Freshman forms should be filed by students who have never attended postsecondary institutions; transfer forms should be filed by those who have. For admission in September, freshman applicants must file by December 3; transfer applicants must file by March 3. For admission in February, freshman applicants must file by October 15 ; transfer applicants must file by November 3.

Applications will not be complete until all required documents have been submitted. Official translations must be submitted for all documents written in a language other than English. Copies of the original documents must accompany the translations.

Foreign nationals on temporary immigration status whose native language is not English and whose secondary and postsecondary schooling was not in English are required to take the Test of English as a Foreign Language (TOEFL). For application forms and information about the examination, students should contact the Educational Testing Service, Admissions Testing Program, Princeton, New Jersey 08540.

Applicants with F-1 student status are accepted as matriculated students only. Students in this status must attend full time and pay tuition as stated in the chapter "Tuition and Fees." In order to obtain the I-20 Certificate of Eligibility from the college, students must present a documented "Statement of Financial Resources." Students are required to subscribe to a medical insurance plan and arrange for their own housing. Scholarships are not available.

## Nondegree students

A nondegree student is one who is registered for credit-bearing courses but has not been accepted into a degree program. Postbaccalaureate and certificate students may be admitted to this status. Applications may be obtained from the Brooklyn College Office of Admissions, 1203 Plaza Building.

Students who do not wish to study for a degree may apply as nondegree students. Nondegree students must meet all academic admission criteria. All applicants must provide the college with official copies of high school and college transcripts.

Nondegree students may attend classes during evening or day sessions. Students with nondegree status may transfer their credits to a degree program by filing an application for status change with the Office of Admissions. Requirements for matriculation are listed in the chapter "Academic Standing."

## Visiting students

Students in attendance at colleges other than a CUNY college who wish to take courses at Brooklyn College may enroll as visiting students. They must submit to the Office of Admissions an official letter certifying that they are in good academic standing at their home college and have permission to take course work at Brooklyn College. Visiting-student status is valid for only one semester.

## Special programs

## High School Outreach Programs

Brooklyn College has expanded its precollegiate outreach efforts with an early intervention program designed to facilitate the transition to college for high school students. The program is a two-tiered collaborative effort: the college offers seminars to high school faculty on the relationship between high school-and college-level writing, with an emphasis on vocabulary, language comprehension, and textual interpretation; native and non-native English-speaking students are offered twelve-week sessions to introduce them to college-level materials and standards. The Regents Integrated Skills Program offers a supplemental after-school program that incorporates reading comprehension, vocabulary building, textual interpretation, and critical analysis.
For further information on any of the High School Outreach Programs, contact the Office of the Dean of Undergraduate Studies, 3028 Boylan Hall (telephone: 951-5771).

## Early Admission Program

High school students with superior records who have completed their junior year may be admitted as freshmen to Brooklyn College if they meet the following requirements:

1. Three years of high school work completed with an academic average of 90 percent or higher.
2. Completion of academic course work as follows:

English: three units.
Mathematics: three units that include one unit of elementary algebra (9th-year mathematics), one unit of plane geometry (10th-year mathematics), and one unit of intermediate algebra and plane trigonometry (11th-year mathematics); or courses I, II, and III of the New York State Sequential (integrated) Mathematics Curriculum.

Foreign language: three units of one foreign language:
French, German, Greek, Hebrew, Italian, Latin, Russian, Spanish, or another acceptable foreign language. Science: two units of any of the following: general biology, general science, chemistry, physics, physiography or earth science, advanced biology, botany, or zoology.

Social studies: two units.
3. A superior score on the Scholastic Assessment Test.
4. Recommendation by the high school principal (or other appropriate high school official).
5. Permission of the college admission officer, who considers, among other factors, the above requirements and the results of any tests administered by Brooklyn College.

Students should apply to the Early Admission Program through their high school adviser. Applicants should take the Scholastic Assessment Test no later than March and have the results sent to Brooklyn College. The student's application form, high school transcript, and principal's recommendation should be mailed to the Office of Admissions by the high school not later than April 15 for fall admission and November 1 for spring admission. For further information, contact the Brooklyn College Office of Admissions (telephone: 951-5001).

## Scholars Program

High School applicants to Brooklyn College may apply for membership in the Scholars Program by completing an application form available from the Honors Academy office, 2231 Boylan Hall, in addition to filing a CUNY application. The application asks for a short autobiographical essay, a high school transcript, SAT/ACT scores, and one letter of recommendation written by a responsible person the applicant has worked closely with on a demanding task.

Matriculated Brooklyn College students may also apply to the Scholars Program during their first three semesters at the college, up to the completion of 48 credits. Both day and evening students are eligible to apply.

Transfer students may apply to the program when they apply for transfer to Brooklyn College or after they begin study at Brooklyn College. Matriculated and transfer applicants should complete the application form available for that purpose from the Honors Academy office.

The application asks for a short autobiographical essay, a paper written for a college course, an up-to-date college transcript, and letters of recommendation from two college teachers.

Further information, a complete description of the Scholars Program, and assistance in filling out the entrance application are available in the Honors Academy office, 2231 Boylan Hall.

## B.A.-M.D. Program

Brooklyn College and Downstate College of Medicine of the State University of New York at Brooklyn offer a joint B.A.-M.D. program. The program is limited each year to fifteen highly qualified students who are admitted to the program only in the fall term following their graduation from high school. Applicants generally have a combined SAT score of at least 1200 and a college admission average of at least 90 . On average, students selected into the program have SAT scores of 1350 and college admission averages of 95. In addition to filing a CUNY application, a separate program application is required, including letters of recommendation, an official high school transcript, and Scholastic Assessment Test scores. Applications must be completed and returned to Brooklyn College by December 31.

Subsequent admission to Downstate College of Medicine is contigent on a student's maintaining a minimum grade point average of 3.5 overall and 3.5 in the program science requirements, completing the courses outlined in the program, completing other program requirements, and having the approval of the director. Further information and application forms may be obtained from the Brooklyn College Office of Admissions, 1203 Plaza Building (telephone: 951-5001), and from the Honors Academy office, 2231 Boylan Hall (telephone: 951-4114).

## Coordinated engineering programs

Brooklyn College has three coordinated four-year engineering programs-with the City College School of Engineering, with the College of Staten Island Engineering Science Program, and with Polytechnic University. Students interested in any of these programs must meet the eligibility criteria for admission to Brooklyn College and should use code 0524, the Brooklyn College engineering code, on their City University admission application form. Students should apply by January 15 for fall-term admission and by October 1 for spring-term admission. Once admitted to the college, engineering students will be contacted by a faculty member with information about the program. For additional information about these programs, see the chapter "Special Programs."

For more information, contact the Brooklyn College Department of Physics (telephone: 951-5418).

## Certificate programs

Credit-bearing certificate programs are offered in accounting, in computers and programming, and in film production.

Undergraduate students who want to be admitted to these programs must have received a high school diploma or the equivalent and must successfully complete the University Skills Assessment Tests as described in the chapter "Academic Standing."

Students who have baccalaureate degrees are also eligible to enroll in the certificate programs. For more information, contact the appropriate academic department.

## Tuition and Fees

Tuition and fees listed in this Bulletin and in all registration material issued by the college are set by the Board of Trustees 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.

Students pay tuition and a student activity fee for each term they enroll. Tuition is determined by a student's place of residence and classification as a continuing or new, full-time or part-time, matriculated or nondegree student. The student activity fee is determined by enrollment in CLAS or SGS. Students who have applied for, or are receiving, financial assistance and plan not to attend classes for a semester must officially withdraw before the first day of classes or they will be liable for payment of tuition and fees.

Students who are delinquent in paying tuition or fees will not be permitted to register or obtain transcripts or other records until all financial obligations have been met.

## Undergraduate tuition for continuing matriculated students

Students who were enrolled prior to June 1, 1992, pay tuition according to the following schedule.

## New York State residents

| Full-time | $\$ 1,475$ a term |
| :--- | :--- |
| Part-time | $\$ 125$ a credit |

Nonresidents and international students

| Full-time | $\$ 3,275$ a term |
| :--- | :--- |
| Part-time | $\$ 275$ a credit |

## Undergraduate tuition for new matriculated students

Students enrolled after June 1, 1992, pay tuition according to the following schedule.
New York State residents

| Full-time | $\$ 1,600$ a term |
| :--- | :--- |
| Part-time | $\$ 135$ a credit |

## Nonresidents and international students

| Full-time | $\$ 3,400$ a term |
| :--- | ---: |
| Part-time | $\$ 285$ a credit |
| Tuition for nondegree students |  |
| Nondegree students pay tuition according to the following schedule. |  |

## New York State residents

\$160 a credit
Nonresidents and international students

## Student classification

## Continuing students

To be classified as a continuing student, a student must have enrolled at a CUNY institution prior to June 1, 1992. This classification also includes students who were in attendance prior to June 1, 1992, and readmitted within a six-year period prior to the start of the semester.

## New students

Students enrolled after June 1, 1992, are classified as new students.

## New York State residents

To be classified as a New York State resident, an applicant must have resided in the State of New York for the 12-month period preceding the first day of classes of the term in which the student enrolls. The applicant must state his or her intention to live permanently and maintain his or her principal place of residence in New York State.

## Out-of-state residents

Students classified as out-of-state residents pay tuition as nonresident students. They may apply to have their status changed to New York State residents by filing a City University residence form in the Office of the Registrar, 1112 Boylan Hall. Two of the following documents must be presented to verify residence: a copy of a lease; 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 18 years of age must submit certified copies of a parent's or guardian's federal and city income tax forms. Students who were admitted to the college with an immigration permanent resident card must submit the card ta the time of filing the residence form.

Additional information and requirements are contained in the City University residence form. An applicant for residency who does not provide the required information or documentation may be classified as an out-of-state resident.

## Full-time students

Matriculated students who are enrolled for 12 or more credits or the equivalent a term are classified as full-time students.

## Part-time students

Students who are enrolled for fewer than 12 credits or the equivalent a term are classified as part-time students.

All courses taken by part-time students are billed on a per-credit basis except compensatory, developmental, and remedial courses, which are billed on a contact- hour basis. The Schedule of Classes published each term lists these courses.

The tuition charged part-time students on a per-credit basis in any one term may not exceed the term rate for full-time students.

## Summer session tuition

Students enrolled in the summer session pay tuition at the per-credit rate according to their classification.

## Student activity fee

Students pay the student activity fee for each term and summer session in which they enroll. It covers funding of student government and student organizations; use of athletic equipment and campus facilities; subscription to college newspapers; admission to certain social and cultural events; and maintenance and amortization of the Student Center.

## College of Liberal Arts and Sciences:

 $\$ 96.55$, plus $\$ 5$ CUNY Consolidated Services feeStudent Government, \$8.50
Student Center Board, \$32.50
College Association, \$47.70
College Association/
Student Government, \$4
NYPIRG (New York Public
Interest Research Group), \$3
University Student Senate, \$0.85

## School of General Studies:

\$56.35, plus $\$ 5$ CUNY Consolidated Services fee
Student Government, \$5
Student Center Board, \$32.50
College Association, \$16
NYPIRG, \$2
University Student Senate $\$ 0.85$

Summer sessions All undergraduate students: \$59.85, plus \$5 CUNY Consolidated Services fee each session

Student Government, \$2.50
Student Center Board, \$32.50
College Association, \$24
University Student Senate $\$ 0.85$

## Special fees

Accelerated study
$\$ 100$ for 18.5 to 20 credits;
$\$ 230$ for 20.5 to 22 credits;
$\$ 460$ for 22.5 to 24 credits;
$\$ 690$ for 24.5 credits plus.

## Application

\$40
\$50 for transfer students

## 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 Schedule of Classes and on the tuition bill.

## Late registration

## Library fines

## Program change

Students should consult library for the policy on fines
\$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.

## Reinstatement

$\$ 15$ for reinstatement if initial registration is canceled for nonpayment of tuition and fees.

## Replacement of ID card

Reprocessing
$\$ 15$ for a check returned by bank as uncollectible.

## Special Baccalaureate Degree Program for Adults

\$50 for evaluation of life experience.

## Speech and Hearing Center

## Special examination

\$150 for speech diagnostic evaluation; \$150 for audiological evaluations; \$560 for fourteen forty-fiveminute individual speech therapy sessions one time per week; \$980 for individual speech therapy two times per week; $\$ 100$ per semester for aphasia group.
$\$ 15$ for each examination or a maximum charge of $\$ 25$ for three or more, when a student requests an examination at a time other than th

## Transcript

\$4, waived for transcripts sent to the admissions offices of other units of the City University.

## Graduate Division tuition for undergraduate students

Brooklyn College undergraduate students who take graduate courses for graduate credit pay applicable resident or nonresident tuition rates set for graduate students and are subject to the maximum tuition rate set for undergraduate students. Graduate division tuition rates are listed in the Schedule of Classes and the Graduate Bulletin.

Undergraduate students who take graduate courses for undergraduate credit pay applicable tuition rates set for undergraduate students.

## Tuition waiver for employees of the City University of New York

After six months of service, full-time employees of the City University of New York may be granted a waiver of tuition for undergraduate credit-bearing courses. Courses may not be taken during an employee's working hours. Employees must meet standards and requirements of the college and may be admitted as matriculants or nondegree students. Exemption from payment of tuition does not include exemption from payment of noninstructional fees.

Information and applications may be obtained in the Personnel Office, 1219 Boylan Hall.

## Auditing fee

The fee for auditing a course in CLAS or SGS is the same as if the course were being taken for a grade. The fee for senior citizens (New York State residents 60 and older) is $\$ 65$ plus $\$ 5$ CUNY Consolidated Services fee a term. Senior citizens who take courses for undergraduate credit must pay the applicable tuition and fee rates set for undergraduate students.

## Refunds

The following refund schedule is subject to change by the Board of Trustees. Tuition may be refunded as follows: 100 percent refund for withdrawal from courses before the official opening date of the fall or spring term; 75 percent refund for withdrawal within one week after the scheduled opening date of classes; 50 percent refund for withdrawal during the second week after the scheduled opening date of classes; 25 percent refund for withdrawal 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.

All Title IV(Pell, College Work-Study; SEOG; Stafford, Direct, and Perkins Loans) recipients are subject to refund policies established by the federal government as follows: A student attending Brooklyn College for the first time who totally withdraws during the first 60 percent of the semester is eligible for a refund of tuition. The amount of the refund is based on the number of weeks completed compared with the total number of weeks in the semester. A continuing student is eligible for a refund in accordance with the following schedule:

Withdrawal before the first day of classes: 100 percent Withdrawal during the first or second week: 90 percent
Withdrawal during the third or fourth week: 50 percent
Withdrawal during the sixth, seventh, or eighth week: 25 percent
Further information about refunds may be obtained in the Refunds Office. The refund schedule for summer session is published in the summer Schedule of Classes.

Unless a student's registration is canceled by the college, or he or she withdraws before the first scheduled day of classes, no portion of the student activity fee or special fee is refunded. If a student's registration is canceled by the college, he or she must return the fee receipt to the Office of the Bursar, 1155 Boylan Hall, to claim a refund. Refund of the NYPIRG contribution may be obtained during a two-week refund period set by the organization.

Students who enlist in the armed services, Peace Corps, or AmeriCorps 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: 100 percent refund for withdrawal before the beginning of the fifth calendar week (third calendar week for summer session) after the scheduled opening date of the session; 50 percent refund for withdrawal thereafter.

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.

## Financial Assistance

Students who will need help in meeting college expenses should contact the Office of Financial Aid, 1507 Plaza Building (telephone: 951-5051). Financial aid representatives are available to advise and assist with applications.

## The cost of education

The cost of education is an important consideration when planning for college. A student budget consists of such educational costs as tuition, fees, books, and supplies and other general costs for transportation, food, recreation, and personal expenses. Self-supporting students will have additional day-to-day expenses for housing, food, clothing, and medical care.

## Student resources

When planning a budget for education, students should consider resources from earnings and savings, the amount their parents can contribute, and such benefits they may receive as Social Security, veterans, unemployment, or welfare.

Summer employment can help meet the first costs of enrollment, for cash is usually needed at the outset for books, supplies, and transportation.

## Financial aid programs

The following financial aid programs are available to eligible matriculated undergraduate students at Brooklyn College. Descriptions of the programs are subject to periodic evaluation and change. To apply for financial assistance, students must file a Free Application for Federal Student Aid (FAFSA) and any subsequent state applications. Applications, current information, and publications about programs may be obtained in the Office of Financial Aid.

## New York State programs

Tuition Assistance Program (TAP)<br>Supplemental Tuition Assistance Program (STAP)<br>City University Supplemental Tuition Assistance (CUSTA)<br>Aid for Part-time Study (APTS)<br>Regents Awards for Children of Deceased or Disabled Veterans<br>Vietnam Veterans Tuition Award Program<br>Regents Awards for Children of Deceased Police Officers, Firefighters, or Corrections Officers<br>Empire State Challenger Scholarships for Teachers<br>Paul Douglas Teacher Scholarship Program<br>State Aid to Native Americans

## Federal programs

Federal Pell Grants
Federal Supplemental Educational Opportunity Grants (FSEOG)
Federal Perkins Loans
Federal Work-Study Program (FWS)
Federal William D. Ford Direct Loans
Federal PLUS Loans
Veterans Administration Educational Benefits

## New York State programs

## Tuition Assistance Program (TAP)

## The TAP program provides assistance to New York residents for tuition costs.

Application procedures. Students must file the Free Application for Federal Student Aid (FAFSA) in addition to the applicable state application for TAP. Students must apply each year for this program.

The Higher Education Services Corporation determines the applicant's eligibility and mails an award certificate to the recipient indicating the amount of the grant. The college will deduct the amount of the grant from the tuition bill if the award is received before registration for classes.

Selection of recipients. TAP is an entitlement program. There is neither a qualifying examination nor a limited number of awards. To be eligible for TAP a student must:

1. be a New York State resident for one year and a United States citizen, permanent resident alien, refugee, or paroled refugee;
2. be enrolled full time and matriculated in a program approved for state student aid by the New York State Education Department; although equated credits may be used toward the determination of full-time status, students must be registered for a minimum of 6 degree credits for their first TAP payment and a minimum of 9 to 12 degree credits for each subsequent TAP payment;
3. meet the income guidelines specified by the program (these income limits are revised annually);
4. be charged a tuition of at least $\$ 200$ a year;
5. be in good academic standing;
6. not be in default on a federal student loan; and
7. declare a major not later than the beginning of the junior year.

Award schedule. The amount of the TAP award is scaled according to the level of study, tuition charge, number of family members who are full-time college students, and net taxable family income for the preceding tax year.

Program pursuit and academic progress. For continued eligibility, students must meet the program pursuit and academic progress requirements outlined in the charts below.

If a student fails to meet the requirements, application may be made for a waiver. The use of the waiver is allowed once as an undergraduate and once as a graduate student. A waiver enables a student to receive TAP for that semester only. To be eligible for further payments, a student must then meet the program pursuit and academic progress requirements outlined below.

Program pursuit requirements. Undergraduate students may receive TAP for 8 semesters, or 10 semesters if in the SEEK program.

To be eligible for TAP payment number
Minimum credits/equated credits that must be completed in prior payment semester

| 2 | 6 |
| :---: | :--- |
| 3 | 6 |
| 4 | 9 |
| 5 | 9 |
| 6 to 10 | 12 |

Academic progress requirements. Students must meet the following academic progress requirements in order to be eligible for TAP payments.

| To be eligible <br> for TAP <br> payment number | Minimum degree credits earned <br> through last semester of attendance | Minimum grade point average <br> through last semester of attendance |
| :--- | :--- | :--- |
| 2 | 0 | 0 |
| 3 | 6 | 1.0 |
| 4 | 18 | 1.2 |
| 5 | 31 | 2.0 |
| 6 | 45 | 2.0 |
| 7 | 60 | 2.0 |
| 8 | 75 | 2.0 |
| 9 | 90 | 2.0 |
| 10 | 105 | 2.0 |

## Supplemental Tuition Assistance Program (STAP)

STAP is a program that was established to provide one additional annual TAP award to students who are educationally disadvantaged. STAP awards are made only in the summer prior to the freshman year and the first summer after the freshman year.

Application procedures. The application is the same as the application for TAP.
Selection of recipients. To be eligible a student:

1. may not be a SEEK student;
2. must remain in full-time attendance; and
3. must carry a remedial work load that precludes the fulfillment of the program pursuit and academic progress requirements of the TAP program. At least half of a STAP student's minumum full-time course load must consist of noncredit remedial work.

In order to maintain continued eligibility for STAP, students are expected to remain in full-time attendance throughout the term of study. Students who fall below full-time attendance may still retain eligibility for STAP provided they successfully complete 50 percent of the minimum full-time course load of a STAP-supported semester. Students who fail to meet this standard will have the right of appeal.

Award schedule. The amount of the STAP award is the same as the TAP award.

## City University Supplemental Tuition Assistance (CUSTA)

CUSTA is a state-funded program to assist students who experience a reduction in their TAP awards beginning with their fifth semester of TAP eligibility. CUSTA funds are limited and are not guaranteed.

Application procedures. Once a student has applied for TAP, no further application is necessary. The university will review the student's records to determine eligibility for a CUSTA award.

Selection of recipients and allocation of awards. To be eligible for CUSTA, students must:

1. be enrolled in an undergraduate program at a CUNY senior or technical college;
2. be enrolled on a full-time basis;
3. be eligible for the maximum TAP award; and
4. be at least fifth-semester TAP recipients but not have exhausted their TAP eligibility.

## Aid for Part-time Study (APTS)

The APTS program provides assistance to New York residents for tuition costs for part-time study.
Application procedures. To apply for APTS, students must complete the FAFSA and state applications.

Selection of recipients and allocation of awards. Recipients of part-time tuition awards are selected on the basis of financial need after all other grants have been awarded. To be eligible, a student must:

1. be a New York State resident for a year and a United States citizen or permanent resident alien, refugee or paroled refugee;
2. have not received the maximum number of TAP/scholarship payments;
3. be in good academic standing; and
4. be enrolled for at least three but fewer than twelve semester hours or the equivalent per semester.

Graduate students, students enrolled in diploma programs in degree-granting institutions, or students attending nondegree-granting institutions are not eligible for a tuition award for part-time study.

Award schedule. The amount of the award will depend on a student's financial need, the tuition incurred, the college's allocation of funds, and the total number of eligible part-time students attending the college who apply for the award.

Awards for part-time study reduce a student's total award eligibility for the Tuition Assistance Program (TAP). Part-time awards are available for a period not to exceed eight years of part-time study or ten years of part-time study in an approved five-year program.

Program pursuit and academic progress standards. To retain eligibility, students must meet program pursuit and academic progress standards. The requirements for these standards follow.

Program pursuit. To meet the program pursuit standard a student must earn a passing or failing grade in a percentage of the minimum part-time course load (six real or equated credits) in each term an award is received. The percentage increases from 50 percent of the minimum in each term of the first year an award is received, to 75 percent of the minimum in each term of the second year, to 100 percent of the minimum in each term thereafter.

Academic progress. To make satisfactory academic progress a student must earn (successfully complete) a minimum number of semester hours of credit with a minimum grade point average in each term an award is received. The satisfactory progress standard used for TAP is adapted for use in determining satisfactory progress for part-time study. Generally, part-time students will have two semesters to achieve the satisfactory progress requirement that full-time students must achieve in one semester.

## Regents Award for Children of Deceased or Disabled Veterans

Application procedures. A special application, obtainable from the high school principal or counselor, must be filed with the New York State Higher Education Services Corporation (HESC), 99 Washington Avenue, Albany, New York 12255.

Selection of recipients. To be eligible for a Regents Award for Children of Deceased or Disabled Veterans, a student must be a legal New York State resident, and the student's parent (veteran) must have served in the United States Armed Forces during specified periods of war or national emergency and, as a result of service, have died or have suffered a 50 percent or more disability or be classified currently as missing in action.

Alternatively, the parent (veteran) must have been a prisoner of war during the specified period of service. The veteran must have been a New York State resident at the time of either entry into service or death, if death occurred during or as a result of service. The periods of service include military operations in Lebanon, Granada, Panama, or the Persian Gulf; Vietnam Era (10/1/61 to 5/7/75); Korean Conflict (6/27/50 to $1 / 31 / 55$ ); World War II (12/7/41 to $12 / 31 / 46$ ); World War I ( $4 / 16 / 17$ to $11 / 11 / 18$ ).

These awards are independent of family income or tuition charge and are in addition to other grants or awards to which the applicant may be entitled.

Award schedule. The amount of the award is $\$ 450$ per year for up to five years, depending on the normal length of the program of study. The awards are for full-time study.

## Vietnam Veterans Tuition Award Program

Application procedures. The student must file a Vietnam Veterans Tuition Award Supplement annually to the New York State Higher Education Services Corporation (HESC), 99 Washington Avenue, Albany, New York 12255. Application forms are available in the Financial Aid Office or may be obtained by writing to NYSHEC, VVTA, Albany, New York 11255-0001.

Selection of recipients and allocation of awards. To be eligible for a Vietnam Veterans Tuition Award the applicant must:

1. have served in the armed forces of the United States in Indochina between January 1, 1963, and May 7, 1975;
2. have been discharged from the service under other than dishonorable conditions;
3. have been a resident of New York State on April 20, 1984, or have been a resident at the time of entry into the service and resume residency by September 1 of the current year;
4. apply for a Tuition Assistance Program (TAP) award;
5. be matriculated in a degree program.

Award schedule. Full-time awards can range up to the cost of tuition. If the veteran also receives a Tuition Assistance Program (TAP) award, the combination of the two awards cannot exceed tuition. Part-time awards cannot exceed tuition. Part-time study is defined as at least three but fewer than twelve credits.

For full-time study, awards are available for up to eight semesters of a four-year program, or ten semesters if the student is in an approved five-year program. For part-time study, awards are available for up to sixteen semesters, or twenty semesters in an approved program that would normally require five years if the study were full time.

## New York State Regents Award for Children of Deceased Police Officers, Firefighters, or Corrections Officers

Application procedures. A special application must be obtained from the student's high school or from the New York State Higher Education Services Corporation (HESC), 99 Washington Avenue, Albany, New York 12255. Documentary evidence to establish eligibility must be submitted with the application.

Selection of recipients. To be eligible for this award the applicant must be the child of a police officer, regular or volunteer firefighter, or corrections officer who died as a result of an injury sustained in the line of duty; and a legal resident of New York State.

Award schedule. The amount of the award is $\$ 450$ per year for up to five years of full-time undergraduate study, depending on the normal length of the program of study. Awards may also be made to children of deceased police officers or firefighters under a Memorial Scholarship Supplemental Program.

## Empire State Challenger Scholarships for Teachers

Application procedures. Applications are available by writing to New York State Education Department, State and Federal Scholarship Unit, Cultural Education Center, Albany, New York 12230. Applications must be filed by mid-February for the following academic year.

Scholarship eligibility and selection of recipients. Awards are made to undergraduate students who are New York residents enrolled in undergraduate programs that lead to certification in one of the shortage fields listed below. Students may apply no later than the first semester of their junior year of college. Selection is based on academic performance and the number of teaching vacancies within the award fields.

Programs of study include bilingual education; children with handicapping conditions; English to speakers of other languages; foreign language; mathematics; and occupational educational science.

Award schedule. The award may be up to $\$ 3,000$ a year for tuition and fees for up to four years of full-time study. Recipients must agree to teach for a period of one academic year for every two years of awards received.

## Paul Douglas Teacher Scholarship Program

Application procedures. Applications are available by writing to the New York State Education Department, State and Federal Scholarship and Fellowship Unit, Cultural Education Center, Albany, New York 12230. Applications must be filed by mid-February for the following academic year.

Selection of recipients. Scholarships are awarded for full-time undergraduate study in an approved program leading to certification as a teacher in a field designated as having a shortage of teachers. A panel of college faculty members will rank applicants on the basis of their high school and/or college work. Students may submit information concerning ACT and/or SAT scores, honors, recommendations, and other information to further substantiate their eligibility to complete the approved teacher-certification program.

Award schedule. The award may be up to $\$ 5,000$ a year for educational expenses for up to four years of full-time study. A service commitment of two years of teaching is required for each year of award payments received. This service can be reduced by one half depending upon the school and teaching program selected by the recipient. The teaching service may be performed at any public or qualifying private school in the United States.

## State Aid to Native Americans

Application procedures. Application forms may be obtained from the Native American Education Unit, New York State Education Department, Room 543B, Albany, New York 12234.

Selection of recipients. To be eligible an applicant must be an official member of a New York State tribe, or the child of a member and a resident of New York State; and must maintain satisfactory progress toward completion of the program.

Award schedule. The award is $\$ 1,350$ per year for a maximum of four years of full-time study. Students registered for less than full time will be funded at approximately $\$ 46$ per credit hour.

## Federal programs

## Eligibility requirements

To be eligible for federal Title IV student financial aid programs (Federal Pell Grants, Federal Supplemental Education Opportunity Grants, Federal Perkins Loans, Federal Work-Study Program, Federal Ford Loans, Federal PLUS Loans, Federal Supplemental Loans for Students), a student must:

1. be enrolled as a matriculated student;
2. be a United States citizen or an eligible non-citizen;
3. show evidence of need;
4. not be in default of a Perkins, Stafford, or Ford Direct loan, or owe a repayment of a Pell or Supplemental Educational Opportunity Grant; and
5. maintain academic standing and make satisfactory academic progress in the course of study.

Note: The college reserves the right to withhold academic transcripts from students who default on any student loan.

## Satisfactory progress standard for Title IV federal student assistance

Federal (Title IV) student financial assistance programs require recipients to maintain academic standing and to make satisfactory progress toward their degree. See the section "Retention Standards" in this Bulletin.

In order to meet the satisfactory-progress-toward-degree requirement, students must accumulate degree credits according to the following schedule:

| End of year: | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Credits for satisfactory progress:

| 18 | 36 | 54 | 72 | 90 | 108 | 120 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Credits for conditional/provisional status:

| 0 | 21 | 42 | 63 | 84 | 105 | 120 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

In effect, students may receive federal (Title IV) assistance for a maximum of seven years of full-time study. (Students studying on less than a full-time basis will have their years of study converted to a full-time year equivalent.) Under this regulation, students must complete a minimum of 18 degree-credits (or equivalent) per full-time year. Students who fail to maintain this standard will be placed on the conditional/ provisional status specified above and can continue to receive financial assistance if they maintain eligibility under this status.

Students who fail to meet at least the conditional standard may appeal to the Academic Advisement Center to retain their eligibility to continue to receive financial assistance. These appeals will be evaluated for such mitigating circumstances as personal illness, injury, family tragedy, and the student's perceived ability to regain eligibility within a reasonable time frame.

Students who have been placed on academic probation and who make satisfactory progress will continue to maintain their academic standing with the college and their concurrent eligibility for financial aid.

Remedial course work limitation. Federal regulations limit the amount of noncredit or reduced-credit remedial course work that can be included in determining enrollment status and educational costs for federal financial aid. Once you have received federal aid for
30 or more equated credits, future remedial courses may be taken into account in awarding federal aid. Only regular course work may be used to determine enrollment status (full-time, part-time) and educational costs.
Note: Courses in English as a second language do not count against this limit.

## Federal Pell Grants

Application procedures. Students apply for Federal Pell Grants using the Free Application for Federal Student Aid (FAFSA) available in the Office of Financial Aid, or the Renewal Application. The completed application is submitted for processing according to the included instructions.

Selection of recipients. Financial need is determined by a formula developed by the United States Department of Education and reviewed annually by Congress.

Award schedule. Annual awards range from $\$ 400$ to $\$ 3,300$. The amount of the Pell Grant will be determined according to the schedule of awards based on the Family Contribution, the cost of education at Brooklyn College as defined by the Pell Grant program, and whether the student is enrolled full or part time.

## Federal Supplemental Educational Opportunity Grants (FSEOG)

Application procedures. Students apply through Brooklyn College on the FAFSA, which is available in the Office of Financial Aid. Maximum awards may vary yearly according to federal guidelines.

Selection of recipients. To be eligible students must have financial need and be enrolled at least half time.
Award schedule. Awards range from $\$ 100$ to $\$ 4,000$ based on available funds. Students are eligible to apply for the FSEOG for the period required for the completion of their first undergraduate baccalaureate degree.

## Federal Perkins Loans

Application procedures. Application is made through Brooklyn College by completing the FAFSA, which is available in the Office of Financial Aid.

Selection of recipients. Recipients must be enrolled at least half time and have financial need.
Loan schedule. Depending on availability of funds, students may borrow up to $\$ 3,000$ for each year of undergraduate study up to an aggregate of $\$ 15,000$.

The current annual interest rate, payable during the repayment period, is 5 percent on the unpaid principal. Repayment begins six months after graduation or leaving school (nine months for first-time borrowers in 1988-89 and after) and may extend over a period of up to ten years.

For additional information about repayment schedules and deferral of repayment, contact the Office of Financial Aid.

## Federal Work-Study Program (FWS)

Application procedures. Application is made through Brooklyn College on the FAFSA.
Selection of recipients. Recipients must be enrolled at least half time and have financial need.
The college must make employment reasonably available to all eligible students. In the event that more students are eligible than there are funds available, preference is given to students who have greater financial need and who must earn a part of their educational expenses.

Award schedule. The college arranges jobs on campus and off campus in public or private nonprofit agencies and in a limited number of for-profit organizations. Jobs in for-profit organizations must be academically relevant. Students may work up to twenty hours per week during the school year and full time during the summer.

The salary level must be at least the minimum wage; wages higher than the minimum depend on the nature of the job and the qualifications of the applicant.

Satisfactory academic progress must be maintained as well as satisfactory performance on the job.

## Federal William D. Ford Direct Loans

Application procedures. All students and/or their families must complete a FAFSA to determine eligibility and must establish eligibility or ineligibility for a Federal Pell Grant prior to certification of a loan application.

A loan application may be obtained from the Office of Financial Aid. The completed application is submitted to the Office of Financial Aid. The application is then certified by the college. A counseling session or interview or both may be required.

Selection of recipients. Federal Ford Direct Loans may be subsidized or unsubsidized depending on family income. Students may qualify for unsubsidized Federal Ford Direct Loans regardless of their or their family's income, but the federal government pays interest on need-based (subsidized) loans only.

Loan schedule. First-year students may borrow $\$ 2,625$. Students who have completed their first year of study may borrow $\$ 3,500$. Students who have completed two years of study may borrow $\$ 5,500$ in each subsequent year of undergraduate study up to an aggregate of $\$ 23,000$.

The interest rate on Direct Loans is variable but not higher than 8.25 percent. (For example, from October 1, 1999, through June 30, 2000, the interest rate was 6.92 percent.) Variable interest rates are set each June. Students must sign a promissory note agreeing to repay the loan.

Students are eligible for full-interest subsidies during the time they are in school and for six months after they cease to be at least a half-time student. Recipients are responsible for payment of the origination fee and an insurance premium (currently 3 percent) that is taken as a direct deduction when the loan is made.

Students who have in the past received a Guaranteed Student Loan at the old interest rate of 7 percent will retain their eligibility for the 7 percent rate for any additional Direct Loans. Students who have received a

Guaranteed Student Loan at the annual interest rate of 9 percent will continue to pay the 9 percent rate for any additional Direct Loans.

For more detailed information about repayment schedules and procedures, contact the Office of Financial Aid.

## Federal PLUS Loans (PLUS)

Federal PLUS loans are for parents who want to borrow to help pay for their children's education.
Application procedures. Application procedures for PLUS Loans are the same as for the Ford Direct Loan.

Selection of recipients. To be eligible for a PLUS loan the parent must be a U.S. citizen or permanent resident alien and have a dependent student enrolled at Brooklyn College as a matriculated student attending at least half time. Neither the parent nor the student can be in default of any previous federal loan or owe a refund on a previous federal grant.

Loan schedule. Parents qualify for the PLUS loan regardless of their income, but they may borrow an amount no more than the total yearly cost of attendance minus estimated other financial aid received. The annual interest rate is variable but not higher than 9 percent. Borrowers must sign a promissory note agreeing to repay the loan.

## Veterans Administration (VA) Educational Benefits

Application procedures. Application forms are available at all Veterans Administration Offices, active-duty stations, and American embassies.

Selection of recipients. Educational benefits are available through the Veterans Administration under the following programs:

New GI Bill (Chapter 30): Service persons who entered active duty between July 1, 1985, and June 30, 1988.

Vocational Rehabilitation (Chapter 31): Veterans who have at least 10 percent disability as a result of active service.

Veterans Contributory Benefits (VEAP) (Chapter 32): Veterans and service persons who entered active duty after December 31, 1976.

GI Bill (Chapter 34): Veterans who served more than 181 days between January 31, 1955, and January 1, 1977.

Dependent's Educational Assistance Benefits (Chapter 35): Spouses and children of veterans whose death or total, permanent disability was service connected.

Selective Reserve Benefits (Title 10, Chapter 106): Members of the Selective Reserve who enlisted for a six-year period between July 1, 1985, and June 30, 1988.

For more information regarding eligibility criteria for these programs and other assistance to veterans and their dependents, contact the Veterans Administration.

## Academic Standing

## Nota bene

Programs and requirements in this Bulletin are subject to change without notice. Students are advised to consult college and department counselors regularly concerning their programs of study.

## Academic Advisement Center

The Academic Advisement Center (AAC), 3207 Boylan Hall, is the college-wide unit responsible for providing academic advisement to all undergraduate students. It offers continuing guidance to students in their freshman and sophomore years to help them meet college requirements and assess their academic strengths and weaknesses. The center also assists students in the selection of an academic major.

In addition, the Academic Advisement Center is the college unit that receives student requests for modifications of a college procedure or regulation. A student may appeal a decision of a professional adviser of the Academic Advisement Center to the director of the center and to the Faculty Council Committee on Course and Standing. All appeals are made through the Academic Advisement Center. On each level of appeal, a student may have a personal hearing.

Within the Academic Advisement Center are three units that combine to provide full academic counseling services for all students. Students who come to the center will be directed to an appropriate counselor. The center includes the Office of Academic Regulations, which has the responsibility for approving all variances of college regulations; the Advisement Unit, which is responsible for general academic advisement activities and special projects; and Transfer Student Services, which is responsible for the advisement of students entering the college regarding their degree requirements.

## Office of the Registrar

The information counter of the Office of the Registrar is in 1118 Boylan Hall. The office prepares the Schedule of Classes, registers students, determines eligibility for graduation, evaluates transfer credits, maintains records, processes applications for readmission, and issues transcripts and diplomas. Students should consult the Office of the Registrar regarding any questions about their records and in filing applications as outlined in this chapter.

## Social Security numbers

Social Security numbers are used as the permanent identification of a student's college record. A student who does not have a Social Security number should obtain one before registration from the Office of Admissions. An incorrect Social Security number on a student's registration card should be reported to the Office of the Registrar, 1118 Boylan.

## ID card

A student is issued a photoidentification card for the entire period of enrollment. The card must be validated each term at registration. It is used as a library card and entry permit to college facilities. The ID card is required identification for receiving checks distributed by the college. A student must report a lost card to the Security Office, and the card must be replaced; a fee of $\$ 5$ is charged.

## Change of name or address

Each term, grade reports and registration statements are mailed to students. The Office of the Registrar should be informed immediately of any change in a student's name or address.

## Application for graduation

Students who expect to graduate in June should file an application for graduation by the preceding October 1. Students who expect to graduate in February should file an application for graduation by the preceding July 1. Students who expect to graduate in September should file an application by the preceding February 15. Applications may be filed in 1118 Boylan Hall. Applications on file by the proper date will be processed in time for graduation. Students who apply for graduation in one semester and do not graduate must reapply for graduation for the semester in which they expect to graduate. All work must be completed by the end of the term in which a student expects to graduate.

## Degree requirements

To earn a bachelor's degree, a student must complete a set of requirements that includes those of the college and the student's major department or program. Students must fulfill the requirements in effect at the time of their entrance to the college. When there are changes in any of the degree requirements, a student in attendance may continue to follow the old requirements or choose to fulfill the new requirements. In the event that any courses in a department or program are withdrawn with Faculty Council approval, a student who has not fulfilled the old requirements must satisfy the substituted requirements. Students must complete a concurrent set of college and department or program requirements.Students who are readmitted to the college after a term or more of absence must meet the requirements for degrees in effect at the time of readmission. Students in good standing who must interrupt their studies for one or more full semesters, up to a cumulative maximum of two years, may apply in advance to the Office of the Registrar for an official leave of absence. Such students, upon their return, may fulfill the requirements that were in effect while they were in residence.

The Faculty Council Committee on Course and Standing may permit exceptions to college, department, or program requirements. Exceptions to department or program requirements may be considered only on recommendation of the department chairperson or program director. Petitions must be filed in the Academic Advisement Center.

Students should become familiar with degree requirements as they are described in this Bulletin and plan programs in consultation with appropriate college, department, or program advisers. It is a student's responsibility to be certain that he or she follows a program of study that satisfies all requirements. Degrees are awarded to students who have completed all degree requirements provided that they have fulfilled all financial obligations to the college.

## Credits required for a baccalaureate degree

In June, 1995, the Board of Trustees of The City University of New York mandated a reduction in baccalaureate degree requirements from 128 to 120 credits, effective September 1, 1996.

A student who has earned at least 150 credits, but does not have an average of $C$ or higher on the entire Brooklyn College record, may present 120 credits in courses in which the minimum grade of $C$ has been earned. These 120 credits must include all college requirements. A student who is pursuing this option and has earned a grade of $D$ in a required course must repeat the course. Students who wish to pursue this option are strongly advised to consult the Academic Advisement Center.

## College-wide requirements

All students must satisfy the following general education requirements:

1. The Core Studies courses and the foreign language requirement of the core curriculum as stated in this Bulletin under the heading "Core curriculum."
2. The basic skills requirements in mathematics, reading, English composition, and speech as stated in this Bulletin under the heading "Basic skills requirements." All first-time freshmen who enter the college in or after fall 1999 and transfer students who enter the college in or after fall 2000 are required to pass the CUNY Proficiency Examination before they are permitted to register beyong 61 credits.

Students in the Special Baccalaureate Degree Program for Adults or the Small College Program fulfill the degree requirements described in this Bulletin pertaining to those programs instead of the college's collegewide requirements.

## Requirements for a major

All degree-seeking students must declare a major no later than the semester in which the combination of credits earned and credits for which they currently are registered total 61 or greater. Students declare a major by completing a Declaration of Major form available in department or program offices. This form must be signed by both the student and a departmental or program adviser. Students with double or dual majors must complete a Declaration of Major form for each major separately in the respective department or program offices.

For students who are nearing the 61-credit point and remain undecided about their choice of major, there are a number of avenues of assistance. Faculty counselors in each academic department advise prospective majors about the undergraduate programs and related career possibilities. Also, the Academic Advisement Center and the Office of Career Services offer assistance in choosing a major. The college is concerned that students select their major with careful consideration and with good knowledge of the range of options. Students who have not declared a major by the 61-credit point are ineligible for TAP financial aid.

A major consists of the following requirements, which are specified for each major under "Department requirements" or "Program requirements" in this Bulletin:

1. Specified introductory courses in the major department and in other departments.
2. Either (a) or (b):
(a) No fewer than 18 credits in advanced courses in the major department, which must be completed at Brooklyn College with a grade of C- or higher in each course.
(b) No fewer than 24 credits in advanced courses that are approved as part of an interdisciplinary program, each completed at Brooklyn College with a grade of C- or higher; at least 12 of these credits must be in a single department or program.
Additional requirements for a B.S. degree in specified major fields are noted below.
3. Specified additional advanced courses in the major department and/or courses in other departments; minimum grade requirements may be specified for these courses.

Students should be aware of the meaning of any symbol preceding a course number, such as the asterisk ${ }^{*}$ ) and dagger ( $\dagger$ ), and the section ( $\S$ ), which refers to independent work. These and other symbols, which are defined at the start of each department's listings, may restrict the use of certain courses in fulfilling major or degree requirements.

## Requirements for the dual major in a special program

Interdisciplinary programs within the college that offer a dual major are Caribbean studies, linguistics (which also offers an independent major), and studies in religion. Dual majors are not independent majors. The student must also complete a major in an approved department of the college.

## Additional requirements for a B.S. degree

Candidates for a B.S. degree with a major in biology, chemistry, computer and information science (including computational mathematics), geology, mathematics, physics, and psychology must complete at least 60 credits in science and mathematics; 24 of these 60 credits must be completed in advanced courses in the major department or departments. These 24 credits must be completed at Brooklyn College with a grade of C - or higher in each course. Several departments have specific course requirements for a B.S. degree; these requirements are described under each department listing.

The following courses may be applied toward the 60 credits in science and mathematics: all courses in the Departments of Biology, Chemistry, Computer and Information Science, Geology, Mathematics, Physics, and Psychology; courses marked with a $(\cdot)$ symbol in the Department of Health and Nutrition Sciences; Anthropology and Archaeology 2.4, 16, 24.1, 26.1, 26.2, 36, 85.3; Core Studies 5, 7.1, 7.2, 8.1, 8.2;

Economics 30.2, 30.3, 31.1, 31.2; Philosophy 13, 33, 42; Physical Education 22.71, 22.75, 23, 30, 51; and Sociology 77.1.

## Residence requirement

Residence, which in this context refers to the number of credits that must be taken at Brooklyn College, is one of the requirements for a degree. Candidates for a bachelor's degree are required to complete at least 48 credits at Brooklyn College, including:

1. The last 32 credits taken toward the degree;
2. Either (a) or (b):
(a) No fewer than 18 credits in advanced courses in the major department, which must be completed with a grade of C - or higher in each course.
(b) No fewer than 24 credits in advanced courses that are approved as part of an interdisciplinary program, each completed at Brooklyn College with a grade of C- or higher; at least 12 of these credits must be in a single department or program.

## Requirements for the minor

A minor consists of at least 12 credits in advanced electives as determined by a department or program at Brooklyn College, each completed with a grade of C- or higher. At least six of these credits must be completed at Brooklyn College. Specific requirements are described under department and program listings.

## Special Baccalaureate Degree Program

For those Brooklyn College students who entered the Special Baccalaureate Degree Program prior to fall, 1981, and are subject to the "school" requirements in the 1979-81 Bulletin, satisfactory completion of all Special Baccalaureate Degree Program seminars shall be considered educationally equivalent to fulfillment of the distribution requirements (other than the major) in all "schools" of the college, with the following exceptions:

1. Completion of a major in the old "School of Humanities" also requires fulfillment of the foreign language requirement as described in the Brooklyn College Bulletin, 1979-81.
2. Completion of a major in the old "School of Science" also requires completion of Math 3.20 or 3.3.

## Transfer students

Transfer students who are candidates for a bachelor's degree must meet the college residence requirements, including the requirement for the major as described in item 2 under "Residence requirement" above. On recommendation of the department chairperson or designated deputy, the Academic Advisement Center may count up to six credits in two advanced courses completed with a grade of C- or higher at another institution toward the required minimum of 18 credits in advanced courses in the major department. Additional requirements for a B.S. degree are noted under the heading "Degree requirements" above.

The Transfer Evaluations Office evaluates courses completed at other institutions and, where possible, indicates equivalent Brooklyn College courses. On recommendation of the department chairperson or designated deputy, there may be assignment of credit for courses satisfactorily completed at other institutions that may not have precise Brooklyn College equivalents.

Information about the equivalents of core curriculum courses may be found under the heading "Core equivalencies" in this Bulletin.

## Basic skills requirements

## General requirements

All recent graduates from domestic high schools who apply to Brooklyn College baccalaureate programs are required to submit Scholastic Assessment Tests (SAT) or ACT scores.

All entering freshmen and non-CUNY transfer students who plan to matriculate at Brooklyn College must take and pass the University Skills Assessment Tests in reading and writing before they will be allowed to register for any course at Brooklyn College. Exempted from this requirement are applicants who have scored 480 on the verbal section of the SAT, or 20 on the verbal section of the ACT, or 75 on the New York State English Language Arts Regents Examination. Also exempted are non-CUNY transfer students with 45 or more credits (including those in progress). In some cases, exempted students may be required to take reading and writing tests to determine placement in appropriate courses.

All entering freshmen and non-CUNY transfer students who plan to matriculate at Brooklyn College must take and pass the University Skills Assessment Tests in mathematics before they will be allowed to register for any course at Brooklyn College. Exempted from this requirement are applicants who have scored 480 on the mathematics section of the SAT, or 20 on the mathematics section of the ACT, or 75 on the Sequential Math II or III or the Math A Regents Examination. Also exempted are students with 45 or more credits (including those in progress). In some cases, individuals who have demonstrated readiness for college-level work by the SAT/ACT or Regents option in math will be required to take the University Skills Assessment Test in mathematics for placement in appropriate non-remedial courses.

All other students (transfer and returning students) who plan to matriculate at Brooklyn College and who have not previously taken or been exempted from the University Skills Assessment Tests must take the tests before they will be allowed to register for any course at Brooklyn College.

Scores on the assessment tests (whether taken at Brooklyn College or at other units of CUNY) will be noted on students' transcripts. The results of these tests determine whether a student may register for a baccalaureate program.

Students who score below 480 on the verbal or mathematics sections of the SAT or below 20 on the verbal or mathematics sections of the ACT, and below 75 on the Sequential Math II or III or on the Math A Regents Examination are required to attend the Summer Immersion Program (for fall matriculants) or the Intersession Immersion Program (for spring matriculants) in order that they may gain the necessary skills for passing the University Skills Assessments Tests. Students are advised to obtain information about these programs from the Office of the Dean of Undergraduate Studies.

SEEK and ESL students who do not successfully complete the Summer Immersion Program will be permitted to register and will be advised of their programs of study by their respective advisers.

## Writing requirement

All entering students who have scored 480 on the verbal section of the SAT or 75 on the New York State English Language Arts Regents Examination or who have passed the University Skills Assessment Test in writing will be placed in English 1.

Students in English 1 take an exit test at the end of the semester (during final examination period). This test will be prepared by the Department of English and graded by the instructor. Students who fail this test will receive a grade of NC or F in English 1. The grade in English 1 for students who pass this test will be based solely upon the quality of their work during the semester and may be A+ through $\mathrm{C}-$, NC , or F .

Students who do not pass English 1 must repeat it the following semester. However, the course may not be taken more than three times, and students who receive three grades of $F, N C, W F$, and/or WU will be dismissed from the college.

Students who receive an A+, A, or A- in English 1 are eligible for exemption from English 2 based on an evaluation of their performance on the English 1 exit test by an exemptions committee. Such exemption will be noted on students' transcripts.

Students who pass English 1 and who are not exempted from English 2 must take English 2; in order to do so, they a) must have 48 credits and have taken or be taking a course in their major; or b) must have taken a course in their major and earned a B or better; or c) must have the permission of the chairperson.

Students who complete English 2 will receive a grade of A+ through C-, NC, or F. Students who do not pass English 2 must repeat it the following semester. However, the course may not be taken more than two times, and students who receive two grades of $F, N C, W F$, and/or WU will be dismissed from the college.

ESL students. Students in the ESL Program move from ESL 14 or 14.1 through 15, 15.1, 15.2, or 0.4 on the basis of their score on ESL proficiency tests. Students in ESL 14, 14.1, 15, 15.1, 15.2 and 0.4 take a proficiency test at the end of the semester. Students who pass the test are placed in English 1.

## Mathematics requirement

Students who have passed the University Skills Assessment Test in mathematics and who have passed Course 2 but have not passed Course 3 of the New York State Sequential Mathematics Curriculum and who wish to take precalculus will be placed in Mathematics 2.91.

Students who have completed three years of sequential mathematics (or the equivalent) in high school and wish to register for calculus without having passed (with a C or above) a college course in precalculus should consult a counselor in the Mathematics Department to determine their placement.

## Speech requirement

All students (except those selected for ESL) who plan to matriculate or rematriculate at Brooklyn College must be screened for speech proficiency after having completed at least forty-eight credits. Students may elect to be screened earlier. Students selected for ESL will be screened for speech proficiency when they exit the program and before they will be allowed to register for additional courses.

This screening will be performed by members of the speech faculty to determine students' ability to communicate orally and either to place them in an appropriate course in speech ( $0.1,3,3.2,3.3,10$, or 10.1) or to grant them exemption. The results of the speech screening(s) will be noted on students' transcripts. Students initially placed in Speech 0.1 (Speech Clinic) are advised to register for it immediately upon placement and should continue to enroll in it each semester until they successfully complete the course. At that time they will be screened again and, if assigned to another speech course, must register for it immediately.

Students initially placed in any other speech course must pass that course before they register beyond 96 credits.

Students who fail to pass an assigned speech course in any semester must register for that course the following semester. Students will not be permitted at any time to drop an assigned speech course without permission of the Academic Advisement Center, which will consult the Speech Department.

In order to receive a Brooklyn College degree, students must pass the speech course(s) in which they were placed.

## Exemption examinations

The Brooklyn College course exemption examination is designed to permit students of unusual ability to accelerate and enrich their college education. Such students may qualify, after suitable independent preparation, for exemption from designated courses on the basis of examination procedures prescribed by the faculty of the department or program responsible for the regular course. The examination reflects the full scope of the course. In addition to an examination, there are, where appropriate, papers, reports, laboratory experiments, or any other assignments that the faculty of a department considers proper for the course.

## The following rules govern exemption examinations:

1. The student must be registered for the term during which the exemption examination is to be taken.
2. The student must have a minimum overall Brooklyn College index of 3.00 at the time of application for the examination. This requirement is waived for a student who is in the first semester of college attendance.
3. The student may offer for credit toward the baccalaureate degree a maximum of six courses taken by Brooklyn College exemption examinations.
4. The student may take no more than two exemption examinations in any one term.
5. The student may not take exemption examinations in courses in which he or she was previously registered, whether or not the course was completed.
6. The student may not take an exemption examination in a course after auditing that course.
7. The student may not repeat an exemption examination in a course.
8. Departments will designate those courses in which credit may be earned through an exemption examination.
9. Students apply for an exemption examination in the Office of the Registrar, 1118 Boylan Hall. A record of courses attempted by the student through exemption examinations is kept by the Office of the Registrar.
10. Grades and credits: (a) With a grade of $B$ - or higher on an exemption examination, the student earns credit for the course and the grade is counted in the scholastic index; (b) A grade of $\mathrm{C}+$ or lower is not considered satisfactory on an exemption examination. The student is not exempt from the course, no credit is earned, the grade is not counted in the index, and the course is not listed in the transcript. Grades lower than passing are not recorded on the transcript or counted in the index; (c) No honors credit may be earned for courses completed by exemption examination.

## Credits for military service

A veteran may receive up to four credits toward a baccalaureate degree for four months or more of documented active service and up to eight credits for at least one year of documented active service. When granted, these credits are given as elective credits only.

During their next-to-last term at the college, veterans may apply for these credits in the Academic Advisement Center. Veterans must carry a full program each term even though they apply for credits for military service.
A scholastic index of 2.00 or higher is required to qualify for credits for military service.

## Registration

A Schedule of Classes is published each term for the College of Liberal Arts and Sciences, School of General Studies, and Division of Graduate Studies. It contains a list of course offerings for the term, an academic calendar, instructions for registering, and important announcements. Students are notified by mail as to how to obtain a schedule. The time and place of registration are printed in the class schedule. The Schedule of Classes should be kept until the end of the term. Students should plan more than one program, for some classes may be filled by the time they register.

All students, with the exception of freshman, SEEK, ESL, and new transfer students, may register by telephone. Instructions are provided in the Schedule of Classes.

## Course restrictions

Exclusion clauses, prerequisites, and corequisites that restrict a student's enrollment in some courses appear in this Bulletin following the course description.

An exclusion clause closes a course to a student who is enrolled in or has completed a course similar in content. A student who is not eligible to take a course, but registers for it and completes it, may not receive credit.

A prerequisite indicates the academic preparation and special permission that may be required for a course; a corequisite indicates required work to be completed in conjunction with a specific course.

It is each student's responsibility to be aware of and be guided by exclusion clauses, prerequisites, and corequisites that apply to any courses for which he or she plans to register.

## Program changes

After the student has completed initial registration, program changes may be made by adding a course, having a course deleted, withdrawing from a course, withdrawing from all courses, or changing from one course section to another. Deadlines, fees, and other information regarding program changes are published each semester in the Schedule of Classes. Students whose programs required an adviser's approval prior to registration must obtain an adviser's approval for any program changes.

Adding a course. The last day for adding a course without special permission is printed in the Schedule of Classes. After this deadline date, an application for the addition of a course must be obtained from the Office of the Registrar.Each application must include permission of the course instructor and the department chairperson.

Deleting a course. During the first three weeks of the fall and spring semesters, a student may have courses deleted without special permission. These courses will not appear on the permanent record. The precise deadline date for such deletion is printed in the Schedule of Classes.

Withdrawing from a course with or without penalty. After the end of the three-week "program-change" period described above, a student may request a withdrawal from a course. The course, however, will remain on the student's permanent record. The procedure to be followed and the grade to be assigned will vary according to the time periods listed below:

1. Fourth through tenth weeks. For courses that meet for the full semester, the nonpenalty grade of W will be assigned after the end of the "program-change" period but prior to the end of the tenth week of classes.

For courses that meet for less than the full semester, the nonpenalty grade will be assigned in accordance with the dates published each semester in the Schedule of Classes.

Students should apply for the withdrawal through the Office of the Registrar. However, prior approval of the Academic Advisement Center is required for (1) students whose programs required an adviser's approval prior to registration and (2) students who wish to withdraw from basic skills courses (i.e., English 1).
2. After the tenth week. Beginning with the eleventh week of the fall or spring semester, all students must apply for withdrawal through the Academic Advisement Center. The nonpenalty grade of W will be assigned only in unusual circumstances. Reasons for the withdrawal request will be very carefully evaluated. In addition, the instructor's report must indicate that the student is passing the course or that there is insufficient basis for grading the student.

The penalty grade of WF, withdrew failing, will be assigned under two conditions: (1) the reason for the withdrawal request is not approved by the Academic Advisement Center; and (2) the reason may be approved by the Academic Advisement Center but the instructor's report indicates that the student is failing the course at the time of the withdrawal request.
3. Unofficial withdrawals. Students who unofficially withdraw from a course-i.e., stop attending during the semester-will be assigned either an F or a WU (unofficial withdrawal, equivalent to F) by the instructor. The F signifies that the student was failing prior to leaving the course; the WU signifies that when the student stopped attending there was either insufficient basis for assignment of a grade or the student was passing the course. A WU grade will therefore also be assigned to students who are listed on the official registration roster but never attended class. Since the WU grade is a penalty grade, it may be to the student's advantage to officially request course withdrawal.

Withdrawing from all courses. Students may have all courses deleted from their permanent registration record through the Office of the Registrar during the first three weeks of a semester. After the beginning of the fourth week, a student who wants to withdraw from the college for the remainder of the semester or longer must file an application in the Academic Advisement Center. Grades are assigned in the same manner as described for "Withdrawing from a course" above.

Students who unofficially withdraw from all courses will be assigned penalty grades of $F$ or WU. Since these grades will be changed to non-penalty grades of $W$ only under highly unusual circumstances, it is to the student's advantage to apply immediately for official withdrawal.

Withdrawals in relation to financial aid. Students receiving financial aid assistance who apply for withdrawal from a course should discuss with a counselor the effect of such a withdrawal on financial aid eligibility for that semester and for future semesters.

## Veterans' registration

Veterans claiming benefits must complete application forms in the Veterans Affairs and Counseling Center, 0301 James Hall, each term during registration.

## Taking a course at another college

Brooklyn College students who want to take one or more courses at another college must apply for permission in advance in the Office of the Registrar. Students must have a bulletin or catalog of the college they want to attend. However, after the completion of 64 credits, no credit will be given toward the baccalaureate degree for work completed at a two-year college.

## Students from other colleges

A student who is currently enrolled at another college and who wants to take one or more courses for credit at Brooklyn College must fill out a special application obtained from his or her home college and submit it to the Brooklyn College Office of Admissions.

## Admission of seniors to graduate courses

Seniors whose scholastic work is superior and who want to take graduate courses must be recommended by the department chairperson or designated deputy. The Academic Advisement Center will then consider students for admission to graduate courses for undergraduate or graduate credit.

## Auditing a course

Anyone may audit a course provided there is room in the class. Auditing allows the interested student to increase his or her knowledge and proficiency by attending courses without either receiving a grade or credit toward a degree. The amount of student participation in an audited course may vary, at the discretion of the instructor, from complete fulfillment of all course requirements to classroom attendance alone. The following regulations apply to auditing:

Auditing requires permission of the instructor, permission of the department chairperson, and official registration as an auditor. "Unofficial" auditing is not permitted. Students who receive permission to audit a course in CLAS or SGS may register in the Office of the Registrar, 1118 Boylan Hall, beginning on the first day of classes up until the usual deadline for adding courses. Information about the fee for auditing is in the chapter "Tuition and Fees" in this Bulletin.

If, for any reason, students later take courses that they have already audited, they will be governed by the regulations for repetition of courses, which are described in this Bulletin.

Students may not receive credit for courses taken by exemption examinations if they have already audited the courses.

Courses audited are so designated on the student's transcript.

## Pass-fail option

Sophomores, juniors, and seniors who have a scholastic index of 2.00 or higher are eligible to take some courses for a pass or fail grade. Only students in degree status for the baccalaureate may qualify. A pass grade is not counted in a student's scholastic index; a fail grade is counted in the index. A scholastic index of 2.00 or higher is not required for the pass-fail option in the physical education activities referred to below.

The pass-fail option is designed to encourage students to explore areas of inherent interest and thus achieve greater breadth of view. Often students hesitate to take courses in new areas since they have no way to gauge their capabilities in such areas. Since maintaining the best possible grade-point average is of paramount importance to most students, many are discouraged from such exploration.

A total of ten courses may be taken under the option. Six courses may be in departments of the college, with the exceptions noted below. All students, except majors in physical education, may take four courses in physical education activities (Physical Education 17.2 through 17.45).

The following courses may not be taken for a pass or fail grade:

1. College-wide requirements, including Core Studies courses for students who are subject to the core curriculum as well as courses accepted by the college as substitutes for Core Studies courses. Students should be aware, however, of the retroactive pass option for core curriculum courses, as described in the chapter "Programs of Study" in this Bulletin.
2. All courses in the student's major department.
3. Courses outside the major department that are required to complete the major.
4. Honors courses.
5. Courses required to meet the school requirements under the 1979-81 Undergraduate Bulletin. Students who are not subject to core curriculum requirements may take core courses under the pass-fail option provided that the core courses are not being used to fulfill other college requirements.

In the fall and spring terms, students may take for a grade of pass or fail no more than two courses each term as follows: one physical education activity course and one course chosen within the other limitations noted above. During summer session, students may apply to take physical education activities (Physical Education 17.2 through 17.45) for a pass or fail grade. Summer application should be made in the Office of the Registrar by the third day of the term.

The registration procedure for taking a course for a grade of pass or fail is the same as for any other course; application to elect the pass-fail option is made in the Office of the Registrar after a student registers. Students should keep a copy of the application. The application must be filed before the second week of class. The specific deadlines are published in the Schedule of Classes.

A student who takes a course under the pass-fail option must complete the course under that option. A pass grade may not be changed to another grade. All requirements of a course taken for a pass or fail grade, including term papers and examinations, must be completed satisfactorily. Honors projects may be submitted. However, courses completed with a pass grade are not counted in computing a student's eligibility for the Dean's Honor List. A student who receives a pass grade in a department that subsequently becomes the student's major department may apply to the Academic Advisement Center for permission to apply the course toward requirements for a degree.

## Interdivisional transfer

Students in attendance who want to transfer from the School of General Studies to the College of Liberal Arts and Sciences, or from CLAS to SGS, must file an application for interdivisional transfer in the Office of the Registrar.

A former student who wants to return to Brooklyn College in a division other than the one previously attended must file an interdivisional transfer application with the readmission application in the Office of the Registrar.

## Size of program

A full term's work is at least 16 credit hours. For compensatory and developmental, contact hours are counted instead of credits in the determination of program size (and tuition). For all other courses, credit hours are actual credits. Limitations are as follows:

1. Entering freshmen may take a maximum of $161 / 2$ credit hours.
2. Upper freshmen who have at least a B average (3.000) may take a maximum of $17_{1 / 2}$ credit hours.
3. Students above freshman status who have at least a $C$ average (2.000) for the preceding term may take a maximum of $171 / 2$ credit hours.
4. Students who have at least 28 earned credits, and in the preceding term have earned at least 16 credits with an average of at least B- (2.700), may take a maximum of $181 / 2$ credit hours.
5. Students who have an average of below $C$ (2.000) are advised to limit their programs to a maximum of 12 credit hours and to see an adviser.

Students should bear in mind that typically at least three hours of work (classwork plus homework) are assumed for every credit hour.

Students who are employed or have other obligations or responsibilities that substantially restrict their study time are advised to reduce their work loads as follows:

Employed 10 to 15 hours: reduce work load by 3 credit hours.
Employed 16 to 25 hours: reduce work load by 4 to 6 credit hours.
Employed 26 to 35 hours: reduce work load by 7 to 9 credit hours.
Permission to carry more than the permitted number of credit hours may be given to superior students on application to the Academic Advisement Center. Students should apply at least one week before registration. The most recent transcript and all grade cards received since the transcript was issued should accompany the application.

Students who register without permission for more than the permitted number of credit hours may be dropped from excess courses and may be required to limit the size of their program in the following term.

Students who receive Social Security benefits and recipients of certain scholarships and financial aid are responsible for finding out the size of program they must carry each term and the academic standards they must meet to be eligible for these programs.

## Credits required for classification

A student's class standing is determined by the number of credits earned, as follows:
Upper freshman: 12 credits
Lower sophomore: 28 credits
Upper sophomore: 45 credits
Lower junior: 61 credits
Upper junior: 78 credits
Lower senior: 94 credits

Upper senior: 111 credits


#### Abstract

Attendance Class attendance is recorded each session. Students are expected to attend all scheduled sessions of every class for which they register. Students late for class may be excluded from the room.

An instructor may consider attendance and class participation in determining the term grade. Freshmen absent from a course for a number of times equivalent to two full weeks of class meetings may be denied credit for the course.

When an instructor is late, students should remain in class for ten minutes before consulting the department office for instructions. When an instructor is absent and no substitute is provided, the department informs the class. Students are responsible for taking examinations as scheduled and for submitting assignments on time.


## Final examinations

Unless a course is specifically exempted by the Faculty Council, a final examination is required to be given in the fifteenth week of every course. A student who has done A work in an advanced course may be excused from the final examination at the discretion of the instructor.

## Absence from final examination

A student absent from the final examination in any course may be given the grade ABS/20-90. This grade indicates absence from the final examination and the numerical rating for work completed up to the time of the final examination. For example, ABS/70 indicates that a student was absent from the final examination and that the work completed up to the time of the final examination is at the level of 70 percent. A makeup examination may be taken only by authorization of the Academic Advisement Center on presentation of written evidence that the student was physically unable to be present at the regularly scheduled examination. If a student's grade in the course is below 60 percent, permission of the instructor to take the examination is also necessary.

Application for a makeup examination must be made by the first day of classes of the following term. The makeup examination must be taken during the term following enrollment in the course, not including summer session. If the makeup examination is not authorized or not completed, the grade FAB, is assigned.

Illness during an examination should be reported immediately to the proctor, who will make note of it on the examination booklet and inform the Academic Advisement Center. Students should apply to the Academic Advisement Center for permission to take an absentee examination.

## Second final examination for graduating seniors

A student who is a candidate for graduation may receive authorization from the Academic Advisement Center, with the concurrent approval of the instructor and/or the department chairperson, to take a reexamination in a course to raise the final grade. The course must be one taken in the last term and must be essential to graduation requirements.

## Grades

Instructors are expected to provide students with a syllabus of the work to be covered in the course and to make grading procedures clear to students by the end of the first week of classes. Instructors should return all papers and tests, except for final examinations, after grading. Students should be informed of where and when the instructor is available to discuss course work and grades. Students should raise questions promptly about test marks or grades on papers.

## Final grades

Students receive a final letter grade in every course. Students are responsible for arranging with instructors for notification of final grades. If there is an appeal of a grade, it should be made as soon as possible after the grade is received.

At the end of each term, the Office of the Registrar issues and mails to each student a grade report that lists all courses taken and grades received for that term. Grades are also available through the telephone registration system, (212-671-2700), and through the Brooklyn College home page (www.brooklyn.cuny.edu). Students should report immediately a discrepancy between a grade received from an instructor and a grade on the transcript to the Office of the Registrar. The following grading system is used:

## Grade Definition

| A+, A, A- | $90-100$ percent |
| :--- | :--- |
| B+, B, B- | $80-89$ percent |
| C+, C, C- | $70-79$ percent |
| D+, D, D- | $60-69$ percent, lowest passing grade |
| F | Failure |
| P | Pass (applicable only in the pass-fail option) |

ABS/20-90 Absent from final examination

| CR | Credit earned; no grade assigned |
| :--- | :--- |
| FAB | Failure because makeup final examination is not authorized or not completed |
| FIN | Failure because incomplete work is not completed |
| $\mathbf{H}$ | Honors (may be assigned with grade of B- or higher or P) |
| INC | Term's work incomplete |
| NC | No credit earned |
| $\mathbf{S}$ | Satisfactory |
| $\mathbf{U}$ | Unsatisfactory |
| W | Withdrew without penalty or prejudice |
| WA | Withdrew for failure to satisfy immunization requirements; no academic penalty |

For grades $A$ through $D$, a plus sign indicates a stronger performance and a minus sign indicates a weaker performance, within the range of the letter. If a failing grade is preceded by a pound sign (for example, \#F, \#FAB, \#FIN, \#WF, \#WU), see "F-grade replacement" below in this chapter.

## Unresolved grades

The grade ABS and INC are unresolved grades. The grade ABS may be assigned if a student is absent from a final examination. The grade INC may be assigned if the instructor gives a student an extension of time to complete the course work for the term. The instructor may change the grade of INC to another grade when the work has been completed.

Deadlines for resolution of the grades ABS and INC appear in the Schedule of Classes published each term. Students who do not meet the deadlines are assigned a grade of FAB or FIN.

## Protest of final grade

The grade submitted by the instructor and entered on the student's transcript stands unless there is good reason to change it. A change is made if an error was made in entering the grade or if the instructor agreed in advance to late completion of work. When a grade has been assigned and recorded, the instructor may not raise the grade by accepting additional work, except when the grade ABS or INC has been assigned.

A student who thinks a final grade is inaccurate should consult the instructor immediately after learning the grade. The instructor may recommend a change of grade to the department chairperson, citing a valid reason for the change. The chairperson or deputy chairperson may then recommend the change to the Academic Advisement Center. The office either approves the change and forwards it to the Office of the Registrar for entry on the student's transcript or advises the department of the reason for disapproval. The Academic Advisement Center notifies the student of its decision.

If the instructor does not recommend a change of grade, a student may request a review by the department chairperson through appropriate departmental procedures. If the student wants to pursue the matter further, he or she should apply to the Academic Advisement Center regarding final appeal to the Faculty Council Committee on Course and Standing.

## Scholastic index

The scholastic index is a student's overall grade point average. To compute the index, the number of credits taken is multiplied by the corresponding index value of the grade received. The index values are as follows:

A+ and A equal 4.0; A- equals 3.7;
$B+$ equals 3.3; $B$ equals 3.0 ; $B$ - equals 2.7;
$C+$ equals 2.3; $C$ equals 2.0 ; $C$ - equals 1.7 ;
D+ equals 1.3; $D$ equals 1.0; $D$ - equals 0.7 ; and
$F, W F$, and $W U$ equal 0 .
The totals are added, and the sum is divided by the total number of credits taken, including courses failed. For example, the scholastic index of a student who has completed 55 credits with the letter grades indicated below is calculated as follows:

| A+ | 4 | x | 3 | $=$ | 12 |
| :--- | :--- | :--- | ---: | :--- | :--- |
| A | 4 | x | 12 | $=$ | 48 |
| B+ | 3.3 | x | 10 | $=$ | 33 |
| B- | 2.7 | x | 5 | $=$ | 13.5 |
| C | 2.0 | x | 17 | $=$ | 34.0 |
| D- | 0.7 | x | 3 | $=$ | 2.1 |
| F, WF, WU | 0 | x | 5 | $=$ | 0 |

In this example, the scholastic index is $142.6 \div 55=2.592$. The unresolved grades ABS and INC are not computed in a scholastic index. Upon resolution, the final letter grades that replace them are counted in the index. The final grade W is not computed in a scholastic index. The effect on the scholastic index of a student's repeating a course is noted below under the subheading "Repeating a course."

## Retention standards

## Required cumulative scholastic index

All students with degree status must achieve a stipulated scholastic index. Scholastic index is calculated on a cumulative basis. The following table indicates the minimum cumulative index that must be achieved at specified levels of credits attempted.

## Credits attempted

## Minimum cumulative scholastic index

0 to 12 credits
1.500

13 to 24 credits 1.750

25 credits or more
2.000

All courses or credits for which the student is officially registered after the program-change deadlines should be considered credits attempted.

Remedial work takes precedence over other course work; therefore, all remedial course work should be completed within the first 36 credits or equated credits attempted.

## Plus or minus deviation

Plus or minus deviation refers to the positive or negative point value of a student's grades in relation to the minimum average of $C$ required for graduation.

Students are expected to maintain a cumulative deviation of not less than zero, which is equivalent to an average of $C$, or a scholastic index of 2.000 .

To compute the plus or minus deviation from zero, the number of credits taken is multiplied by the deviation value of each final grade received.
$A+$ and $A$ equal +2 ; $A$ - equals $+1.7 ; B+$ equals +1.3 ; $B$ equals +1 ; $B$ - equals $+0.7 ; C+$ equals $+0.3 ; C$ equals 0 ; C- equals -0.3 ; $D+$ equals -0.7 ; $D$ equals -1 ; $D$ - equals -1.3 ; and $F$, WF, and WU equal -2 .

The unresolved grades ABS and INC are not computed in a student's plus or minus deviation. Upon resolution, the final letter grades that replace them are computed. The letter grade W is not included in computing deviation.

For example, the plus or minus deviation of a student whose final grades for a term are $A-, B-, D_{+}$, and $F$ is calculated as follows:

| Grade | value | completed | Deviation |
| :--- | :--- | :---: | :--- |
| A- | $+1.7 x$ | 3 | $=$ |
| B- | $+0.7 x$ | 3 | $=$ |
| D | $-0.7 x$ | 3 | $=-2.1$ |
| D | $-2.0 x$ | 3 | $=-6.0$ |
| F |  | -0.9 |  |

In this example, deviation for the term is -0.9. To eliminate the minus deviation the following term, the student must achieve a deviation of +0.9 or higher.

A student whose deviation is below 0 at any time is placed on probation and is subject to possible dismissal from the college.

For retention purposes, the plus or minus deviation of transfer students is evaluated only on the basis of courses taken at Brooklyn College.

Minus deviation for graduating seniors. The director of the Academic Advisement Center may allow a student to qualify for a degree if the student's deviation from a C average is no lower than $-21 / 2$ for the complete Brooklyn College record.

Repeating a course. When there is repetition of a course or its equivalent, and the first course has been completed with a grade of D- or higher, no credit is given for the repetition. The grade received for the repeated course, whether a passing grade, F, WU, or WF, is not computed in the index. This applies in the following instances:

1. When a student repeats a course taken at Brooklyn College;
2. When a student completes a course at Brooklyn College that is equivalent to one taken at another institution and which appears on his or her academic record (for example, transfer, advanced standing, or advanced placement credit);
3. When a student completes a course that excludes students who are enrolled in or have completed a course similar in content.

In the rare instances, however, in which the second course carries more credit than the first course, the student receives only the additional credit and the grade is computed in the index only for the additional credit. The additional credit and grade for the second course appear on the transcript with a symbol, indicating that full credit was not given for the second course due to overlap with the course previously taken.

There are instances in which a sequence of two courses must be successfully completed in order to receive credit for the first course. When credit is withheld on graduation because the student has completed only the first course, the grade for that course is not computed in the index. There are limitations in some departments on the number of courses or credits in a particular discipline that may be applied toward the baccalaureate degree -for example, in writing courses in the Department of English and physical education courses for nonmajors in the Department of Physical Education. If a student completes courses in excess of the limitations, the credits and grades earned are recorded on the transcript with a symbol (indicating their inapplicability to the fulfillment of the baccalaureate degree requirements) but are not included in the computation of the scholastic index.

## F-grade replacement

Undergraduate students who received a failing grade in a Brooklyn College course for the fall, 1984, semester or thereafter and who in the fall, 1990, semester or thereafter retook that course at Brooklyn College and earned a grade of C - or better may have the failing grade deleted from the calculation of the scholastic index and replaced by the passing grade. This policy also applies to transfer students from another CUNY college who failed a course in the fall, 1984, semester or thereafter and who successfully completed the same course at the same college (fall, 1990, or thereafter). Transfer students must apply to their former college to have this change made and then must have an official copy of their updated
transcript mailed to the Office of Advanced Standing, 3215 Boylan Hall.

The original failing grade will remain on the transcript, but a special note will indicate that it is not used in the computation of the scholastic index. The number of failing credits that can be replaced in calculating the scholastic index shall be limited to a total of sixteen for the duration of the student's undergraduate career in any of the institutions of the City University of New York.

Students may appeal to the Academic Advisement Center to replace failing grades earned before September 1, 1984.

A failing grade may not be partially deleted from the calculation of the scholastic index. For example, a student who has used 14 credits of the 16 -credit total may only replace a failed two-credit course.

In order for the grade of C- or better to replace a failing grade in the calculation of the scholastic index, repetition of the course must take place at the same college where the failing grade was originally received.

## Review of academic standing and academic probation

A student's academic standing is reviewed at the end of each semester. Students whose scholastic index and deviation do not meet college standards are advised in writing by the Academic Advisement Center that they are on academic probation. The student usually is given not more than one year to improve significantly his or her academic record.

Students who have been placed on academic probation and who make satisfactory progress will continue to maintain their academic standing with the college and their concurrent eligibility for financial aid.

## Dismissal

A student who does not achieve the required standards during probation is advised in writing by the Office of the Registrar of his or her dismissal from the college. Students may appeal dismissal by filing a petition in the Academic Advisement Center for review of this action.

Students in the SEEK program who do not meet the program's academic standards will be placed on academic probation. SEEK students on probation must meet regularly with their SEEK counselors, the SEEK proctor of students, and SEEK tutors. Students who do not improve their academic standing and who do not meet the program's requirements after having been on probation will be dismissed from the SEEK program.

## Readmission on academic probation

In accordance with CUNY policy, a student dismissed for poor scholarship may apply for readmission on academic probation no sooner than one full term, not including summer session, following dismissal. However, at Brooklyn College, readmission of students who have been dismissed is rarely considered until after a full year of absence from the college. The student must consult the Academic Advisement Center to determine the appropriateness of readmission and conditions for further attendance. Although there is no guarantee of readmission, the student may be admitted on probation, with a limited program, and must meet a designated academic standard. The Academic Advisement Center may require a review of the student's record at the end of each term for further educational planning.

## Scholastic honors

## Dean's Honor Lists

There are two Dean's Honor Lists: one for full-time students and one for part-time students. Eligibility criteria for both are as follows: a student must achieve a 3.50 scholastic index excluding courses assigned grades of $P$, credits granted for life experience, and summer session courses; cannot have grades of $F$, FAB, FIN, WF, WU, or NC or grades with \# or * in front of them; cannot have grades of INC, ABS, or NGR unless these grades are resolved in the semester immediately following and the student becomes eligible, in which case the student will be named to the list retroactively; and must be a matriculated student seeking
a Brooklyn College degree (nondegree, CUNY B.A., and post-baccalaureate students are not eligible). Students cease being eligible after the semester in which 135 credits have been completed.

## Additional criteria for each list are as follows:

Full-time students who are eligible for the Dean's Honor List must have achieved at least 12 completed credits (excluding courses taken for a grade of pass or fail) in the semester for which they are being considered.

Students who are eligible for the Dean's Honor List, Part-time, will have been part-time students for a full academic year beginning with the fall semester; i.e., registered for less than 12 total credits (excluding courses taken for a grade of pass or fail) in each of the two consecutive semesters. Students must have achieved a total of at least 15 credits (excluding courses taken for a grade of pass or fail) over the two consecutive semesters.

## Honors awarded at graduation

At graduation there are two honors designations: honors for general excellence and honors for excellence in advanced study centered in a department.

Honors for general excellence. A degree summa cum laude is granted for a scholastic index of at least 3.90. A degree magna cum laude is granted for a scholastic index of 3.75 or higher, but less than 3.90. A degree cum laude is granted for a scholastic index of 3.50 or higher, but less than 3.75. For transfer students, the scholastic index for honors is computed on the basis of the complete college record, including all transfer credits, as well as separately on the basis of grades earned in courses taken at Brooklyn College. The required index for graduation with honors for general excellence must be achieved in both cases.

Honors for excellence in advanced study centered in a department. A degree with honors for excellence in advanced study centered in a department is granted for a scholastic index of at least 3.50 in all advanced work in the major; satisfactory completion of at least three credits in honors work at an advanced-course level or its equivalent, as determined by the individual department and the Committee on Course and Standing; and recommendation of the department, subject to approval of the Committee on Course and Standing.

## Status change requirements

Students with nondegree-bearing status may apply for degree-bearing status through the Office of Admissions on the basis of having achieved one of the following:

1. A scholastic index of 2.5 for the first $7-14$ credits or more earned at Brooklyn College in a well-balanced academic program of liberal arts and core courses.
2. A scholastic index of 2.0 for the first 24 credits or more earned at Brooklyn College in a well-balanced academic program of liberal arts and core courses.
3. Students transferring as nondegree students from other colleges will not have their credits from that institution evaluated until they have been accepted by Brooklyn College as matriculated students. Applicants must provide official records of high school and previous college attendance. Applications for status change are available in the Office of Admissions and Financial Aid, Plaza Building. Deadlines for filing applications for status change are December 1 for the spring semester and June 1 for the fall semester.

## Readmission

After a term or more of absence, students who want to be readmitted to the college must apply at least two months before registration in the Office of the Registrar. Students must have copies of their records sent directly to the Office of the Registrar, Readmission Division, by any institution attended since they last attended Brooklyn College.

Students who have withdrawn from college after the twentieth school day of a term automatically receive registration material for the following regular term. Students who have withdrawn before the twentieth school day of a term and want to be readmitted the following term must file an application for readmission in the Office of the Registrar at least two months before registration.

Entering freshmen and transfer students who withdraw before the twentieth day of their first term must reapply for admission through the University Application Processing Center, Box 136, Bay Station, Brooklyn, New York 11235.

Students must meet the requirements for degrees in effect at the time of readmission. For exceptions to this policy, see "Degree requirements," above in this chapter.

## Special readmission in degree-bearing status

Students whose average was below $C$ at Brooklyn College and who then completed an associate degree at a community college of the City University may be readmitted with degree-bearing status to Brooklyn College for at least one term if they also meet standards of proficiency in the basic skills areas of mathematics, reading, and writing. These students may or may not continue in the college after one term, depending on the extent of minus deviation. The Academic Advisement Center may have to review their status. An average of $C$ or 2.00 must be achieved before the baccalaureate degree is awarded.

A student who has been admitted or readmitted to Brooklyn College immediately after an absence from college of five years or more may elect to have the entire prior college record disregarded. Students who wish to elect this option may do so only when their record since such admission or readmission shows at least twelve credits and a positive deviation. Students may elect this option only through the Academic Advisement Center.

## Academic Services

## Department of Educational Services

The Department of Educational Services, 2208 Boylan Hall, conducts the following special programs.

## SEEK program <br> 2208 Boylan Hall

The mission of the SEEK (Search for Education, Elevation, and Knowledge) Program, which is basic to the mission of the City University, is to assist in providing higher educational opportunity to students who otherwise would not have access to a four-year college education.

The department administers SEEK, a City University program that provides academic support, counseling, tutorial assistance, and financial aid for economically and educationally disadvantaged students.

Course listings are described in this Bulletin under the heading "Educational Services."

## Counseling <br> 2207 Boylan Hall, 951-5931

Department of Educational Services counselors give students in the department's programs orientation, registration, and financial aid information; academic planning assistance; and information about graduate education and career opportunities. Counselors assess and encourage each student's progress. Students meet individually and in groups to discuss their concerns.

Educational services counseling is also available as follows:

## General counseling- SEEK students 2207 Boylan Hall Reading 2432 Ingersoll Hall

Tutorial Center
1424 Ingersoll Hall, 951-5135
The center offers SEEK students tutoring and supplemental instruction in basic skills, core courses, and introductory and advanced courses in all majors. It assists students in adapting to the college curriculum. The tutorial center is staffed primarily by peer tutors who have demonstrated success in their own academic programs. The center provides services to all SEEK students and offers MacIntosh and IBM computer labs for SEEK students.

## Reading Laboratory <br> 2432 Ingersoll Hall, 951-4123

Faculty members and tutors guide students in improving their comprehension, reading speed, vocabulary, and analytical and test-taking abilities. The laboratory is used by compensatory and developmental classes as well as by individual students. Hours are 9 a.m. to 4 p.m., Monday through Friday.

## SEEK English-as-a-Second-Language Reading Laboratory 1438 Ingersoll Hall

The laboratory is open to students enrolled in the SEEK Program.

## Learning Center

The center, in 1300 Boylan Hall, offers peer tutoring to students for writing in any discipline and for first-tier core courses, science courses, and others. Students may see trained tutors to discuss course content and assignments. Computers and reference materials are available at the center. Further information may be obtained at the center, 1300 Boylan Hall, or by calling 951-5821.

## Writing Center

1300 Boylan Hall, 951-5821
Help may be obtained in prewriting, outlining, mechanics of writing, proofreading, revising, or developing a format for any paper. Students may also receive help with such specific tasks as writing essays, research papers, résumés, or laboratory reports.

## Peer Tutoring Center

1300 Boylan Hall, 951-5821
The center offers assistance to students enrolled in Core Studies, some science, and other courses. Tutoring services focus on helping students master subject matter and strengthen their study skills.
Discussions of special topics and group reviews led by tutors are offered periodically.

## Department of English

English-as-a-Second-Language Program 1414 Ingersoll Hall, 951-5928
This program is for students whose native language is not English. Students are assigned to the program on the basis of the CUNY Writing Skills Assessment Test. See course descriptions under English in this Bulletin.

## ESL Reading Laboratory <br> 132 Ingersoll Hall

The laboratory is open to students enrolled in ESL courses.

## Starr Foundation ESL Learning Center

 217 Roosevelt HallThe center provides individual and small-group tutorial activities to ESL students.

## Personal Counseling and Career Services Center

## Services for Students with Disabilities Program

 1303 James Hall, 951-5363
## Mamie and Frank Goldstein Resource Center.

The center offers services for students with physical and learning 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 screenaccess 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 with ASCII-text files allow many documents to be accessible in alternative formats, such as braille print or vocalized text. Documents include job search files, information about the Personal Counseling and Career Services Center, the college Bulletins, and other resources of the college.

Students may have access to the center by registering with the Services for Students with Disabilities Program, 1303 James Hall.

## Counseling and Campus Services

## Counseling

Personal counseling
1303 James Hall, 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.

## Career counseling and placement

1305 James Hall, 951-5696
Free services include career counseling, graduate and professional school preparation and application advisement, and credentials services. 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.

## Services for international students

1307 James Hall, 951-5696
Counseling and other special services are provided for international students enrolled with F-1, B-1, or B-2 visas, including processing of INS 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 here upon arrival and send notice of any change of address or status.

Health programs
1115 Plaza Building, 951-4266 or 951-4505
Information is available on student health and wellness issues, student immunization requirements, and health insurance. Emergency medical services are available in 021 Ingersoll Extension (telephone:9515858). The Brooklyn College Health Clinic is located in 114 Roosevelt Hall (telephone: 951-5580.)

## Veterans Affairs and Counseling Center <br> 0303 James Hall, 951-5105

The center provides orientation counseling, academic planning assistance, tutoring, and liaison with the Veterans Administration and other agencies. The center has information about federal and state benefits, and counselors assist veterans in filing forms and applications for federal benefits. Veterans not attending college may obtain counseling, admission information, and assistance in securing benefits.

## Drug and alcohol abuse counseling and information

1303 James Hall, 951-5363
Professional help is provided through individual and group counseling, family and legal counseling, and a special program for former drug users. Free, confidential services are available to students, staff, and faculty members as well as their families.

## 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.

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.)

## Women's Center <br> 227 Ingersoll Hall Extension, 951-5777

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

## Services for Students with Disabilities (SFSWD) Program

1303 James Hall, 951-5363
The Services for Students with Disabilities Program serves as the primary program for assisting in 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 registered in the disabilities program include: preadmission interviews; priority registration; individual counseling; auxiliary aids (readers, writers, laboratory assistants); individual testing accommodations and arrangements; advocacy; on-campus parking; direct liaison with offices providing financial aid counseling, academic counseling, and vocational and rehabilitative counseling. The Mamie and Frank Goldstein Resource Center provides services for students with disabilities who require adaptive equipment for studying, taking tests, tutoring, and other academic activities. For a description of the center's facilities, see the chapter "Academic Services" in this Bulletin.
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.

## Health Clinic 114 Roosevelt Hall, 951-5580

The Brooklyn College Health Clinic offers health care for students. Services include the 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 colonoscopy. Wellness checkups, evaluation and counseling on smoking cessation, blood pressure, nutrition, and other health issues are also provided.

Care is provided primarily 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 for free, and most lab tests that require outside analysis are available at greatly reduced fees. Many medications are available at no charge.

## Campus Security and Public Safety

## 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 Campus Security and Public Safety Office 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 Security 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. In addition, 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 manned 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 24 -hour photoidentification card.

## Emergency medical service hot line

951-5858
Emergency medical assistance is provided by the Student Emergency Medical Squad, 021 Ingersoll Hall Extension. Ambulance facilities are also provided.

## Information Services

## General information line <br> 1303 James Hall, 951-5000

Students may obtain recorded information about
the college twenty-four hours a day, 365 days a year, by dialing this college telephone number. 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 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, 8 a.m. to 4 p.m.; and Saturday and Sunday, 9 a.m. to 4 p.m. Information is also available by telephone, 951-4748.

## Electronic information kiosks

Kiosks are located in nearly all buildings throughout the campus. Touch-screen computers permit users to learn about campus services and events, call up a campus map, find an office or staff phone number, and reach the Brooklyn College Web site. Students may obtain unofficial copies of transcripts, grade reports, and bursar statements.

## 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 Web site: (http://thunder/brooklyn.cuny. edu/studmail.htm); in person at the Atrium Computer Lab, 1306 Plaza Building; or by calling the support line, (718) 677-6180.

## Housing referral

Housing and roommate referrals and information are provided. For information, telephone 951-5363.

## Office of College Information and Publications 2153 Boylan Hall

The office publishes the central college publications, including the Brooklyn College Undergraduate Bulletin and Graduate Bulletin, Schedule of Classes, Student Handbook, Core Curriculum Bulletin, Commencement Program, and a variety of brochures, flyers, and posters for recruitment, special academic programs, cultural events, and alumni activities.

## Newspapers, literary magazine

Newspapers written and edited by Brooklyn College students may be obtained in the lobbies of campus buildings. Brooklyn Review, a literary-arts magazine, is published periodically by graduate students in the master of fine arts degree program in creative writing.

WBCR
3302 James Hall, 859-6314
WBCR, the Brooklyn College radio station, is operated by students. It broadcasts 9 a.m. to $9 \mathrm{p} . \mathrm{m}$. Monday through Friday on 590 AM and can be heard on BCAT, 9 a.m. to 1 p.m. in the Boylan Hall cafeteria and at designated times in SUBO. WBCR features news and community affairs programs and presents music in a variety of formats:modern rock, reggae, Caribbean, jazz, hip-hop, salsa, and techno.

## Campus services

## Food services

College dining facilities are located in Boylan Hall. These include cafeteria service, a kosher dairy bar, and a service dining room. The main cafeteria offers salad, soup, delicatessen, grilled foods, beverages, and desserts. Kosher service includes hot and cold foods, desserts, and a soda fountain. The dining room menu offers salad, sandwiches, hot and cold entrees, and desserts.

The cafeteria and 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.

## Brooklyn College Bookstore

 0400 Boylan Hall Basement, 951-5150; 434-0333The bookstore stocks new and used required and recommended books, computer software and supplies; greeting cards; and school supplies.

## ATM banking

An automated teller machine (ATM), installed by Republic 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 unless the user's account is with a bank that charges a fee for ATM services.

## 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, intellectual, professional, social, and cultural development of students, faculty and staff members, and alumni of Brooklyn College.

The Student Center, known as SUBO (Student Union Building Organization), on Campus Road North and East 27th Street, contains lounges, meeting and conference rooms, a computer lab, game rooms, art displays, study rooms, music rooms, television room, and a penthouse with a domed skylight and terrace.

As the center for campus life, SUBO contains the offices of the student governments, Inter-Greek Council, Central Depository (the processing center for student activity moneys allocated to student organizations), Student Development, and Student Activities and Program Services. The center is open 8:30 a.m. to 11 p.m. Monday through Thursday, 8:30 a.m. to 4 p.m. Friday, and Friday nights and weekends only when there are specially scheduled activities.

The center is administered by the Brooklyn College Student Services Corporation. A Student Center board, consisting of nine students representing each of the three student governments, works closely with SUBO's executive director to recommend policy, programs, house rules, budget, and other matters to the corporation. The center is financed by a student activity fee that students pay each registration

The Student Center provides many special services and programs for students. It has become the clubhouse for all cocurricular activities, fostering a sense of community, honoring all individuals, and cultivating diversity. The Office of Student Development is located in the Administrative Office complex off the main lobby of SUBO.

## Club activities

There are about 130 chartered student clubs on the Brooklyn College campus. These organizations present academic, athletic, and social events; sponsor ethnic, cultural, and religious programs; furnish forums for political and societal concerns; provide service to the campus and the wider community; stage performances and exhibitions; and arrange activities for students with special interests. The Inter-Greek Council, 408 SUBO, is an association of fraternities and sororities that have chapters at the college. All chartered student groups may be contacted through the Central Depository, 314 SUBO; the Offices of Student Activities and SUBO Program Services, 302 SUBO; or the appropriate student government.

For the College of Liberal Arts and Sciences, club hours are from noon to 2 p.m. Monday and Wednesday. No classes are scheduled during these hours, and most organizations meet then. Special lectures, concerts,
and other events are also presented during club hours. Several club hours are usually scheduled each term for the School of General Studies. The dates, which change each term, are listed in the calendar of special dates in the Schedule of Classes. On club hour evenings, most classes meet for shorter periods than usual.

## Student government

The student governments for the College of Liberal Arts and Sciences, the School of General Studies, and the Division of Graduate Studies are located in 311, 312, and 309 SUBO respectively. Qualified students may seek office. Elections are held annually for membership in the assembly and for president and vicepresident of CLAS, SGS, and GSO. Student government meetings are open to all students.

## Recreational activities

Recreational activities 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, pool, jogging track, racquetball courts, and tennis courts. Students must bring their own equipment. To use facilities, students must present a valid Brooklyn College identification card in the Recreation Center, 125 Roosevelt Hall (telephone: 951-5366).

## Intercollegiate athletics

The college's intercollegiate sports program offers a schedule of athletics competition in Division III of the National Collegiate Athletics Association (NCAA). All students are encouraged to take part in the program, which includes men's soccer; men's and women's cross-country, tennis, basketball, swimming, volleyball, and indoor and outdoor track; and women's softball. Students who are interested in joining a team should visit the Recreation Center, 125 Roosevelt Hall (telephone: 951-5366).

It is the mission of the intercollegiate athletics program at Brooklyn College to enhance the educational experience by providing opportunities for students to achieve their athletic potential while representing the college. The program fosters friendship and sportsmanship; winning and losing are only important as they support the process of learning. The college strongly supports a policy of gender equity.

Recognizing that the most important priority for student athletics is academic performance, the Athletics Division supports this goal by limiting the length of the season, number of contests, length of practices, and extent of travel. In accord with NCAA Division III regulations, the college does not offer athletic scholarships. There are no revenue-producing sports, and admission to all games is free. Outstanding coaches, trainers, and physicians are assigned to all teams; and facilities and equipment are properly maintained for safety and cleanliness.

## Intramural sports

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

## Student honor societies

## Alpha Sigma Lambda

The Brooklyn College Chapter of Alpha Sigma
Lambda, Zeta of New York, is a member of the national honor society for evening colleges. Candidates for undergraduate degrees are elected to membership on the basis of scholarship, leadership, and integrity.

## Phi Beta Kappa

The Brooklyn College Chapter of Phi Beta Kappa, Rho of New York, is a constituent member of the Phi Beta Kappa society, whose purpose is to recognize and encourage scholarship and cultural interests. Members are elected primarily on the basis of broad cultural interest, scholarly achievement, and good
character. Only those students whose work has been definitely liberal in character and purpose are considered for election as members. Grades earned in applied or professional courses are not considered in determining eligibility for election to membership.

Weight is given to the breadth of the course program as well as to grades earned. Weight is also given to college-level foreign language study beyond the Core requirement. Candidates are expected to show evidence of elective study beyond the Core requirements and outside their major in at least two of the three broad areas of the humanities, the social sciences, and the sciences.

All eligible students are considered by the Committee on Admissions; candidates do not apply to Phi Beta Kappa.

## 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.

## National honor societies

National honor societies with chapters on the Brooklyn College campus are Eta Sigma Phi (classics), Upsilon Pi Epsilon (computer science), Kappa Delta Pi (education), Pi Delta Phi (French), Kappa Omicron Phi (home economics), Pi Mu Epsilon (mathematics), Psi Chi (psychology), Alpha Kappa Delta (sociology), Sigma Delta Pi (Spanish), Delta Sigma Rho (speech), Golden Key National Honor Society (all disciplines).

## New York Public Interest Research Group, Inc. (NYPIRG)

The New York Public Interest Research Group, Inc. (NYPIRG) is a nonprofit, nonpartisan research and advocacy organization established, directed, and supported by New York State college students. NYPIRG provides the structure through which concerned students can work for social change in such areas as consumer protection, environmental quality, fiscal responsibility, political reform, equal opportunity, and social justice while gaining experience in areas of research, government, and citizenship.

Academic credit can be received for NYPIRG internship work through urban fieldwork courses (Political Science 75.5 and 75.6) or through internships arranged with the permission of individual course instructors.

With chapters on nineteen campuses throughout the state, NYPIRG is directed and funded by students through their student activity fees. There is a two-week refund period each term for students who do not want to contribute to the organization; refunds may be requested in Central Depository, 314 SUBO, or in the NYPIRG office, 0302 James Hall (telephone: 859-7177).

# Student Rights and College Regulations 

## Equal opportunity policy


#### Abstract

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 age, carrier status, citizenship status, color, disability, gender, genetic predisposition, marital status, national orgin, prior arrest or conviction record, race, religion, Sabbath observance, sexual orientation, veteran status 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, 2141 Boylan Hall (telephone: 718-951-4128). Students with disabilities may wish, in the first instance, to contact the coordinator of Services for Students with Disabilities Program (SFSWD), 1303 James Hall (telephone: 951-5363).


## 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, the Office of Legal Services, or from Professor Roni L. Natov, Acting Coordinator of the Sexual Harassment Advisory Panel, 3416 Boylan Hall (telephone: 951-5374).

## 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 Services for Students with Disabilities (SFSWD) Program, 1303 James Hall (telephone: 951-5363). The SFSWD Program 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 SFSWD Program, students have access to the Frank and Mamie Goldstein Resource Center, a special resource center with such assistive technology as voice recognition, voicesynthesized document and screen reading, and screen and document magnification for use on an individual or group basis. Similar equipment is also available at the Gideonse Library and the Atrium Computer Center, 1306 Plaza Building.

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 Services for Students with Disabilities Program. Students may also consult with the Office of Affirmative Action, Compliance, and Diversity (AACD), 2141 Boylan Hall (telephone: 951-4128), which will, as appropriate, refer the matter to SFSWD, 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 SFSWD or AACD.

## Access to student records

Rights of Access. Pursuant to the Family Educational Rights and Privacy Act of 1974, the HigherEducation Amendments Act of 1998, and the Board of Trustees of The City University of New York Student Records Access Policy of April, 1998, 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 should be in writing. Requests will be granted or denied within fortyfive 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 forty-five 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 appeal. 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 are implemented. The complete texts of the revised Board of Higher Education policy as amended January 26, 1998, 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, 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 1-11 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 $1-11$ 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 1-11 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 111 shall be subject to ejection and/or arrest by the civil authorities.
"4. Any organization which authorizes the conduct prohibited under substantive Rules $1-11$ shall have its permission to operate on campus rescinded.
"Penalties $1-4$ 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 and Career Services Center, 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 Office of Campus Security and Public Safety 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 "Admission" chapter 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."

## Scholarships, Awards, and Prizes

More than six hundred scholarships, awards, and prizes are given each year to Brooklyn College students. Friends of the college, including the 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 that generate well over $\$ 1$ million annually to support the education of qualified students. In addition, the City University of New York holds funds for scholarships and awards specifically for Brooklyn College students. The college makes every effort to award all of this money to students each year. Holding a scholarship does not adversely affect any federal or state financial aid students may receive.

Scholarships range from partial to full tuition for the academic year, and in some cases are given for multiple years. Awards and prizes in all disciplines are given to students as onetime cash gifts, with amounts varying from $\$ 50$ to $\$ 1,200$.

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 donors. A number of scholarships are designated for students with disabilities or students of a particular ethnicity or national origin.

For scholarship application forms and information about how to apply for scholarships, awards, and prizes, visit the Office of Scholarships, 1113 Plaza Building, or call (718) 951-4796. You may also visit our Web site: http://depthome.brooklyn.cuny.edu/scholar.

## Scholarship programs for entering freshmen

All applicants for the freshman scholarships described below must complete both a Brooklyn College scholarship application and a separate application for undergraduate admission to the City University of New York (CUNY), indicating Brooklyn College as their first choice. CUNY applications are available at most high schools or may be obtained from the Brooklyn College Office of Admissions, 1203 Plaza Building.

## Brooklyn College Foundation Presidential Scholarship Program

Each year the Brooklyn College Foundation Presidential Scholarship Program offers fifty full-tuition scholarships to entering freshmen, five of which are awarded to students in the performing arts. Scholarship recipients receive a maximum of eight tuition payments, covering four years of study.

Selection is based on merit as measured by SAT scores and high school performance. In order to be considered, a student must have a combined score of at least 1200 on the SAT (or the equivalent ACT) and a minimum high school academic average of 90 percent. Performing arts applicants must also demonstrate superior artistic achievement through a live or taped audition. In order to remain eligible, students must maintain continuous full-time enrollment ( 12 credits or more) and a minimum grade point average of 3.0 each semester.

Application forms and information about how to apply for this program may be obtained from the scholarships Office. All application materials must be received at the Office of Scholarships or postmarked by December 30 in order to be considered for the academic year beginning the following September.

## High Five Scholarship Program

Established by the Estate of Barbara Eisendrath, the High Five Scholarship provides an opportunity for students with strong academic backgrounds and financial need to attend college full time. There will be five recipients each year, each receiving $\$ 10,000$ annually for a total of four years. To be eligible, an applicant must be a senior in a New York City public or private high school; planning to attend Brooklyn College, City College, or Queens College as a full-time student; be financially eligible for maximum TAP or Pell financial aid; and have a very strong academic record. The program is highly selective with regard to
academic criteria. Students with leadership ability or special talents, such as in the arts or creative writing, will also be considered.

Applications for the scholarship must be filed by January 31 in order to be considered for the academic year beginning the following September. Further information and application forms may be obtained from the Scholarships Office or by calling (212) 947-4800.

## General scholarships for entering freshmen

The college offers scholarships to entering freshmen based on any or all of the following: financial need, academic merit, participation in extracurricular activities, and community service. All application materials for general scholarships for entering freshmen must be received at the Office of Scholarships or postmarked no later than February 15 in order to be considered for the academic year beginning the following September. Applications received after the deadline may be considered if scholarship funds are still available.

## Scholarships, awards, and prizes for matriculated students

Through its general program of scholarships, awards, and prizes, Brooklyn College recognizes the academic achievements and needs of continuing undergraduate students. To be eligible, students must have a minimum grade point average of 2.0.

Many scholarships are conferred by individual departments. Recipients of general scholarships are selected by a standing committee of faculty members and administrators who are guided by the criteria established for each scholarship or award.

All scholarship application materials must be received at the Brooklyn College Office of Scholarships or postmarked by February 15.

## Special programs

## Minority Access to Research Careers (MARC) Fellowships

The MARC program, sponsored by the National Institutes of Health, is for minority honors students (African American, Hispanic, Pacific Islander or Native American) who are interested in pursuing research careers in the biomedical sciences, including biochemistry, experimental psychology, neuroscience, biology, and health-related research. The program offers annual fellowships of about $\$ 9,000$, tuition support, and funds for travel to professional meetings.

Students in the program devote a significant amount of time to independent research with a faculty mentor and participate in a wide range of activities that familiarize them with research methodology and potential research careers and prepare them for graduate school.

To be eligible, students must be U.S. citizens or hold resident alien status and have a grade point average of at least 3.0. Students should apply in the spring semester of the sophomore year, although applications may also be submitted in the first semester of the junior year. Application forms and further information on MARC program requirements and benefits may be obtained from the program director, 4311 James Hall (telephone, 718-951-5171).

## Leadership Alliance

Brooklyn College participates in the Leadership Alliance, a consortium of colleges and universities that seeks to increase the participation of underrepresented minority students in graduate programs oriented toward research careers in all fields other than law, medicine, or business. The Leadership Alliance sponsors summer research fellowships through its Early Identification Program (EIP), which places undergraduate students in major research universities or in industrial settings at IBM or Schering Plough. EIP students also have the opportunity to participate in other activities that enhance their graduate school
prospects. Summer stipends vary from $\$ 3,000$ to $\$ 5,000$. A minimum grade point average of 3.0 is required. The application has an early February deadline. Application forms and further information about the Leadership Alliance may be obtained from the program coordinator, 4311 James Hall (telephone, 718-9515610).

## Project Ascend/McNair

Funded by the United States Department of Education and administered by the Graduate School of the City University of New York, Project Ascend/McNair seeks to encourage promising CUNY undergraduates from low-income families and underrepresented groups to pursue doctoral training, leading to careers in research and academia. The program offers workshops and seminars in preparation for graduate school as well as research fellowships, with stipends of $\$ 2,800$, that allow students to work with CUNY faculty members during the summer. Applicants must have a minimum grade point average of 3.0. For application forms and further information about Project Ascend/McNair, contact the program director (telephone, 212-817-1828).

## CUNY Pipeline Program

The CUNY Pipeline Program provides educational and financial support to minority undergraduates, including African American, Asian American, Hispanic, and Native American students, who are interested in careers in higher education. The program is intended for students who plan to pursue a Ph.D. in preparation for college-level teaching and advanced research in any field except law or medicine. Students apply as juniors and must be U.S. citizens or permanent residents with a grade point average of 3.20 or higher. The program offers stipends of $\$ 3,250$, summer research opportunities, help in preparing applications to graduate school, and tuition waivers for the first year of study in a CUNY Ph.D. program. Applications and further information on CUNY Pipeline may be obtained from Robert Scott, coordinator of the program, 2231 Boylan Hall (telephone, 718-951-4114).

## Alliance for Minority Participation (AMP)

Funded by the National Science Foundation, the Alliance for Minority Participation offers a variety of enrichment activities for minority students interested in the sciences, particularly the physical sciences and mathematics. The program offers payments for tutoring and stipends for conducting research in laboratories under the supervision of Brooklyn College faculty during the academic year and the summer. Participants must be U.S. citizens or hold resident alien status. Application forms and further information about AMP may be obtained from the program coordinator, 141 New Ingersoll Hall (telephone, 718-9514346).

## Scholarships

The scholarships listed on the following pages represent only a partial listing of those offered by the college. A complete description of the hundreds of scholarships, awards, and prizes may be found on the college's Web site or in Brooklyn College Scholarships, Awards, and Prizes for Undergraduate Students, a publication available in the Office of Scholarships.

The dollar amounts and availability of scholarships listed on the following pages are subject to change based on account activity, varying interest rates, and other factors.

Alumni Class Scholarships, by reunion classes, to continuing undergraduates for outstanding academic achievement.

Class of 1933Class of 1941Class of 1964
Class of 1934Class of 1942Class of 1965
Class of 1935Class of 1943Class of 1968
Class of 1937Class of 1946Class of 1969
Class of 1938Class of 1955
Class of 1939Class of 1963

Sam Beller, '59, Scholarship, partial tuition for the junior and senior years of study, to two students who have developed goals leading to a business career and who have displayed entrepreneurial skills.

Brooklyn College Faculty Circle Honors Scholarship, partial tuition to a continuing student who has demonstrated high academic achievement at Brooklyn College.

Brooklyn College Faculty Circle International Student Scholarship, full or partial tuition to an undergraduate or graduate international student who has demonstrated academic merit in a degree program.

Brooklyn College Institute of Retired Professionals and Executives Freshman Scholarship, full or partial tuition for an entering freshman whose high school record demonstrates academic excellence.

Brooklyn College Institute of Retired Professionals and Executives Scholarship, partial tuition each, to a deserving freshman, sophomore, junior, and senior who have demonstrated academic merit.

Broward-Dade Alumni Chapter Scholarship, by the Broward-Dade Chapter of the Brooklyn College Alumni Association, full or partial tuition to an outstanding student.

Samuel Dawson Memorial Scholarship, by the New York Council of Defense Lawyers, partial tuition to a prelaw student who is majoring in political science or who has an interest in community service, for the senior year of study.

Essel Foundation Scholarship, full or partial tuition to Russian Jewish immigrants and to students enrolled in courses leading to postgraduate study in neuroscience, a medical degree, or a Ph.D.

Harry Fishbein and Norma Moinester Fishbein Scholarship, partial tuition to a freshman student whose high school record presents evidence of outstanding academic ability.

Laurence lan Gold Memorial Scholarship in Film, by family and friends, to a student with demonstrated promise in the discipline of film production who exemplifies good humor, friendliness, and caring in relationships with others.

Laurence lan Gold Memorial Scholarship in Human Relationships, by family and friends, to a student who has demonstrated extraordinary personal courage, good humor, friendliness, and caring in human relationships and whose humanistic promise as an individual exemplifies potential to enhance the wellbeing of others in the future.

Laurence lan Gold Memorial Scholarship in Television and Radio, by family and friends, to a student with demonstrated promise in the discipline of television production who exemplifies good humor, friendliness, and caring in relationships with others.

Rose Goldstein Memorial Scholarship, full tuition for meritorious undergraduate students in need of financial assistance.

Jeanette Trum Granoff, '35, Graduate Scholarship for Science, by the Granoff Foundation, partial tuition to an outstanding graduating senior, for study to obtain a master's degree in a graduate science program at Brooklyn College.

William Randolph Hearst Scholarship, to outstanding female minority students in the Brooklyn College B.A.-M.D. Program, with preference given to graduates of the Eureka Program.

Edwin Kaplan, '55, and Joan Kaplan Family Scholarship, by an alumnus, tuition for one year to students with outstanding academic records who are premed and/or have demonstrated interest in Russian culture.

Iris J. Katz and Saul B. Katz, '60, Scholarship, full tuition to outstanding entering freshmen who are graduates of Samuel J. Tilden High School in Brooklyn and Stuyvesant High School in Manhattan.

Margaret Ann Kneller Scholarship, by George F. and John W. Kneller, to a senior with a physical disability who has demonstrated academic achievement, leadership in student affairs, and a commitment to community service.

Sam Levenson, '34, and Esther Levine Levenson, '34, Scholarship, presented by the Brooklyn College Alumni Association, partial tuition to students who have demonstrated a commitment to serving their fellow students and/or have made a creative contribution to the Brooklyn College community.

Milner's Canadian Scholarship, tuition and stipend for summer study at an accredited Canadian university, to a qualified student at the completion of the sophomore year at Brooklyn College.

Rochelle Moss, '59, Scholarship, full or partial tuition to a student with a minimum 3.0 grade point average who must work to afford tuition.

Mr. and Mrs. Frank Nicolai Memorial Scholarship, for four years of study, to an entering freshman from the Borough of Brooklyn whose academic performance in high school was outstanding.

Northern Metropolitan New York Alumni Chapter Scholarship, half tuition to students who have demonstrated scholarship and character.

Palm Beach Alumni Chapter Scholarship, by the Palm Beach Chapter of the Brooklyn College Alumni Association, partial tuition to a deserving continuing student who has demonstrated academic achievement.

Mary Petrelli, '40, Memorial Scholarship, by Angela Petrelli, '39, for deserving Brookyn College students.
Promise Scholarship, to outstanding minority students who are majoring in science and preengineering and are citizens of the United States.

Madelon L. Rand, '64, and Lawrence A. Rand Scholarship, full or partial tuition to an undergraduate to encourage scholastic achievement.

Jack and Estelle Rapaport, '37, Scholarship, partial tuition to outstanding minority students who are majoring in chemistry, for the junior or senior year of study.

Seymour Richman Memorial Scholarship, by Abraham Schwebel, '35, to an incoming freshman who has demonstrated outstanding achievement and significant potential for study in the Department of Biology.

Paul J. and Angela H. Salvatore Memorial Scholarship for Proficiency in a Romance Language, by family and colleagues, partial tuition to an undergraduate who is majoring in a Romance language, for continued study at Brooklyn College.

Soren L. Sanchez Memorial Scholarship, by his family, to an outstanding student majoring in Puerto Rican and Latino studies.

Professor Nathan Schmukler Scholarship, by friends and former students, partial tuition each, for the junior and/or senior years of study, to students majoring in accounting who have achieved, or show promise of achieving, an outstanding academic record.

Gussie Federbush Schwebel Scholarship, by Abraham Schwebel, '35, to students with outstanding academic records who are majoring in mathematics, biology, chemistry, or physics.

Irving Shaw and Pauline K. Shaw Chemistry Scholarship, for a junior or senior chemistry major who has demonstrated excellence in chemistry and has indicated interest in graduate studies in chemistry or medicine.

Mildred Sheehan Memorial Scholarship, full tuition to an outstanding philosophy major completing the junior year.

Diana and Lewis Sills Memorial Scholarship, partial tuition to a senior majoring in art (painting or sculpture) who has demonstrated a strong commitment to pursuing the fine arts as a career.

Susan Solomon and Zachary Solomon, '57, Scholarship, partial tuition to an undergraduate majoring in economics and/or the performing arts, selected on the basis of academic merit.

Starr International Student Scholarship, full or partial tuition, to outstanding international students who represent the first generation in their family to attend college.

Alexander M. Tanger, '41, Scholarship in Broadcast Communications, to a student majoring in broadcast communications.

Claire Tow, '52, and Leonard Tow, '50, Scholarship, full or partial tuition for undergraduate and graduate students with a grade point average of 3.50 .

Rose Weinstein Scholarship, by Mrs. Rita Gold, '59, in memory of her mother, partial tuition to matriculated students with an academic average of B- or higher who need financial assistance to continue study.

Elisabeth Weis Scholarship in Film, partial tuition to a student who has shown outstanding achievement or demonstrated potential in film studies or film production.

Harvey L. Young Family Scholarship, by the Harvey L. Young Family Foundation, Inc., for the senior year of study, to a student majoring in accounting who has demonstrated academic merit.

Susan Zisselman, '60, Memorial Scholarship,
by family and friends, to a deserving and needy student with a disability who has a commitment to the arts or humanities.

## Programs of Study

## The core curriculum

Brooklyn College's college-wide core curriculum must be completed by all candidates for a baccalaureate degree. The core curriculum consists of interrelated courses called "Core Studies" courses plus a foreign language requirement. Core Studies courses vary in size and design.

The faculty has established the courses in the core curriculum according to the following criteria:
They are foundation courses designed for nonspecialists and suitable for nonmajors, but each is planned so as to introduce material of fundamental and lasting significance.

They aim to broaden awareness, cultivate the intellect, and stimulate the imagination, rather than to provide specific career preparation. They are intended to develop mental skills, rather than vocational skills. In these respects they constitute the best long-term preparation for any career.

They offer both substantive knowledge and insight into the way knowledge is acquired. Emphasis varies, some courses stressing the approaches to knowledge, others concentrating more on what are taken to be definitive human achievements.

Their purpose is to give the student a perspective, an overall view of a subject or branch of learning, and a substantial amount of information, which together with other core courses will provide a broad background in the liberal arts and sciences.

They stress the quality of exposure, rather than breadth of coverage, drawing on the power of specialists addressing themselves to general concerns.

## Core Studies courses

## Core Studies 1 The Classical Origins of Western Culture

3 hours; 3 credits
Introduction to Greco-Roman literature and literary genres, social and political institutions, and hilosophical concepts of ethics and education that have contributed to European thought and continue to influence contemporary debate in American society. Core Studies 1 offers practice in close reading and in communication by means of critical writing, class discussion, and other methods, such as collaborative group work.
Core Studies 1 is administered by the Department of Classics.

## Core Studies 2 Introduction to Art; Introduction to Music

### 2.1 Introduction to Art

2 hours; 2 credits
Introduction to art through the study of selected works in varied styles and from various periods and cultures. (Not open to students who are enrolled in or have completed Art 1.1 or 1.3 or 2.3 or 2.4.)
Core Studies 2.1 is administered by the Department of Art.

### 2.2 Introduction to Music

## 2 hours; 2 credits

Introduction to music through the study of works representing different times, places, and peoples.
Recorded, concert, and classroom performances.
(Not open to students who are enrolled in or have completed Music 11.1.)
Core Studies 2.2 is administered by the Conservatory of Music.

## Core Studies 3 People, Power, and Politics

4 hours; 4 credits
Introduction to the social sciences through the study of power, authority, and social organization in
American society. Emphasis on gaining insight into American society in broad terms, as well as in terms of such specific issues as social class, race, gender, community, equality, and opportunity. The unifying theme of the course is an understanding of the nature of power (social and political). A major goal of the course is an understanding of contemporary issues and controversies involving power in America.
Core Studies 3 is administered jointly by the Departments of Political Science and Sociology.

## Core Studies 4 The Shaping of the Modern World

## 3 hours; 3 credits

European and American civilization since 1700 in its global context. Effects of revolution, nationalism, and industrialization on economic, political, social, and cultural life. The everyday experiences of women and men. Introduction to historical analysis and argument.
Core Studies 4 is administered by the Department of History.

## Core Studies 5 Introduction to Mathematical Reasoning and Computer Science

3 hours; 3 credits
Mathematical reasoning, formal mathematical systems, algorithms, and problem solving. The nature of the computer and the use of computers in problem solving. Introduction to computer programming. (Not open to students who are enrolled in or have completed any course in computer programming or to students who have completed a mathematics course numbered 3.20 or higher with a grade of $C$ or higher.)
Prerequisite: a high school course in intermediate algebra or Course 2 of the New York State Sequential Mathematics Curriculum, or Mathematics 0.35 or 0.44 with a grade of at least C -, or Mathematics 0.36 or 0.04 , or the equivalent.

Core Studies 5 is administered jointly by the
Departments of Mathematics and Computer and Information Science.

## Core Studies 6 Landmarks of Literature

3 hours; 3 credits
Emphasis on English and American literature; works
of European and non-Western cultures. Examples drawn from fiction, drama, and poetry. (Students whose native language is not English may delay
taking this course until after having completed
96 credits.) (Not open to students who have completed both English 51 and 52.)
Prerequisite: English 1, 1.2, or 1.7.
Core Studies 6 is administered by the Department of English.

## Core Studies 7 Science in Modern Life I

7.1 Science in Modern Life: Chemistry

A total of 23 hours lecture and 14 hours laboratory
per term; 2 credits
Study of basic concepts in chemistry and their implications in modern life. (Not open to students who are enrolled in or have completed Integrated Science 2 or any college course in chemistry, except Chemistry 0.7 or 1.1.)

Prerequisite: Mathematics 0.02 or 0.22 or equivalent or a passing grade on the CUNY Mathematics Skills Assessment Test.

### 7.2 Science in Modern Life: Physics

A total of 23 hours lecture and 14 hours laboratory per term; 2 credits
Study of basic concepts in physics and their implications in modern life. (Not open to students who are enrolled in or have completed Physics 0.1 or 1 or 1.2 or 1.5 or 1.6 or Integrated Science 1.)
Prerequisite: Course 2 of the New York State Sequential Mathematics Curriculum or Mathematics 0.04 or a grade of at least C in Mathematics 0.35 or 0.36 or 0.44 , or a passing grade in Core Studies 5 , or placement in any Mathematics course numbered 2.9 or higher.
Core Studies 7 is administered jointly by the Departments of Chemistry and Physics.

## Core Studies 8 Science in Modern Life II

### 8.1 Science in Modern Life: Biology

A total of 23 hours lecture and 14 hours laboratory
per term; 2 credits
Study of basic concepts in biology and their implications in modern life. (Not open to students who are enrolled in or have completed Biology 1 or 3.)

### 8.2 Science in Modern Life: Geology

A total of 23 hours lecture and 14 hours laboratory per term; 2 credits
Study of basic concepts in geology and their implications in modern life. (Not open to students who are enrolled in or have completed Geology 1.)
Core Studies 8 is administered jointly by the Departments of Biology and Geology.

## Core Studies 9 Comparative Studies in African, Asian, Middle Eastern, and Latin American Cultures

 3 hours; 3 creditsA multidisciplinary, team-taught course, with two instructors, interrelating two areas of the world; a comparative geographical overview of the two areas, followed by thematic treatment of each area and comparative analysis.

Core Studies 9 is administered by the Core Studies 9 course coordinator under the direction of the Dean of Undergraduate Studies.

## Core Studies 10 Knowledge, Existence, and Values

3 hours; 3 credits
Philosophy's distinctive ways of understanding and thinking about perennial human questions: "What can I know?"; "What is real?"; "What should my values be?" Contemporary and traditional examples of philosophic analysis and criticism. (Not open to students who are enrolled in or have completed Philosophy 1.1.)

Core Studies 10 is administered by the Department
of Philosophy.

## Foreign language requirement

As part of the core curriculum, all baccalaureate students are required to complete one course in a foreign language at Level 3 (the third semester of study at the college level) or to demonstrate an equivalent proficiency by examination, except as modified below.

1. Students who have successfully completed three years of one language in high school and have passed the Regents Level 3 are exempted from the core language requirement.
2. The foreign language requirement presupposes two years of secondary school language study. Students who offer only one year of foreign language study (or none at all) are required to take one or two semesters of college study (Levels 1 and/or 2) before they can take Level 3. A student who has studied a language in high school for at least two years and wants to study a different language at the college level may do so, but this student must complete a minimum of two terms of the new language at the college level to fulfill the core requirement.
3. Students whose native language is not English may be exempted from this requirement by passing one of the competency examinations administered by the Department of Modern Languages and Literatures.
4. Neither blanket nor equivalent credits will be given for introductory courses in a foreign language from which a student has been exempted by examination.

## Core sequence: planning a program

Students are expected to complete any required remedial work before beginning Core Studies courses. The ten courses of the core are divided into two "tiers." The courses of the first tier, Core Studies 1 to 5 , may be taken in any order, as may the courses of the second tier, Core Studies 6 to 10. As a general rule, however, all first-tier courses should precede second-tier courses. Two exceptions to the rule are allowed:
(1) in the semester in which Core Studies 1 to 5 are completed, a student may concurrently elect to begin courses from Core Studies 6 to 10; and (2) students with a particular interest in beginning one or another course from Core Studies 6 to 10 (for example, to explore a possible major in one of these fields) may elect such a course, but only in addition to, not in place of, a minimum of two courses from Core Studies 1 to 5, to be taken at the same time.

Full-time students will normally complete the core studies over two or three years of college study. First- tier courses are taken over the first two or three semesters, and second-tier courses are distributed over the next two or three semesters, depending on how many electives and major field courses are combined with the core curriculum. Students are encouraged to lay out programs of study in advance, consulting with a college adviser at any time, and bearing in mind any special requirements of possible major fields.

Part-time students in day or evening sessions may extend sequences over a longer period of time than indicated (without regard to actual number of semesters taken). However, all students should complete Core Studies 1 to 5 at or before the completion of 48 credits.
All Core Studies courses should be completed by the time a student has earned 96 credits. However, students in the English-as-a-Second-Language Program may take Core Studies 6 after the completion of 96 credits.

Students who have completed part of the language requirement in high school are strongly advised to continue further language study in the first year.

## Substitutions for core courses

The core curriculum is a common-experience core. Students are excused from core courses only by virtue of completing a stipulated, more comprehensive or more advanced course or set of courses in the same area. Such courses must be completed within the time period specified for the core courses.

Substitutions for certain core courses are permitted only as follows:
For Core Studies 1: Core Studies 1.1 and 1.2.
For Core Studies 2.1: Art 1.3.

For Core Studies 2.2: Music 9.1 and 9.2; or 11.1.
For Core Studies 5: Mathematics 2.9 or a higher- numbered course in the Mathematics Department and Computer and Information Science 0.1 or 1.1 or 1.2 or 1.3 or 1.10 or 1.20 or 1.5 .

For Core Studies 6: English 51 and 52.
For Core Studies 7.1: Chemistry 1 or 1.2 or 5.
For Core Studies 7.2: Physics 1 or 1.2 or 1.5 or 1.6 or 2.3.
For Core Studies 8.1: Biology 1 or 3.
For Core Studies 8.2: Geology 1.
For Core Studies 10: One course from Philosophy 11.1, 11.2, 12.1, 12.2, or 12.3 and one course from Philosophy $6,20,21,22,23,24,25,26,27$, or 28 ; or completion of a major in philosophy.

Students registered in Brooklyn College study abroad programs (see the section on "Special Programs" in this Bulletin) may have up to seven credits earned in such programs applied to their core curriculum requirements according to the "General guidelines on core equivalents for transfer and readmitted students" rather than "Substitutions for core courses."

Students who have completed three years of language study (Regents Level 3) or who demonstrate an equivalent proficiency are exempted from the core foreign language requirement of one course at Level 3.

A different set of equivalents applies to transfer students. These will be found below in the section "Transfer students."

## Retroactive pass option

A student may elect to have grades in any two previously passed Core Studies courses changed from an ordinary passing grade ( $D$ - through $A+$ ) to a grade of $P$ (pass). This option must be exercised no later than the tenth week of the semester following that in which students complete their ninety-sixth credit. Once this option has been utilized it may not be rescinded, nor may the courses to which the grade of $P$ has been assigned be changed. For purposes of this regulation, Core Studies 2.1, 2.2, 7.1, 7.2, 8.1, and 8.2 are considered separate and distinct courses.

Courses deemed to be substituted for, or equivalent
to, Core Studies are not eligible for the retroactive pass option.

## Adult degree programs

Students in the Special Baccalaureate Degree Program for Adults, a program that has its own structured core curriculum, continue to fulfill the curricular requirements of that program and are exempt from Core Studies 1 through 10. Students in the Small College Program take the college-wide Core Studies sequence in a special format designed for this program. Students must satisfy the language requirement of the college (see "Foreign language requirement" in this Bulletin). Students must also satisfy any additional requirement stipulated by the department of their major. Further information about these programs may be obtained from the office of Special Degree Programs for Adults, 3227 Boylan Hall (telephone: 780-5262, 780-5525).

## Native speakers of languages other than English

Native speakers of languages other than English are given additional flexibility in the sequence and number of core courses to be taken a term. The choice is based on the student's academic preparation in specific subject areas.

## Readmitted students

All students who are required to fulfill the core curriculum requirements as of fall, 1981, or thereafter must complete the core curriculum/core equivalency requirements in the event that they take a leave of absence and are then readmitted to the college.

Readmitted students: fall 1981 through summer 1982

Students readmitted to the college for the academic year 1981-82 or for summer, 1982, who have earned fewer than 12 credits acceptable toward a Brooklyn College degree at the time of readmission must fulfill the core curriculum/core equivalency requirements.

Readmitted students who have earned at least
12 credits, but not more than 80 credits, acceptable toward a Brooklyn College degree may fulfill either the core curriculum/core equivalency requirements, or
the degree requirements stated in the 1979-81 Undergraduate Bulletin.
Those who have earned more than 80 credits acceptable toward a Brooklyn College degree may fulfill either: 1) the core curriculum/core equivalency requirements; or 2 ) the degree requirements stated in the 1979-81 Undergraduate Bulletin; or 3) with the permission of the Committee on Course and Standing, the requirements of any other Brooklyn College Bulletin in effect while they were in attendance at the college.

## Readmitted students: fall 1982 through summer 1983

Students readmitted to the college for the academic year 1982-83 or for summer, 1983, who have earned fewer than 28 credits acceptable toward a Brooklyn College degree at the time of readmission must fulfill the core curriculum/core equivalency requirements.

Readmitted students who have earned at least 28 credits, but not more than 80 credits, acceptable toward a Brooklyn College degree may fulfill either the core curriculum/core equivalency requirements or the degree requirements stated in the 1979-81 Undergraduate Bulletin.

Students who have earned more than 80 credits
from Brooklyn College may fulfill either:

1) the core curriculum/core equivalency requirements; or
2) the degree requirements stated in the 1979-81 Undergraduate Bulletin; or
3) with the permission of the Committee on Course and Standing, the requirements of any other Brooklyn College Bulletin in effect while they were previously in attendance at the college.

Students readmitted with more than 80 credits acceptable toward a Brooklyn College degree but with 80 credits or less earned at Brooklyn College may fulfill either the core curriculum/core equivalency requirements or the degree requirements stated in the 1979-81 Undergraduate Bulletin.

## Readmitted students: fall 1983 or thereafter

Students readmitted for fall, 1983, or thereafter who have earned 80 credits or less acceptable toward a Brooklyn College degree must fulfill the core curriculum/core equivalency requirements.

Students readmitted for fall, 1983, or thereafter who have earned more than 80 credits from Brooklyn College prior to readmission may fulfill either:

1) the core curriculum/core equivalency requirements; or
2) the degree requirements stated in the 1979-81 Undergraduate Bulletin; or
3) with the permission of the Committee on Course and Standing, the requirements of any other Brooklyn College Bulletin in effect while they were previously in attendance at the college.

Students readmitted with more than 80 credits acceptable toward a Brooklyn College degree-but with 80 credits or less earned at Brooklyn College-must fulfill the core curriculum/core equivalency requirements.

## Core equivalencies

Core equivalencies for readmitted students are the same as those for transfer students and are acceptable only if they were completed prior to the student's being subject to the core curriculum.

## Transfer students

The college has established equivalencies regarding the fulfillment of core requirements by transfer students. The evaluation of all transfer credit is initiated through the Office of Advanced Standing, 3215 Boylan Hall. General information concerning core requirements for transfer students may be obtained in the Academic Advisement Center, 3207 Boylan Hall.

Students who transferred to Brooklyn College during the academic year 1981-82, with 12 or more credits accepted by the college and who have been in continuous attendance, may fulfill either the former school requirements (based on choice of major) or those of the core curriculum. Those who transferred during this period with fewer than 12 credits must fulfill the requirements of the core curriculum, following the equivalencies policy stated below.

Students who transferred to Brooklyn College during the academic year 1982-83, with 28 credits or more accepted by the college and who have been in continuous attendance, may fulfill either the former school requirements (based on choice of major) or those of the core curriculum.

Those who transferred during this period with fewer than 28 credits must fulfill the requirements of the core curriculum. Students who transferred to Brooklyn College during the academic year 1983-84 and there after, also must fulfill the requirements of the core curriculum, following the equivalencies policy stated below.

## General guidelines on core equivalents for transfer and readmitted students only

The equivalencies listed below refer only to courses completed at another college, or at Brooklyn College prior to the student's being subject to the requirements of the core curriculum.

Core Studies 1: A course of at least three credits in Greek and Roman civilization, literature, philosophy, or history that includes readings in translation of ancient texts representing a minimum of three of the literary genres included in the Core Studies 1 syllabus. The same three credits may not be offered in fulfillment of Core Studies 10.

Core Studies 2.1: A course of at least two credits in art history or introduction to art.
Core Studies 2.2: A course of at least two credits in music history or music literature or introduction to music.

Core Studies 3: A course in sociology and a course in political science totaling at least four credits

## or

at least two credits in political science and a Brooklyn
College sociology course
or
at least two credits in sociology and a Brooklyn College political science course.
Core Studies 4: A broad survey course of at least three credits in world history after 1700 or the history of Western civilization after 1700.

Core Studies 5: A course of at least three credits combining mathematics and computing, provided that the student has had substantial "hands-on" experience with some sort of computer and that the course has a prerequisite of intermediate algebra
or
at least two transfer credits in computer and information science and a credit-bearing mathematics course at Brooklyn College
or
at least two transfer credits in a mathematics course and a computer and information science course other than Computer and Information Science 0.2 at Brooklyn College
or
a course in computing and a credit-bearing mathematics course that has intermediate algebra as a prerequisite
or
at least two transfer credits in a course in computing, and Economics 30.2 or Business 30.2, and Economics 31.1.

Core Studies 6: A course of at least three credits that focuses substantially on English and/or American literature and that has been taken after at least one term of college-level English composition.

Core Studies 7 (both 7.1 and 7.2): At least four credits in physics and/or chemistry, at least one credit of which is for laboratory work.

Core Studies 7.1 (only): A course of at least two credits in chemistry, at least one-half credit of which is for laboratory work.

Core Studies 7.2 (only): A course of at least two credits in physics, at least one-half credit of which is for laboratory work.

Core Studies 8 (both 8.1 and 8.2): At least four credits in biology and/or geology, at least one credit of which is for laboratory work.

Core Studies 8.1 (only): A course or courses of at least two credits in biology, at least one-half credit of which is for laboratory work.

Core Studies 8.2 (only): A course or courses of at least two credits in geology, at least one-half credit of which is for laboratory work.

Core Studies 9: A course or courses of at least three credits devoted to at least two of the following areas: African, Asian, Latin American, and Pacific cultures.
The student who has a course in one of these areas may fulfill these requirements by taking either Core Studies 9 or a course in one other area.

Core Studies 10: A philosophy course of a least three credits that includes at least two of the following three areas: epistemology, metaphysics, ethics. The same three credits may not be offered in fulfillment of Core Studies 1.

## Language requirement for transfer students

It is recommended that transfer students entering Brooklyn College during the academic years 1981-82 and 1982-83 fulfill a foreign language minimum of one course at Level 3 or an equivalent proficiency.

Students majoring in the humanities and performing arts departments are required, as of September, 1981, to meet at least the new college-wide requirement of level-3 language. These students are also advised to consult departmental language requirements, which in some areas exceed the college-wide minimum.

As of September, 1983, all transfer students are required to meet the college-wide language requirement.

## For additional information

Students who have questions about the core curriculum should consult a counselor in the Academic Advisement Center, 3207 Boylan Hall.

## Africana Studies

Department office: 3105 James Hall
Telephone: 951-5597, 951-5598
Chairperson: Régine Latortue
Deputy Chairperson, CLAS: George P. Cunningham
Deputy Chairperson, SGS: Bert J. Thomas
Deputy Chairperson, Division of Graduate Studies:
Bert J. Thomas
Professors: Cunningham, Latortue, Page;
Associate Professors: Day, Thomas;
Assistant Professor: Green.

## Core curriculum

The Department of Africana Studies participates in the
college's core curriculum through Core Studies 4, 5, 6, and 9.

## B.A. degree program in Africana studies

HEGIS code 2211
Department requirements ( 45 credits)
Two courses chosen from Africana Studies 0.12 through 0.9.
Four courses chosen from one of the groups a), b), or c):
a) History and political science: 10 through 19.
b) Literature, culture, and the arts: 20 through 29.
c) Society and the economy: 30 through 59.
d) Special topics: 60.1.

Two courses from groups other than the one chosen above.
One seminar or independent study course chosen from Africana Studies 70.1 through 88.
Eighteen credits of advanced courses in any department or program plus any prerequisite of the courses.

## Department recommendation

Students should consult a department counselor for help in planning a course of study. Majors are advised to take Africana Studies 45 or to include a methods course among the eighteen credits of advanced electives in another department or program offered for the completion of the major.
B.A. degree program for social studies teacher (7-12)

HEGIS code 2201.01
The student-teaching sequence of courses in secondary school social studies education is described in the "Education" section in this Bulletin.

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Africana studies concentration for majors in the following programs: early childhood education
teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education
teacher (K-6); special education teacher.
The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs and who elect a concentration in Africana studies must complete one course from four of the following categories with a grade of C or higher: 1.African background:
Africana Studies 11.1, 11.2, 11.5, 12.4, 24.8.
2.African American background:
Africana Studies 12.5, 12.6, 24.1, 24.2.
3. Caribbean background:
Africana Studies 17.3, 17.4, 29, 37.2, 44.5.
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4Cultural studies:
Africana Studies 23, 23.1, 24.3, 24.4, 24.5, 25.2.
5. Issues in society:

Africana Studies 27, 44, 44.5, 44.6, 54.

## Requirements for a minor in African American studies

A program of 15 credits, nine of which must be advanced electives in Africana studies. Each course must be completed with a grade of $C$ or higher. Students must complete 1 and 2 below.
1.Africana Studies 12.5 or 12.6.
2.Twelve additional credits selected from Africana Studies 12.5, 12.6, 23, 23.1; Africana Studies 24.1 or English 64.2; Africana Studies 24.2 or English 64.3; Africana Studies 24.3 or Music 10.1; Africana Studies 24.4; Africana Studies 24.5 or Theater 41.4; Africana Studies 25.2 or American Studies 20.2; Africana Studies 41, 43, 44, 44.6, 54; Economics 40.5; History 41.3; Music 20.4; Political Science 38; Sociology 26, 26.1, 26.4, 61.4.

## Requirements for a minor in African studies

A program of 15 credits of advanced electives. Each course must be completed with a grade of C or higher.
Students must complete 1 and 2 below.
1.Africana Studies 11.2 or History 55.2.
2.Twelve credits chosen from the following: Africana Studies 11.1 or History 55.1; Africana Studies 11.3,
11.5, 12.1; Africana Studies 12.4 or Political Science 49.2; Africana Studies 23.1, 24.7, 24.8, 28;

Anthropology 53; Art 16.02.

## Requirements for a minor in literatures of the African diaspora

A program of 15 credits of advanced electives. Each course must be completed with a grade of C or higher Students must complete 1, 2, and 3 below.
1.Africana Studies 24.2 or English 64.3.
2. One of the following: Africana Studies 23, 23.1, 24.7.
3.Nine credits chosen from the following: Africana Studies 23, 23.1; Africana Studies 24.1 or English 64.2; Africana Studies 24.3 or Music 10.1; Africana Studies 24.5 or Theater 41.4; Africana Studies 24.7; Africana Studies 24.8 or Comparative Literature 32.2; Africana Studies 25.2 or American Studies 20.2; Africana Studies 27 or English 64.4; Africana Studies 28.5 or English 50.13 or Comparative Literature 50.13; Africana Studies 29 or Comparative Literature 38.3 or Puerto Rican and Latino Studies 38; French 48.1; Spanish 49.

## Division of Graduate Studies

The Africana Studies Department offers graduate courses for students in other fields. For information, students should consult the department chairperson. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 18 credits in advanced courses for majors in this department. §Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## Introductory courses

### 0.12 Introduction to Contemporary Africa

3 hours; 3 credits
Historical, cultural, religious, social, educational, and economic background of the African continent. (Not open to students who have completed Africana Studies 0.1.)

### 0.2 Introduction to African American Studies

3 hours; 3 credits
Growth and development of social, political, economic, cultural, and religious institutions of the African American community.

### 0.4 Introduction to Research Studies of African Americans

3 hours; 3 credits
Research methods and procedures for study of phenomena characteristic of the Black community. Development of the young Black child. Interviewing techniques, participant observation, historiography, quantitative methods and computer applications.

### 0.5 Introduction to the Caribbean

3 hours; 3 credits
Study and analysis of peoples, forces, institutions, and cultures of the Caribbean. African, European, United States, and Western Hemisphere influences on Caribbean development. (Not open to students who have completed Africana Studies 17.)

## History and political science

### 11.1 Africa to 1800

3 hours; 3 credits
Exploration of themes in the history of Africa south of the Sahara from earliest times to 1800. Salient themes
include trans-Saharan linkages in classical times, Sudanic empires, forest states, Kongo, Ndongo, east African coastal city-states, Mwenemutapa dynasty. Origins, development, and consequences of the Atlantic slave trade; abolition.
This course is the same as History 55.1. (Not open to students who have completed Africana Studies 18.1.) Prerequisite: one of the following: Core Studies 4 or 9 , History 1, 2, 3, 4, 41.8, or 41.9 , or permission of the chairperson.

### 11.2 Africa from 1800

3 hours; 3 credits
Themes include the Islamic revolutions, Mfecane, rise of legitimate trade, intrusion of European missionaries and explorers, Ashanti wars, political developments in interlacustrine East Africa, imperialism, colonial experience, nationalist independence movements, and Pan-Africanism. Selections reflect the experience of all regions of the continent south of the Sahara from 1800 to the present. This course is the same as History 55.2. (Not open to students who have completed Africana Studies 18.2.)
Prerequisite: one of the following: Core Studies 4 or 9 , History 1, 2, 3, 4, 41.8, or 41.9, or permission of the chairperson.

### 11.3 Africa in Antiquity

3 hours; 3 credits
Survey of cultures and civilizations of Egypt, Ethiopia, Nubia, Kush, and Nok to the rise of Islam.
Prerequisite: one of the following: Africana Studies 0.1, 0.11, 0.12, 0.3; Core Studies 1, 9.

### 11.5 Southern Africa

3 hours; 3 credits
History of racial discrimination in southern Africa. Major political, economic, and social developments in the 19th and 20th centuries. (Not open to students who have completed Africana Studies 11.6.)
Prerequisite: one of the following: Africana Studies $0.1,0.11,0.12$, or Core Studies 9.

### 12.1 The African Diaspora

3 hours; 3 credits
Creation and history of the African diaspora. Economic, political, and sociocultural interrelationships of Africa and the African diaspora.
Prerequisite: one of the following: Africana Studies 0.3, Core Studies 4 or 9.

### 12.4 Political Systems of Africa

3 hours; 3 credits
Political developments in the African states. Patterns before and after independence. Development of nationalism. Political integration, institution building, one-party systems, role of the military, and protest movements. Problems of regional and African unity. This course is the same as Political Science 49.2. Prerequisite: one of the following: Political Science 1, 1.5, 5, Core Studies 3, Africana Studies $0.1,0.11$, or 0.12.

### 12.5 African American History to 1860

3 hours; 3 credits
African Americans from the era of the Atlantic slave trade to the beginning of the Civil War. Topics include the African origins of African Americans, defining African Americans, the slave trade, free Blacks in antebellum America, origins of the Black church, slavery, and abolitionism.
Prerequisite: Core Studies 4 or 9 , or permission of the chairperson.

### 12.6 African American History from 1860

3 hours; 3 credits
African Americans since the beginning of the Civil War. Topics include Blacks and Reconstruction, Blacks and Redemption, "The Nadir," emigration and colonization, Black cowboys, the Great Migration, Blacks in World Wars I and II, Marcus Garvey, Blacks and the Great Depression, and the Civil Rights and Black Power movements. (Not open to students who have completed Africana Studies 12.7.)
Prerequisite: Core Studies 4 or 9 , or permission of the chairperson.

### 14.3 The Struggle for Liberation

3 hours; 3 credits
Analysis of Black protest and liberation movements from the slave revolts to recent urban rebellions. Immediate underlying causes of specific events. Such major trends as the civil rights movement, Black nationalism, Pan-Africanism, and the Third World movement.
Prerequisite: one of the following: Core Studies 3, 4, 9, Sociology 5, Political Science 1 or 1.5, or Social Science 1 or 2, or Africana Studies 0.12 or 0.2 .

### 17.3 Caribbean Societies in Perspective

3 hours; 3 credits
Emergence of Caribbean societies during the era of indentured servants in the islands. Imported institutions and their changing character in the new environment.

### 17.4 Caribbean Political Systems

3 hours; 3 credits
Comparative approach to the government and politics of the contemporary Caribbean. Major states in the Caribbean: Cuba, Haiti, Dominican Republic, the Commonwealth Caribbean; and selected members of other territories. The political economy of these societies and the growth of mass movements. Foreign policies of various Caribbean states. This course is the same as Political Science 49.8.
Prerequisite: one of the following: Core Studies 3, 9, Africana Studies 17, 17.3, Political Science 1.5.

### 17.5 Haitian Heritage

3 hours; 3 credits
Creation and development of the Haitian experience as shaped by the African connections. Analysis of the societal forces impinging on Haiti as the first Black independent republic in the New World.
Prerequisite: one of the following: Africana Studies $0.5,17,17.3,17.4$, or permission of the chairperson.

## Literature, culture, and the arts

23 African American Folklore
3 hours; 3 credits
African American oral tradition and African American culture. Survival of the African culture. Oral history, spirituals, folktales, blues, toasts, dozens, etc. Uses of the oral tradition in literature.

### 23.1 African Religion and Culture in the New World

3 hours; 3 credits
African religious and philosophical beliefs as they have shaped cultural practices, language, social organization, material culture, music, visual arts, and religion of African people in the diaspora. Considers reinterpreted African cultural practices in African American, Caribbean, and Latin American societies. Historical and contemporary patterns of creolization. (Not open to students who have completed Africana Studies 14.)

### 23.2 Contemporary African American Culture and Criticism

3 hours; 3 credits
Race and representation in contemporary culture. An interdisciplinary examination of African American culture from the "Black Arts Movement" to the present. Novels, poetry, films, and music as cultural texts; and political discourses as cultural texts. Topics may include: the Black Aesthetic Movement, Malcolm X, Afrocentricity, multiculturalism, body politics, and the intersection of race and gender. (Not open to students who completed Africana Studies 60.1 in fall, 1993.)
Prerequisite: one of the following: Africana Studies 23, 24, 24.1, 24.2; English 64.1, 64.2, permission of the chairperson.

### 24.1 African American Literature to 1930

3 hours; 3 credits
Literature from the colonial period through the Harlem Renaissance. Slave narratives, rhetoric of abolition, formal and vernacular aesthetics. Such writers as Phillis Wheatley, David Walker, Frederick Douglass, Harriet Jacobs, Booker T. Washington, Paul L. Dunbar, Charles W. Chesnutt, James Weldon Johnson, W.E.B. Du Bois, Countee Cullen, Jean Toomer, Claude McKay, Sterling Brown, Zora Neale Hurston, Langston Hughes. This course is the same as English 64.2. (Not open to students who have completed Africana
Studies 24.)
Prerequisite: one of the following: English 2, 2.4, 3.4, 4.4, or 10.3, Core Studies 1 or 6.

### 24.2 Modern African American Literature

3 hours; 3 credits
Literature from 1930 to the present. Naturalism and protest, the Black Aesthetic, women's literature. Such writers as Richard Wright, Ralph Ellison, Gwendolyn Brooks, Robert Hayden, James Baldwin, Amiri Baraka, Audre Lorde, Alice Walker,
Toni Morrison. This course is the same as English 64.3.
Prerequisite: one of the following: English 2, 2.4, 3.4, 4.4, or 10.3, Core Studies 1 or 6.

### 24.3 African American Music

3 hours; 3 credits
African American music from its African roots to the present. Synthesis of tradition and distinct African elements in American musical culture. This course is the same as Music 10.1.

### 24.4 African American Art

3 hours; 3 credits
Historical survey of the contributions of Black art to American culture. Study of the Black experience through works of art. This course is part of the joint program in elementary education with a specialization in African American studies and is open to all students.

### 24.5 Black Theater

3 hours; 3 credits
Lectures, studies, and workshops in Black theater. Liaison with professional and community theater. This course is the same as Theater 41.4.

### 24.7 African Oral Literatures

3 hours; 3 credits
History and development of oral traditions as they relate to the literatures of Africa. Orality and oral composition and the dominant themes and stylistic patterns in folktales, folk songs, fables, epics, and legends of African peoples. Oral poetry and folk drama. Transformation of oral and vernacular traditions in the works of such authors as P'Bitek and Tutuola.

### 24.8 African Literature

3 hours; 3 credits
Survey of twentieth-century fiction, drama, poetry of sub- Saharan Africa. Works by such authors as Achebe, Ekwensi, Emecheta, Ngugi, Oyono, Laye, Dadie, Clark, Sembene, Senghor, Soyinka. This course is the same as Comparative Literature 32.2.

### 25.2 Reading Race

3 hours; 3 credits
Race and American political and literary culture from the American Revolution to urban modernism. The South as a paradigm of American culture, constructions of "race," tensions between democratic ideals and elaborate race and class distinctions. Readings from Thomas Jefferson, slave narratives, Herman Melville, Uncle Tom's Cabin, Mark Twain, Uncle Remus, Charles Chesnutt, and others. Cultural legacies and entanglements of minstrelsy, the blues, and jazz. This course is the same as American Studies 20.2.

## 27 Black Women's Fiction

3 hours; 3 credits
Identity of the modern Black woman novelist as seen in the works and lives of African American women novelists. Some cross-cultural comparisons with African and Caribbean women novelists. Readings of selected essays in Black feminist criticism. A research paper is required. This course is the same as English 64.4.
Prerequisite: one of the following: Africana Studies 24, 24.1, 24.2, 44.6; English 1 or 1.2 or 1.7; Core Studies 1, 6.

### 28.5 Introduction to Postcolonial Literature and Theory

3 hours; 3 credits
Literary works and theoretical paradigms relating to the culture of European imperialism and its aftermath. Diversity of works from many parts of the formerly colonized world to introduce the global significance of postcolonialism. Topics include:
race and representation, Orientalism and the production of knowledge, Empire and exoticism, gender and nationalism, and multiculturalism and diasporic identities. This course is the same as English 50.13 and Comparative Literature 50.13.
Prerequisite: English 1.

## 29 Caribbean Literature

3 hours; 3 credits
Black culture and writings in the Caribbean. Reflections on alienation and independence. Literary liberation movements, Negrism, Indigenism, and Negritude as the first step towards emancipation from a European cultural vision. Writers from the English-, French-, and Spanish-speaking countries will be examined. All readings will be in English. This course is the same as Puerto Rican and Latino Studies 38 and Comparative Literature 38.3. (Not open to students who have completed Puerto Rican and Latino Studies 54.)

## Society and the economy

## 33 Black Entrepreneurship in America

3 hours; 3 credits
History and development of African American business enterprise and entrepreneurs from Booker T. Washington and the National Negro Business League to the present. Topics include political philosophy of "black capitalism"; small and large businesses and the Black community; the impact of governmental programs on business development; case studies of successful African American businesses. (Not open to students who have completed Africana Studies 34.)
Prerequisite: one of the following: Africana Studies $0.11,0.2,0.4$, or Core Studies 3.

### 37.2 Caribbean Economics

3 hours; 3 credits
Comprehensive examination and appraisal of major theories and models of economic development in the Caribbean. The role of foreign investment, foreign aid, and economic institutions in the area.

## 41 The Black Urban Experience

3 hours; 3 credits
An interdisciplinary study of African Americans and urban
life. Drawing on the methodological approaches of history, literature, and folklore primarily, although not exclusively, this course will examine the African American experience in United States cities in the 19th and 20th centuries. Where appropriate, comparisons will be made with non-United States cities such as Rio de Janeiro, Johannesburg, or London. Topics chosen from: urban slavery, free blacks in Northern cities, race riots, "great migration," Caribbean migration, urban economics, urban politics, the urban novel, the black family in the city, the blues, contemporary urban folklore.
Prerequisite: two of the following: Core Studies 3, 4, and 9, or their equivalents.

## 43 Blacks and the Law

3 hours; 3 credits
Examination of the relationships between the American judicial system and the socioeconomic status of Blacks. The role of law in the systematic subordination of Black rights. The use of law to ease the burden of racism.
Prerequisite: one of the following: Africana Studies 0.2 , Political Science 1.5, Core Studies 3, 4, or 9 , or an equivalent course.

### 43.2 Blacks in the American Criminal Justice System

3 hours; 3 credits
Exploration of the relationship between African Americans and the criminal justice system. Sociological theory and methods of collecting and understanding information. Assessment of the political, social, and economic institutions of American society as they frame race, crime, and punishment. Ways that the American criminal justice system has operated both to maintain and ameliorate a racially oppressive society. This course is the same as Sociology 51.41.

## 44 The Black Family

3 hours; 3 credits
The Black family as a social unit in the experience of Black Americans from slavery to the present.
Comparison with African family patterns past and present.
Prerequisite: one of the following: Africana Studies $0.11,0.12$, or 0.2 , Core Studies 3.

### 44.3 Community Studies

3 hours; 3 credits
Goals, structures, and administration of community development programs and poverty programs past and present. Field trips to day care centers, youth programs, and adult learning centers. Practice in program design. (Not open to students who have completed Afro-American Studies 30.)

### 44.5 Caribbean Communities in North America

3 hours; 3 credits
Analysis of the factors responsible for the movement of Caribbean peoples to mainland North America; achievements, frustrations, and contributions of Caribbean communities to the host country; linkages between Caribbean-Americans and the Caribbean.
Prerequisite: Africana Studies 0.5 or 17.

### 44.6 The Black Woman in America

3 hours; 3 credits
Interpretation and critical evaluation of the history, role, and image of the Black woman in America; emphasis on the burdens of racism, sexism, the economy, the Black "matriarch," health care, feminism and womanism, and contemporary issues.
Prerequisite: one of the following: Africana Studies 0.2, 0.12, Core Studies 9.

## 45 Foundations of Africana Research Methods

3 hours; 3 credits
Introduction to basic research procedures. Review of elementary mathematics and elementary statistics.
Selecting a research problem. Developing a research design. Defining concepts. Formulating hypotheses.
Data collection, analysis and interpretation, research applications, computer use, and library skills.
Prerequisite: Africana Studies 0.4 or 44.5 .

## 54 The Black Child and the Urban Education System

3 hours; 3 credits
Study and evaluation of school curricula from preschool through high school in terms of their historical background and contribution to the development of Black children. Finding and writing bibliographical materials relevant to the curricula.

## Special topics

### 60.1 Special Topics in Africana Studies

3 hours; 3 credits
Study of selected topics in Africana Studies. Students may take this course for credit twice, but may not repeat topics. (Not open to students who have completed Africana Studies 84.5 or Anthropology 84.5.)
Prerequisite: completion of an approved program of advanced courses and permission of the chairperson.

## Seminars

### 70.1 Seminar in Humanities

3 hours; 3 credits
Study of a topic in Africana studies related to the humanities.
Students may take this course for credit twice, but may not repeat topics.
Prerequisite: completion of an approved program of advanced courses and permission of the chairperson.

## 71 Seminar in Social Sciences

3 hours; 3 credits
Study of a topic in Africana Studies related to the social sciences. Students may take this course twice, but may not repeat topics.
Prerequisite: completion of an approved program of advanced courses and permission of the chairperson.

## 73 Summer Seminar

6 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 field work and library and empirical research. Course may not be taken more than once. Consult department for locale of a specific offering.
Prerequisite: Africana Studies 0.11 , or permission of the chairperson.

## Honors course

Students with superior records and the recommendation of a
department faculty member may apply to the chairperson for permission to register for the course described below. Students may not register for more than six credits in honors courses in the department in one term.

## 88 Independent Study

Minimum of 9 hours conference and independent work§;
3 credits
Reading of advanced material supervised by a faculty member. Written report or final examination. Prerequisite: completion of an approved program of advanced Africana Studies Department courses and permission of the instructor and the chairperson.

## American Studies Program

An interdisciplinary major
Program office: 415 Whitehead Hall
Telephone: 951-5655
Director: Ray Allen
Faculty: Allen, Music; Beatty, Anthropology and Archaeology; Cunningham, Africana Studies; Gerardi, History; Hirsch, English; Schlissel, English (adjunct); and additional faculty from the departments of the college.

## B.A. degree program in American studies

HEGIS code 0313
Program requirements (39-42 credits)
American Studies 10.
Five of the following: American Studies 20.1, 20.2, 20.3, 50, 51, 52, 60, 61, 62, 63, 64.1, 67, 71, 83.
Two of the following: History 41.1, 41.2, 41.3, 41.4, 41.6, 41.7, 43.14, 43.16, 43.2, 44, 44.1, 69.2 .
Two of the following: English 25.3, 50.41, 60.1, 62.11, 62.21, 62.31, 62.41, 63.1.
Either a) or b):
a)American Arts and Letters: three of the following:

Africana Studies 23, 24.2; Art 16.10, 16.30; English 18.17; Film 24; Music 10.1, 20.4, 50; Television and
Radio 6.5; Theater 41.1, 41.4; Women's Studies 10.8, 32.
b) American Society: three of the following:

Africana Studies 12.5, 12.6, 12.7; Anthropology 37, 37.5; Judaic Studies 47, 48.5; Philosophy 48; Political Science 26.1, 28, 38, 54, 59; Puerto Rican and Latino Studies 1.1, 32, 32.5; Sociology 8, 9, 43.1, 61.4; Women's Studies 10.7, 36.

## Requirements for a minor in American studies

Fifteen credits in advanced electives in American studies, each completed with a grade of $C$ or higher, as follows:
American Studies 10.
One of the following: American Studies 20.1, 20.3, 64.1.
One of the following: American Studies 20.2, 50, 63, 67.
Two of the following: any American studies advanced electives.

## Honors in American studies

Students with an index of 3.5 may earn honors in the program by completing an interdisciplinary project or a critical essay. The proposal must be filed with the program director in the student's junior year, the work concluded in American Studies 83 and graded by the two faculty mentors in different departments.

## Program recommendation

Students should consider the many courses related to American studies offered in the college. A list is available in the program office.

## Courses

$\dagger$ Students may take no more than three credits of mini-courses in this program.
§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## $\dagger$ *5 Mini-Course in Selected Topics on American Life

1 hour; 1 credit each term
Lectures and discussions on selected topics. Seven, two-hour, sporadically scheduled meetings and final examination. Course descriptions and reading lists are available in the American Studies Program office before registration. Students may take this course for credit three times, but may not repeat topics. This course cannot be applied toward fulfillment of any American Studies Program requirement.

## †*5.1 Mini-Course in Selected Topics on North American Indians

1 hour; 1 credit
Lectures and discussions on selected topics dealing with American Indians. Seven, two-hour, sporadically scheduled
meetings and a final examination. Course descriptions and reading lists are available in the American
Studies Program office before registration. Students may take this course twice, but may not repeat topics.
This course is the same as Anthropology 0.2. This course cannot be applied toward fulfillment of any American Studies Program requirement. (Not open to students who have taken the same topic in American Studies 5.)

## $\dagger^{\star} 5.2$ Mini-Course in Selected Topics on Contemporary American Life

1 hour; 1 credit
Lectures and discussions on selected topics dealing with contemporary American life. Seven, two-hour, sporadically scheduled meetings and a final examination. Course descriptions and reading lists are available in the American Studies Program office before registration. Students may take this course twice, but may not repeat topics. This course is the same as Anthropology 0.2. This course cannot be applied toward fulfillment of any American Studies Program requirement. (Not open to students who have taken the same topic in American Studies 5.)

## 10 Introduction to the American Experience

## 3 hours; 3 credits

The beliefs that have shaped our identities as Americans: the self-made man/woman; the land of plenty; the rise from rags to riches. Material culture and how it has marked American life.
The American Dream as it is constructed by political realities and racial inequalities. Introduction to the methodologies of American studies and to the process of connecting disciplines in order to understand how the American heritage has been formed.

### 20.1 Hard Times: The Great Depression

3 hours; 3 credits
Reexamination of the American Dream. Effect of the national experience of poverty and "failure" of the Puritan ethic. The dust bowl and migration of Okies; rise of proto-fascist factions; bread lines; Hollywood films.

### 20.2 Reading Race

3 hours; 3 credits
Race and American political and literary culture from the American Revolution to urban modernism. The South as a paradigm of American culture, constructions of "race," tensions between democratic ideals and elaborate race and class distinctions. Readings from Thomas Jefferson, slave narratives, Herman Melville, Uncle Tom's Cabin, Mark Twain, Uncle Remus, Charles Chesnutt, and others. Cultural legacies and entanglements of minstrelsy, the blues, and jazz. This course is the same as Africana Studies 25.2.

### 20.3 The American Frontier

3 hours; 3 credits
Native Americans and the impact of European expansion
from the colonies to California; homesteaders, speculators, ranchers, railroadmen, cowboys and outlaws; women and the frontier; the land as wilderness and as property; Spanish territorial and water rights; the Gold Rush; issues of the contemporary West; the development of hydroelectric and nuclear power. This course is the same as History 43.13. (Not open to students who completed History 43.9 in spring, 1988.)

## 50 Music of the United States

3 hours; 3 credits
Music in the United States from a historical perspective, including folk, popular, jazz, and concert hall traditions. Emphasis on the interaction of European, African, and various ethnic styles in America. The relationship of music to select movements in American theater, dance, and art. This course is the same as Music 50.

## 51 Music in New York City

2 hours lecture, 3 hours fieldwork; 3 credits
Exploration of music performance in the music institutions and diverse cultural resources of New York City.
Students will attend musical performances and carry out field documentation of a local music culture or institution. This course is the same as Music 3.
Prerequisite: Core Studies 2.2 or permission of the director.

## 52 North American Indians: Traditional and Contemporary

3 hours; 3 credits
Patterns of American Indian cultures north of Mexico; cultural and linguistic diversity; cultural adaptations and developments; contemporary Native Americans. This course is the same as Anthropology and Archaeology 52.
Prerequisite: American Studies 20.3; or Anthropology 1 or 2.1 ; or Core Studies 1 or 3 or 9 ; or six credits in social science courses; or permission of the program director.

## 60 Special Topics in the American Experience

3 hours; 3 credits each term
Exploration of an aspect of American cultural experience. Topics vary from term to term. Course description may be obtained in the program office before registration. Students
may take this course for credit twice, but may not repeat topics.
Prerequisite: sophomore or junior or senior standing.

## 61 New York City Folklore

3 hours; 3 credits
Folklore of the streets and neighborhoods of New York City. The urban environment as a region generating its own folklore and traditions. Customs, language, and symbols of urban life, past and present. Introduction to problems of fieldwork and methods of collecting urban folklore. This course is the same as English 25.4. Prerequisite: sophomore or junior or senior standing.

## 62 Religious Experience in America

## 3 hours; 3 credits

Development of the major American traditions of Protestantism, Catholicism, and Judaism. Puritanism and its legacy; the Great Awakening; Christianity, slavery and the Civil War; the religious experience of Black Americans. Interaction between religious thought and such other aspects of American culture as ethnicity, social change, sexual mores, intellectual life. This course is the same as History 43.11.
Prerequisite: Core Studies 4 or permission of the
program director.

## 63 Private Lives: American Autobiography

3 hours; 3 credits
Autobiography and its special importance to the process of defining the self in America. Examination of the theme of the New World and the "new" man and the "new" woman. The relation between the private identity and national character as revealed in the autobiographical writings of immigrants, workers, and plainfolk. This course is the same as English 61.
Prerequisite: English 2.

### 64.1 Decade in Crisis: The 1960s

3 hours; 3 credits
Counterculture and its challenge to traditional values. The Beat Generation, its poetry, literature, and music.
Political papers, autobiographies, documentary film. (Not open to students who have completed American
Studies 71, spring, 1989, or spring, 1991.)
Prerequisite: sophomore, junior, or senior standing; or permission of the program director.
67 The Immigrant Experience in Literature, Film, and Photography
3 hours; 3 credits
The experience of immigrant groups as recorded in autobiography, folklore, and fiction. Becoming an American as recorded in photographs and film. Exploring relationships between text and image. This course is the same as English 67. (Not open to students who have completed American Studies 70.)
Prerequisite: one of the following: English 1, 1.2, or 1.7.

## 71 Seminar

3 hours; 3 credits
Special problems of interdisciplinary research and writing. Topics vary from term to term. Course
descriptions may be obtained in the program office before registration. A student completing the course with distinction is recommended for honors in the program.
Prerequisite: six credits of American studies courses or permission of the instructor and the director of the program.

## 83 Independent Research

Minimum of 9 hours conference and independent work§;
3 credits
Independent research supervised by a faculty member on an approved topic. The project must involve research in more than one field and show potential for creative work. A student completing the course with distinction is recommended for honors.
Prerequisite: junior or senior standing, nine credits of American studies courses, permission of the program director and of the sponsoring faculty member.

## Anthropology and Archaeology

Department office: 3307 James Hall
Telephone: 951-5507, 951-5508
Chairperson: H. Arthur Bankoff
Professors: Bankoff, Beatty, Lander; Associate Professors: Antoniello, Gustav;
Assistant Professor. Perdikaris.
The Department of Anthropology and Archaeology offers courses in cultural anthropology, archaeology, physical anthropology, and linguistics. Anthropology represents the integration of scientific and humanistic approaches to the study of humans, their societies, and cultures.

## Core curriculum

The Department of Anthropology and Archaeology participates in the college's core curriculum through Core Studies 9.
The department recommends Anthropology 1 for students who have not yet had the opportunity to take the core sequence.
B.A. degree program in anthropology HEGIS code 2202

Department requirements (32-37 credits)
Anthropology 1 and either 30 or 34.
One field or laboratory course chosen from: Anthropology 24.1, 70.1, 70.15, 71.3.

Twenty-four additional elective credits; 18 credits must be in courses numbered 10 and above.
B.A. degree program for social studies teacher (7-12) HEGIS code 2201.01

Anthropology and archaeology majors who expect to teach in secondary school should consult the sequence of courses in secondary school social studies education described in the "Education" section in this Bulletin.

Anthropology concentration for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher (K-6); special education teacher.
The requirements for the teacher education programs indicated above are described in the "Education" section of this Bulletin. Students who major in any of these programs and who elect a concentration in anthropology must complete the following:
The departmental minor (described below) or 9 credits of advanced elective courses in anthropology and 6 credits of courses in one of the ethnic studies programs, each completed with a grade of C or higher.

## Requirements for a minor in anthropology and archaeology

Twelve credits of advanced electives in anthropology and archaeology with a grade of $C$ or higher in each course.

## Requirements for an interdisciplinary minor in law and society

Courses in anthropology and archaeology presented for this minor may not be counted toward the anthropology major
Twelve credits chosen from the courses of two or more departments as specified below. Each course must be completed with a grade of C or higher.
Africana Studies 43, 43.2; Anthropology 34, 35; Classics 34; Political Science 21, 22, 26.2, 45.1; Sociology 43.5, 51.4.

## Program recommendations

The following courses are strongly recommended:
Art 13.30, 13.40.
Biology 25, 62.5.
Chemistry 53.
Classics 15.
Comparative Literature 33.1, 42.1.
Computer and Information Science 21, 45, 48.
Geology 11, 12, 13.53, 17.01, 17.11, 25.1.
History 24.9.
A statistics course in any department.
Foreign language courses in addition to those required.

## Department recommendations

Anthropology and archaeology majors are encouraged to complete all of the following: Anthropology and Archaeology 2.2, 2.3, 2.4. Students should take Anthropology and Archaeology 30 as soon as possible after completing Anthropology and Archaeology 1. Majors are strongly urged to consult a department counselor each year in planning their programs.

## Recommendations for prospective graduate students

To facilitate evaluation of prospective graduate students, a seminar or independent studies course in anthropology and archaeology is strongly recommended. The department also strongly recommends that prospective graduate students take Anthropology 71.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 24 credits in advanced courses for majors in this department.
$\dagger$ Students may take no more than three credits of mini-courses in this department.
§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## Introductory and general courses

*0.1 Special Topics
3 hours; 3 credits each term
Cross-cultural analysis of topics of current interest. Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take this course for credit twice, but may not repeat topics.

## $\dagger^{\star} 0.2$ Mini-Course in Selected Topics on <br> North American Indians

1 hour; 1 credit
Lectures and discussions on selected topics dealing with American Indians. Seven, two-hour, sporadically scheduled meetings and a final examination. Course descriptions and reading lists are available in the Anthropology and Archaeology Department office before registration. Students may take this course twice, but may not repeat topics. This course is the same as American Studies 5.1. (Not open to students who have taken the same topic in American Studies 5.)

## $\dagger$ * 0.3 Mini-Course in Selected Topics in Anthropology

1 hour; 1 credit
Lectures and discussions on selected topics in anthropology. Seven, two-hour, sporadically scheduled meetings and a final examination. Course descriptions and reading lists are available in the Anthropology and Archaeology Department office before registration. Students may take this course twice, but may not repeat topics.

## *1 On Being Human: An Introduction to Anthropology

3 hours; 3 credits;
General introduction to anthropology and its four subfields: archaeology, cultural anthropology, linguistics, and physical anthropology. Integration of subfields in approaches to the definition of humanity and the meaning of being human. Nature of the anthropological approach. ( Not open to students who are enrolled in or have completed Anthropology *2.1.)

### 2.2 Introduction to Archaeology

3 hours; 3 credits
Survey of major techniques and methods of archaeology. Reconstruction of social and subsistence patterns from material remains. Methods and procedures in excavation, classification, and evaluation of finds. This course is the same as Classics 26. (Not open to students who are enrolled in or have completed Anthropology 20 or Classics 2.2 or 19 or 26 or 60 .)

### 2.3 Introduction to Anthropological Linguistics

## 3 hours; 3 credits

Language as a human universal. Problems of collection and analysis of language data, especially from nonliterate societies. Linguistic diversity, dialects, social usages, change. Relationships among race, language, and culture. (Not open to students who are enrolled in or have completed Anthropology 16 or Linguistics 1.)

### 2.4 Introduction to Physical Anthropology

3 hours; 3 credits
Description and classification of humans. Comparison with other primates. Direct and indirect evidence of processes of evolution. Relationship of culture and cultural evolution to human evolution. Humans today: group and individual variation.

### 2.21 Archaeology Laboratory

4 hours; 2 credits
Analysis techniques in archaeology; recording and analysis of artifacts and features from a site in New York. (Students who have completed Anthropology 70.1 may take this course only with permission of the chairperson.) With the chairperson's permission, students may take this course for credit twice, but may not repeat topics.
Prerequisite or corequisite: Anthropology 2.2 or Classics 2.2 or 26 and permission of the instructor.

## 6 Anthropological Perspectives on Sexual Behavior

3 hours; 3 credits
Sexual behavior as a cultural universal. Role and function of sex viewed cross-culturally. Sexual practices in non-Western societies.

## 7 Great Discoveries in Archaeology

3 hours; 3 credits
Survey of the most important archaeological discoveries of the past two centuries. Introduction to world archaeology through the study of famous archaeological monuments and sites. Basic archaeological concepts and techniques.

### 7.5 Archaeology in Biblical Lands

3 hours; 3 credits
Major archaeological discoveries in the lands of the Bible, from the Neolithic through Roman periods.
Interpretation of excavations at major sites with reference to Biblical events.

## 10 Special Topics in Anthropology

3 hours; 3 credits each term
Subjects of interest in any of the four fields of anthropology that are not treated systematically in the regular curriculum. Topics may include violence, complex societies, archaeology of Mesopotamia. Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take this course for credit twice, but may not repeat topics.
Prerequisite: Anthropology *1 or *2.1 or Core Studies 1, or 3, or 4, or 9 or permission of the chairperson.

## 11 Special Topics in Peoples and Cultures of

## Selected Areas

3 hours; 3 credits
Study of culture groups; institutions, historical influences,
and effects of outside contact on specific areas within the larger regions described in existing course offerings. Ethnographic and theoretical analyses of culture groups. Cultural adaptations and retentions. Contemporary issues and problems. Selected area will vary each semester. Students may take this course for credit twice, but may not repeat areas.
Prerequisite: Anthropology *1 or *2.1 or Core Studies 1, or 3, or 4, or 9, or permission of the chairperson.

## 12 Anthropological Perspectives on Intercultural Communication

3 hours; 3 credits
Concepts of cross-cultural interaction; verbal and nonverbal interaction; the relationship between cultural context and communication; proxemics and pragmatics. Examples drawn from cross-cultural interactions between the United States and Asian, Middle Eastern, Latin American, and other industrialized and nonindustrialized cultures.
Prerequisite: Core Studies 9 or a course in cultural anthropology or permission of the department chairperson.

## 13 People, Nature, and Culture

3 hours; 3 credits
The ways in which people's traits, values, and institutions interact with their environment. (Not open to students who have completed Anthropology 18 before 1989.)
Prerequisite: Anthropology *1 or *2.1 or Core Studies 3, or 8.1, or 9, or permission of the chairperson.

## 14 Anthropology of Health and Disease

3 hours; 3 credits
Health beliefs and health behaviors of various groups of people; the history of diseases; the training and practices of health specialists; the unrecognized effects on both physical and mental health of sociocultural factors; the relationship between human health and environment.
Prerequisite: Anthropology *1 or *2.1 or Anthropology 2.4, or Core Studies 8.1 or Health Science 6.1, or Biology 1 or 3 or 13.5 or permission of the chairperson.

## 16 Primate Behavior

## 3 hours; 3 credits

Field studies of Prosimians, Old and New World Monkeys, Great Apes. Comparative studies of ecology, social organization, territoriality, dominance, communication. Appraisal of current research. (Not open to students who have completed Anthropology 25.)
Prerequisite: Anthropology *1 or *2.1 or 2.4, or Core Studies 8.1 or Psychology 10, or Biology 25, or permission of the chairperson.

## Linguistics

## 17 Historical Linguistics

3 hours; 3 credits
Origin and evolution of language. Dialects, languages, language families. Relationships between languages and language families. Processes involved in language classification. Linguistic change. The comparative method and its use in historical reconstruction.
Prerequisite: Anthropology 2.3 or 16 or Linguistics 1 or permission of the chairperson.

## 18 Sociolinguistics

3 hours; 3 credits
The study of language as it is used by various social groups. Language and gender, language and culture, language and thought, Creole languages, Black English, linguistic change. This course is the same as English 24.8 and Sociology 30.1.
Prerequisite: English 1 and either Anthropology 2.3 or Linguistics 1; or permission of the chairperson.

## 19 Language and Culture

3 hours; 3 credits
Language as a cultural institution. Relation to other aspects of culture and society. Behavior patterns in speech. Language, symbolism, and thought. Use of linguistic models. (Not open to students who have completed Anthropology 46.)
Prerequisite: Anthropology *1 or *2.1 or 2.3, or Linguistics 1, or permission of the chairperson.

## Archaeology

## 21 Approaches to Archaeological Theory

3 hours; 3 credits
Historical and current trends in archaeological theory. Methodology and techniques of anthropology, classics, art history, and the physical sciences relevant to archaeological studies. This course is the same as Classics 27. (Not open to students who have completed Classics 21.)
Prerequisite: one of the following: Anthropology 2.2, 20, Classics 26, permission of the chairperson.

## 22 World Prehistory

## 3 hours; 3 credits.

Survey of prehistoric archaeology; human origins in Africa; Paleolithic hunter/gatherers of the Old and New
Worlds; the earliest food-producers; the rise of civilizations in the Near East, Mesoamerica, and South
America. (Not open to students who have completed Anthropology 22.1 or 22.2, or to students who are enrolled in or have completed their second course from among the following: Anthropology 22.11, 22.12, 22.21, 22.22.)

Prerequisite: Anthropology *1 or *2.1 or 7 with a grade of B or better, or Core Studies 1 or 9 , or permission of the chairperson.

### 22.1 Old World Archaeology

3 hours; 3 credits
Introductory survey of the development of human culture in the Old World. Study proceeds from the earliest pebble tools through the period of domestication and urbanization to the dawn of written history. (Not open to students who have completed Anthropology 22.11 or 22.12.)
Prerequisite: Anthropology 2.2 or permission of the chairperson.

## 23 Urban Archaeology

3 hours; 3 credits
This course will begin at the formation of the first cities in the Middle East, and move on to the Polynesian chiefdoms in the South Pacific and the Viking presence and voyages across the North Atlantic. Historical sites from eighteenth- and nineteenth-century Europe and U.S. will also be examined to trace continuity and change in the character of commercialization and urbanization through time.
Prerequisite: Anthropology 1 or Anthropology 2.2 or permission of the chairperson.

## Physical anthropology

### 24.1 Human Osteology

2 hours lecture, 2 hours laboratory; 3 credits
Functional aspects of the human skeleton with reference to evolution, race, age, sex. Intensive analysis of skeletal populations. Understanding biological and environmental influences in determining skeletal differences.
Prerequisite: Anthropology 2.4 or Core Studies 8.1, or Physical Education 22.71 and 22.75; or Health Science 22.7; or Health Science 22.71 and 22.75; or Biology 24.1 ; or permission of the chairperson.

### 26.1 Human Paleontology

3 hours; 3 credits
Mechanisms of evolutionary change, paleontological and archaeological evidence bearing on the phylogenic history
of humans, evaluation of the numerous interpretations of that evidence.
Prerequisite: Anthropology 2.4 or Core Studies 8.1 or 8.2 or Geology 9 or Biology 24.1 or permission of the chairperson.

### 26.2 Human Variation

2 hours lecture, 2 hours laboratory; 3 credits
Range of variation and change due to growth, age, sex, race, constitutional differences. Techniques by which such differences are determined.
Prerequisite: Anthropology 2.4 or Core Studies 8.1 or Biology 2; or Physical Education 22.71 and 22.75; or Health Science 22.7; or Health Science 22.71 and 22.75; or permission of the chairperson.

## Cultural anthropology

## 30 Comparative Social Systems

3 hours; 3 credits
Cross-cultural approach to analysis of social relations and institutions. Kinship, marriage, and the family. Descent groups, associations, class, caste. Theoretical approaches.
Prerequisite: Anthropology *1 or *2.1 or permission of
the chairperson.

## 31 Women: Anthropological Perspectives

## 3 hours; 3 credits

Cross-cultural analysis of women's lives. Problems of nature and nurture, gender stereotyping and selfimages, the position of women in all cultural spheres, and changes over the life cycle.
Prerequisite: Anthropology *1 or *2.1 or Core Studies 1 or 3 or 9 or permission of the chairperson.

## 34 Political Anthropology

3 hours; 3 credits
Political and legal institutions in cross-cultural perspective. Problems of political boundaries, allocation of authority, resolution of conflict. Impact of modern nation-states on other societies.
Prerequisite: Anthropology *1 or *2.1 or Core Studies 3 or permission of the chairperson.

## 35 Anthropology of Law and Order

3 hours; 3 credits
The use of force by individuals and governments. Nature of law. Cross-cultural perspectives on crimes, terrorism, and police and military organizations. Case studies from various cultures at band, tribe, chiefdom, and complex industrial levels of organization. (Not open to students who have taken Anthropology 10 in Fall, 1992, or Spring, 1994.)
Prerequisite: Anthropology 1 or Core Studies 3 or 9.

## 37 Urban Anthropology

3 hours; 3 credits
Cross-cultural study of adaption to the urban milieu. Sociocultural influences on urban life, effects of migration experience, social stratification, class structure. Ethnicity
and the organization of multiethnic societies. Methods and problems in the analysis of urban systems. (Not open to students who are enrolled in or have completed Anthropology
and Archaeology 37.5.)
Prerequisite: Anthropology *1 or *2.1 or Core Studies 3 or 4 or permission of the chairperson.

### 37.5 The American Urban Experience: Anthropological Perspectives

3 hours; 3 credits
Study of the diversity of American urban life and modes of analyzing sociocultural scenes, communities, and urban institutions.
Prerequisite: two of the following: Core Studies 3, 4, and 9, or their equivalents.

## 41 Anthropology of Visual and Performing Arts

3 hours; 3 credits
Anthropological study of visual and performing arts in cultural contexts; conceptions of art and aesthetics in other cultures; analysis of performance, performers and creators of art; various approaches to the study of the arts: functional, psychological, symbolic, structural. (Not open to students who have completed Anthropology 40 or 40.1 or 40.2.)
Prerequisite: Anthropology *1 or 2 or *2.1 or permission of the chairperson.

## 42 Anthropology of Religion

3 hours; 3 credits
Study of religions in their cultural contexts; magic and witchcraft as aspects of religion; myths, rituals, and symbols; priests and shamans. Change in religions. Theoretical approaches.
Prerequisite: Anthropology *1 or *2.1 or Core Studies 1 or 9 or Studies in Religion 1.1 or 1.2 or permission of the chairperson.

## 43 Cult, Occult, and Secret Societies

3 hours; 3 credits
Cross-cultural perspectives on cults and secret societies in Western and non-Western cultures. Concepts of the supernatural outside of formalized religion. Similarities between religious and secular groups with similar ideologies. (Not open to students who completed Anthropology 0.1 in Spring, 1992, or Fall, 1993.) Prerequisite: Anthropology 1 or Core Studies 3 or permission of the chairperson.

## 44 Folklore

3 hours; 3 credits
Oral literature of nonliterate peoples including tales, myths, proverbs, riddles, poetry, songs. Folklore as an aspect of culture. Problems of collection and analysis of materials. Case studies.
Prerequisite: Anthropology *1 or *2.1 or Core Studies 1 or 6 or 9 or permission of the chairperson.

## 45 Animals and Monsters

3 hours; 3 credits
The perception of animals and monsters in a variety of cultures both ancient and modern. Discussion of the roles of animals and their interaction with humans in real and symbolic settings. Guest lectures on specific methodological approaches to the course subject.
Prerequisite: Core Studies 1 or 3 or Anthropology 1 or 2.1 or 22.

## Peoples and cultures

## 50 The Pacific

3 hours; 3 credits
Peoples and cultures of the Pacific Islands, New Guinea, and Australia; prehistory, history and influence of geography; culture changes and problems of development.
Prerequisite: Anthropology 1 or Core Studies 1 or 3 or 9 or six credits in social science courses, or permission of the chairperson.

## 51 Peoples and Cultures of Japan

3 hours; 3 credits
The prehistory and various peoples of Japan; their linguistic affiliations and social structures; cultural patterns of traditional and contemporary Japan. (Not open to students who have received credit for this topic in Anthropology 11.)
Prerequisite: Anthropology 1 or 2.1, or Core Studies 1, 3 or 9, or six credits in social science courses, or permission of the chairperson.

## 52 North American Indians: Traditional

and Contemporary
3 hours; 3 credits
Patterns of American Indian cultures north of Mexico; cultural and linguistic diversity; cultural adaptations and developments; contemporary Native Americans. This course is the same as American Studies 52.
Prerequisite: Anthropology *1 or *2.1 or Core Studies 1 or 3 or 9 or six credits in social science courses, or permission of the chairperson.

## 53 Africa South of the Sahara

3 hours; 3 credits
Diversity of African peoples, languages, and cultures; prehistory and historical change; European contacts; the new Africa.
Prerequisite: Anthropology *1 or *2.1 or Core Studies 1 or 3 or 9 or six credits in social science courses, or permission of the chairperson.

## 61 The Middle East and North Africa

3 hours; 3 credits
Similarities and differences in cultures throughout the area; villagers, nomads, and urban peoples; the role of Islam.
Prerequisite: Anthropology *1 or *2.1 or Core Studies 1 or 3 or 9 or six credits in social science courses, or permission of the chairperson.

## 63 Europe

3 hours; 3 credits
Folk background and contemporary customs among folk, peasant, and industrial peoples; national character, value systems, and ethnicity; patterns of migration and modernization; community studies. Prerequisite: Anthropology *1 or *2.1 or Core Studies 1 or 3 or 9 or six credits in social science courses, or permission of the chairperson.

## 68 Latin America

3 hours; 3 credits
Pre- and post-Conquest peoples and cultures of Mesoamerica, South America, and the circum-Caribbean; development and decline of the Aztec, Maya, and Inca civilizations; contemporary life in the traditional folk village, Amazon rain forest, and Latin American city. This course is the same as Puerto Rican Studies 20. (Not open to students who have completed Anthropology 54 or 65 or 66.)
Prerequisite: Anthropology *1 or *2.1 or Core Studies 1 or 3 or 9 or six credits in social science courses, or permission of the chairperson.

## Theory and method

### 70.1 Summer Archaeological Field School

(Intensive Program)
3 hours lecture, 6 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. This course is the same as Classics 29. (Not open to students who have previously received credit for archaeological field work.)
Prerequisite: permission of the chairperson and one of the following: Anthropology 2.2, Classics 26, Core Studies 1, 2.1, 9, Judaic Studies 12, a course in archaeological theory
and methodology.

### 70.15 Intersession Archaeological Field School

2 hours lecture, 6 hours supervised fieldwork; 6 credits
Intensive instruction in field methods and techniques of archaeology through participation in all aspects of an excavation; training in archaeological mapping, excavation techniques, and methods of archaeological laboratory analysis. (Not open to students who have completed Anthropology 70.1 or who have previously received credit
for archaeological fieldwork.)
Prerequisite: Anthropology 2.2 and permission of
the chairperson.

### 70.2 Archaeological Field School: Site Supervision

6 hours supervised fieldwork; 3 credits
Techniques and practice of supervision on an archaeological excavation. Students will be responsible for direction of a trench crew and maintenance and checking of documentation during a session of the Summer Archaeological Field School.
Prerequisite: Anthropology and Archaeology 70.1 or Classics 29 or equivalent archaeological field experience, and permission of the chairperson.

### 71.3 Theory and Method

3 hours lecture, 2 hours laboratory; 4 credits Major schools of anthropology; their distinctive approaches, concepts, and methods in the context of engaging in fieldwork. Techniques of fieldwork and analysis; ethnographic recording, participant observation, and focused interviewing. Analysis of information collected. (Not open to students who have completed Anthropology and Archaeology 70.3 and/or 71.)
Prerequisite: Anthropology 1 and 2.2 or 2.3 or 2.4 ; and Anthropology 30 or 34 ; and six credits in advanced Anthropology and Archaeology courses; or permission of the chairperson.
Seminars

## 75.1, 75.2 Seminar I, II

2 hours and independent work§; 3 credits
Course description may be obtained in the department office before registration. Report or final written examination. Students may not repeat seminar topics completed in Anthropology 84.1, 84.2, 84.3, 84.4, and 75.1.

Prerequisite: the appropriate introductory course (Anthropology *1 or *2.1 or 2.2 or 2.3 or 2.4 ) plus nine credits in Anthropology and Archaeology Department courses numbered 10 and higher, or permission of the chairperson.

## 76 Seminar in Museum Techniques

2 hours and independent work§; 3 credits
Introduction to museology. Practical experience in cooperation with museums in New York City.
Prerequisite: the appropriate introductory course
(Anthropology *1 or *2.1 or 2.2 or 2.3 or 2.4) plus nine credits in Anthropology and Archaeology Department courses numbered 10 and higher, or permission of the chairperson.

## 77 Seminar in Anthropological Theory

2 hours and independent work§; 3 credits
Reading of significant works. Course descriptions may be obtained in the department office before registration. Report or final written examination.
Prerequisite: the appropriate introductory course (Anthropology*1 or *2.1 or 2.2 or 2.3 or 2.4 ) plus nine credits in Anthropology and Archaeology Department courses numbered 10 and higher, or permission of the chairperson.

## 78 Preprofessional Internships

9 hours fieldwork; 3 credits
Supervised participation in professional activities in cooperation with museums, government agencies, and similar institutions. Specific student programs will vary with each project. Students will arrange for their programs in cooperation with a faculty adviser. In addition to successfully fulfilling the institution's requirements, the student will submit a written report on the internship to the faculty adviser. Prerequisite: six credits in Anthropology and Archaeology Department courses numbered 10 and higher, and permission of the chairperson during the semester prior to registration.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for courses described below. Students may not register for more than six credits in honors courses in the department in one term.

## 83.1, 83.2 Independent Research I, II

Minimum of 9 hours conference and independent work§; 3 credits each term Independent research supervised by a faculty member.
Approved topic. Periodic conferences. Report. Not primarily for department honors.
Prerequisite of 83.1: completion of an approved program of advanced Anthropology and Archaeology
Department courses and permission of the chairperson.
Prerequisite of 83.2: Anthropology 83.1.

### 85.3 Colloquium in Psychological Anthropology

Minimum of 9 hours conference and independent work§; 3 credits
Critical review of recent studies in personality and culture.
Appraisal of current research techniques and methodologies. Course description may be obtained in the department office before registration. Report or final written examination.
Prerequisite: completion of an approved program of advanced Anthropology and Archaeology Department courses and permission of the chairperson.

## 88 Independent Study

Minimum of 9 hours conference and independent work§; 3 credits Independent study supervised by a faculty member. Approved reading. Periodic conferences. Final written examination.
Prerequisite: completion of an approved program of advanced Anthropology and Archaeology Department courses and permission of the chairperson.

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

## 5Anthropology of Race <br> 36Psychological Anthropology


#### Abstract

Art

Department office: 5306 Boylan Hall Telephone 951-5181, 951-5182 Chairperson: Michael Mallory Deputy Chairperson, CLAS and SGS: Georgeen Comerford Deputy Chairperson, Division of Graduate Studies: Rick Brazill Art History Program Adviser: Mona Hadler Professors: Anderson, Bier, Carlile, D'Alessandro, Flam, Hadler, Koslow, Mainardi, Mallory, Navin, Williams; Associate Professors: Comerford, Giusti, Jacoff, Murphy; Assistant Professors: Brazill, McCoy. The Department of Art offers the following degree programs: B.A. in art history, B.A. in art, B.F.A. in art, and B.A., art teacher (K-12).

\section*{Core curriculum}

The Department of Art participates in the college's core curriculum through Core Studies 2.1.

\section*{B.A. degree program in art history <br> HEGIS code 1003}

Department requirements (29-30 credits) Art 1.3 or Core Studies 2.1 or, with permission of the chairperson, Art 1.4. Art 15.20 and 25.11. Art 25.12 or 26.11. (Art 27.21 is strongly recommended.) Eighteen credits in advanced art history chosen from at least three of the following subject areas: a) Ancient and medieval art b) Early European art c) Modern European art d) Art of Africa, Oceania, and the Americas e) Art of Asia f) Architecture

Fulfillment of the foreign language requirement of the college in French or German. Another language may be substituted with permission of the chairperson.


## B.A. degree program in art <br> HEGIS code 1002

Department requirements (38-39 credits)
Art 1.3 or Core Studies 2.1.
All of the following: Art 15.20, 25.11, 25.12.
Three additional credits in an advanced course in art history.
Twenty-four credits in advanced courses in studio art chosen from at least four of the following subject areas:
a)Drawing: Art 26.11, 26.12, 26.21, 26.22, 26.30, 26.40.
b)Painting: Art 26.51, 26.52, 26.53, 27.11, 27.21, 27.22.
c)Sculpture: Art 30.11, 30.12, 31.11, 31.12, 32.11, 32.12,
33.11, 33.12.
d)Printmaking: Art 35.11, 35.12, 35.21, 35.22, 35.30 .
e)Photography: Art 45.10, 45.20, 45.30, 45.60.
f )Design and computer arts: Art 46.11, 47.10, 47.20, 48.11, 48.12, 48.13, 48.14, 48.15.
Special topics and honors courses in the above subject areas may count toward the fulfillment of the subject-area requirements with permission of the instructor and the chairperson.

## B.F.A. degree program in art

HEGIS code 1002
Admission
Admission to the B.F.A. degree program should be obtained prior to the completion of 26 credits in studio art. An art portfolio is required. Consult the department for procedures.

Department requirements (65-66 credits)
Art 1.3 or Core Studies 2.1.
All of the following: Art 15.20, 25.11, 25.12.
Nine additional credits in advanced courses in art history.
Forty-five credits in advanced courses in studio art subject to the following:
1)At least 21 of these credits must be completed after admission to the B.F.A. degree program.
2) At least three credits must be chosen from each of the following subject areas:
a)Drawing: Art 26.11, 26.12, 26.21, 26.22, 26.30, 26.40.
b)Painting: Art 26.51, 26.52, 26.53, 27.11, 27.21, 27.22.
c)Sculpture: Art 30.11, 30.12, 31.11, 31.12, 32.11, 32.12, 33.11, 33.12.
d) Printmaking: Art 35.11, 35.12, 35.21, 35.22, 35.30.
e)Photography: Art 45.10, 45.20, 45.30, 45.60 .
f)Design and computer arts: Art 46.11, 47.10, 47.20, 48.11, 48.12, 48.13, 48.14, 48.15.

Special topics and honors courses in the above subject areas may count toward the fulfillment of the subject-area requirement with permission of the instructor and the chairperson.
Exhibition of the student's art work, following approval by a department committee. (The exhibition will normally be held during the semester preceding graduation.)

## B.A. degree program for art teacher (K-12)

HEGIS code 0831
The student-teaching sequence of courses in elementary and secondary school art education is described in the "Education" section in this Bulletin.

Art concentration for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher (K-6); special education teacher.
The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students majoring in any of these programs who elect a concentration in art must complete all of the following courses with a grade of C or higher:

Art 15.20, 25.11, 26.11, and a minimum of three credits of elective courses in either studio art or art history.

## Recommendation for prospective graduate students

Prospective graduate students interested in art history should consult the art history program adviser and prospective graduate students interested in studio art should consult the deputy chairperson, Division of Graduate Studies, when planning their undergraduate program.

## Division of Graduate Studies

The Art Department offers the following graduate degree programs: M.A. in art history, M.F.A. in art, and M.A., art teacher (K-12). Some courses may be creditable toward the CUNY doctoral degree. For information about the art history and doctoral programs, students should consult the art history program adviser. For information about the studio art and teacher education programs, students should consult the deputy chairperson, Division of Graduate Studies. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirement in advanced courses for majors in this department.
§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## Courses in art history

## Introductory courses

*1.3 Masterpieces of Western Art
3 hours; 3 credits
Significant works of architecture, painting, and sculpture of the major periods of Western art. Relation to the culture of the period. Introduction to the problems of creating, analyzing, and understanding art. (Not open to students who are enrolled in or have completed Core Studies 2.1.)

## *1.4 Masterpieces of Non-Western Art

3 hours; 3 credits
Significant works of art from major non-Western traditions including architecture, painting, and sculpture from the Middle East, India, Southeast Asia, China, Japan, the South Pacific, Africa, and South America. Relation to their cultures. Introduction to problems of art in a non-Western framework.

## Ancient and medieval art

12.50 Art of Egypt and the Ancient Near East

3 hours; 3 credits
Near Eastern art and architecture from 3000 B.C. to the death of Alexander the Great. Emphasis on ancient Egypt under the Pharaohs and the contributions of the Sumerians, Babylonians, Assyrians, Hittites, and Persians. (Not open to students who have completed Art 12.5.)
Prerequisite: Art 1.3 or Core Studies 2.1.

### 12.60 Aegean and Greek Art

3 hours; 3 credits
Art and architecture of Bronze Age Crete and Mycenae and of historic Greece to the end of the Hellenistic period, with emphasis on great sites and sanctuaries and such artists as Polykeitos, Myron, and Praxiteles. Works of art are examined in the context of Greek myth, literature, and history. (Not open to students who have completed Art 12.1.)
Prerequisite: Art 1.3 or Core Studies 2.1.

### 12.70 Etruscan and Roman Art

3 hours; 3 credits
Art and architecture of the Etruscans and of the Romans through the late Empire. Domestic art and imperial monuments, including the Colosseum, the Pantheon, and the paintings of Pompeii, in their cultural contexts. (Not open to students who have completed Art 12.2 or 12.21.)
Prerequisite: Art 1.3 or Core Studies 2.1.

### 13.30 Art of the Middle Ages

3 hours; 3 credits
Major developments in Western Europe and Byzantium from the third century through the fourteenth.
Emphasis on formation of new kinds of sacred art, interaction of classical and barbarian traditions, imagery of political authority, and emergence and evolution of the art of the book. (Not open to students who have completed Art 11.2 or 11.3 or 11.4 or 11.6.)
Prerequisite: Art 1.3 or Core Studies 2.1.

### 13.40 Jewish Art

3 hours; 3 credits
Survey of Jewish art from antiquity to the present. Biblical archaeology, design and decoration of the synagogue, illuminated manuscripts, ceremonial art, nineteenth- and twentieth-century painting and sculpture. (Not open to students who have completed Art 11.5.)
Prerequisite: Art 1.3 or Core Studies 2.1.

## Early European art

14.61 Early Renaissance Art in Northern Europe

3 hours; 3 credits
The New Realism in painting and sculpture and its relationship to devotional practices, political policies, and social life in the Netherlands, France, and Germany from the fourteenth to the fifteenth centuries. Major artists: the Limbourg Brothers, Van Eyck, Van der Goes, Sluter. Major works: the Très Riches Heures, the Ghent Altarpiece, and the Arnolfini Wedding. (Not open to students who have completed Art 19.3 or 19.6.) Prerequisite: Art 1.3 or Core Studies 2.1.

### 14.62 Later Renaissance Art in Northern Europe

3 hours; 3 credits
Painting, the graphic arts, and sculpture in the Netherlands, Germany, and France from 1500 to 1600, studied in the context of religious, cultural, and social upheavals and the emergence of secular subjects. Major artists: Bosch, Breugel, Dürer, Holbein. (Not open to students who have completed Art 19.6 or 19.8.) Prerequisite: Art 1.3 or Core Studies 2.1.

### 14.71 Early Renaissance Art in Italy

3 hours; 3 credits
Art and architecture of Florence, Siena, and the surrounding area from the mid-thirteenth century to the end of the fifteenth century. Consideration of major works of art in relation to the social and religious climate. Major artists: Giotto, Duccio, Masaccio, Brunelleschi, Donatello, Ghiberti, Piero della Francesca, Botticelli. (Not open to students who have completed Art 19.5.)
Prerequisite: Art 1.3 or Core Studies 2.1.

### 14.72 Later Renaissance Art in Italy

3 hours; 3 credits
Painting and sculpture of sixteenth-century Florence,
Rome, and Venice. Evaluation of such concepts as "High Renaissance" and "Mannerism" in relation to the broader cultural currents of the period. Major artists: Leonardo da Vinci, Giorgione, Michelangelo, Raphael, Titian. Major works: The Last Supper, the paintings in the Sistine Chapel, and the Vatican "Stanze." (Not open to students who have completed Art 19.7.)
Prerequisite: Art 1.3 or Core Studies 2.1.

### 14.81 Baroque Art in Italy

3 hours; 3 credits
Italian architecture, sculpture, and painting of the late sixteenth century and seventeenth century assessed in relation to the counter-Reformation, a resurgent Catholic Church, and the taste of the courts of France and Spain. Major artists: Caravaggio, the Carracci, Bernini, Borromini, Poussin, and Velásquez. (Not open to students who have completed Art 13.1.)
Prerequisite: Art 1.3 or Core Studies 2.1.

### 14.82 Baroque Art in Belgium

## 3 hours; 3 credits

Emergence of realist style in Antwerp in the seventeenth century; developments in the service of the church and state. The rise of new secular subjects considered in relation to the social and economic realities to which they refer. Major artists: Rubens and his school, van Dyck, Jordaens, Brouwer. (Not open to students who have completed Art 19.9 or 19.92.)
Prerequisite: Art 1.3 or Core Studies 2.1.

### 14.83 Baroque Art in Holland

3 hours; 3 credits
Development of Dutch art during the seventeenth century in relation to the culture, economy, and politics of the emergent Dutch Republic. Major artists: Rembrandt, Hals, Vermeer. (Not open to students who have completed Art 19.9 or 19.91.)
Prerequisite: Art 1.3 or Core Studies 2.1.

### 14.84 Baroque Art in France

## 3 hours; 3 credits

Painting, sculpture, and architecture from the reign of Henry IV to the death of Louis XIV. Emphasis on urban planning, the Louvre, Versailles and the Baroque palace, art theory and the Academy. Major artists: La Tour, Poussin, Lorrain. Art forms considered in social, economic, political, and cultural contexts.
Prerequisite: Art 1.3 or Core Studies 2.1.

### 14.90 Rococo to Revolution

3 hours; 3 credits
Transformation of eighteenth-century Italian, French, and English arts from Baroque into Rococo and Neoclassicism. The rise of the middle-class audience for art, the ideals of the Enlightenment as reflected in art, and the new taste for genre and still-life painting. Major artists: Watteau, Fragonard, David, Kauffmann, Reynolds, Tiepolo, Piranesi. (Not open to students who have completed Art 16.6.)
Prerequisite: Art 1.3 or Core Studies 2.1.

## Modern European art

### 15.11 Neoclassicism and Romanticism

3 hours; 3 credits
European art from about 1750 to 1850. Emergence of landscape painting, the rise of Paris as the international capital of the arts, the influence of the French Revolution, and the relationship between art and literature. Major artists: David, Delacroix, Ingres, Goya, Constable, Turner. (Not open to students who have completed Art 16.2 or 16.4.)
Prerequisite: Art 1.3 or Core Studies 2.1.

### 15.12 Realism, Impressionism, and Post-Impressionism

3 hours; 3 credits
Major artists and themes in European art, mainly French, during the second half of the nineteenth century. Art and literature and new optical theories of color and light. Major artists: Courbet, Manet, Degas, Monet, Renoir, Cézanne, Van Gogh, Gauguin. (Not open to students who have completed Art 16.5.) Prerequisite: Art 1.3 or Core Studies 2.1.

### 15.20 Modern Art

## 3 hours; 3 credits

The art of the first half of the twentieth century, its precedents, and its political and cultural context. The rise of abstraction,
the liberation of color, and the interest in the subconscious. Major artistic movements in Europe: Fauvism, Cubism, Futurism, Surrealism. Major artists: Picasso, Matisse, Mondrian, Kandinsky. (Not open to students who have completed Art 15.2.)
Prerequisite: Art 1.3 or Core Studies 2.1.

### 15.30 Contemporary Art

3 hours; 3 credits
Twentieth-century art since World War II from Abstract Expressionism to the present. Contemporary art exhibited in New York City galleries and museums. Major movements: Pop Art, Minimalism, Conceptual Art, Post-Modernism. Major artists: Pollock, de Kooning, Johns, Warhol. (Not open to students who have completed Art 15.3.)
Prerequisite: Art 1.3 or Core Studies 2.1.

### 15.40 Modern Sculpture

3 hours; 3 credits
Art of various European and American sculptors from the late nineteenth century to the present. Major sculptors: Rodin, Brancusi, Degas, Matisse, Picasso. (Not open to students who have completed Art 15.4.)
Prerequisite: Art 1.3 or 26.2 or Core Studies 2.1.

### 15.60 Women in Modern Art

3 hours; 3 credits
Exploration of the changing image and role of women in nineteenth- and twentieth-century art. Major artists: Delaunay, Modersohn-Becker, Kollwitz, Kahlo, O'Keeffe. Issues of gender will be considered. (Not open to students who have completed Art 15.6.)
Prerequisite: Art 1.3 or Core Studies 2.1 or Women's Studies 10.8.

### 15.70 Art of Social Protest

3 hours; 3 credits
The art of social protest from around 1790 to the present. Major artists in Europe, Mexico, and the United States, including David, Goya, Daumier, Courbet, Picasso, Kollwitz, Grosz, and Orozco, whose subject matter and styles represent a social and political protest against the established institutions of their time. (Not open to students who have completed Art 15.7.)
Prerequisite: Art 1.3 or Core Studies 2.1.

### 15.80 History of Photography

3 hours; 3 credits
Survey of the evolution of photography, its development as an independent art form, and its relationship to other arts and sciences. Analysis of the work of significant photographers from Victorian times to the present.
Prerequisite: Art 1.3 or Core Studies 2.1.

## Art of Africa, Oceania, and the Americas

### 16.01 Traditional Art of Africa, Oceania, and the Americas

3 hours; 3 credits
The arts of selected tribal groups, with particular attention given to the traditional arts of Africa, Oceania, and the Americas. Emphasis on formal vocabularies, aesthetics, modes of symbolism, cultural contents, and function. (Not open to students who have completed Art 17.2 or 19.1 or Anthropology 59.)
Prerequisite: Art 1.3 or 1.4 or Core Studies 2.1. Prerequisite may be waived by the chairperson for students with a background in related fields.

### 16.02 African Art

3 hours; 3 credits
The traditional art of sub-Saharan Africa. Emphasis on the relationships between art and culture. Definition of styles and object types and the relationship of form to function.
Prerequisite: Art 1.3 or 1.4 or Core Studies 2.1.

### 16.10 American Art from the Colonial Period through the Civil War

3 hours; 3 credits
Painting, sculpture, architecture, and the graphic and decorative arts from the seventeenth century through the
mid-nineteenth century, viewed in social context and in light of English and Continental sources. Major artists: West, Copley, Cole. (Not open to students who have completed Art 16.1.)
Prerequisite: Art 1.3 or Core Studies 2.1.

### 16.30 American Art from the Civil War to the Present

3 hours; 3 credits
Painting, sculpture, architecture, and the graphic and decorative arts from 1865 to the present. Effects of the Civil War and industrialization. American art and artists and European cultural developments through the mid-twentieth century. Major artists: Whistler, Homer, O'Keeffe, Pollock. (Not open to students who have completed Art 16.3.)
Prerequisite: Art 1.3 or Core Studies 2.1.

## Asian art <br> 18.40 Art of Ancient China

3 hours; 3 credits
Evolution of the ancient art of China, including ceramics, jades, bronzes, monumental stone sculpture, and the roots of painting traditions, from the Neolithic to the tenth century; art forms considered in cultural and aesthetic context. (Not open to students who have completed Art 18.1 or 18.4.)
Prerequisite: Art 1.3 or 1.4 or Core Studies 2.1. Prerequisite may be waived by the chairperson for students with a background in related fields.

### 18.41 Painting, Ceramics, and the Later Arts of China

3 hours; 3 credits
Evolution of the later arts of China from the tenth through the twentieth centuries. Emphasis on development of painting, calligraphy, and ceramic traditions; jades, lacquer, textiles, architecture, and gardens. Art forms considered in cultural and aesthetic context. (Not open to students who have completed Art 18.1 or 18.4.)
Prerequisite: Art 1.3 or 1.4 or Core Studies 2.1.

### 18.50 Art of Japan

## 3 hours; 3 credits

Evolution of Japanese art, including ink painting, screens, ceramics, Buddhist sculpture, temple architecture, gardens, the tea ceremony, prints, and such other decorative arts as flower arranging, from the archaeological age to the nineteenth century; art forms considered in cultural and aesthetic context. (Not open to students who have completed Art 18.5.)
Prerequisite: Art 1.3 or 1.4 or Core Studies 2.1. Prerequisite may be waived by the chairperson for students with a background in related fields.

### 18.51 Woodblock Prints of Japan

## 3 hours; 3 credits

Evolution of woodblock prints of Japan with emphasis on the important achievements of the eighteenth and nineteenth centuries. Relationship to other Japanese art forms; influence on Western art. Technique, style, subject matter, cultural and social contexts. (Not open to students who have completed Art 18.1.) Prerequisite: Art 1.3 or 1.4 or Core Studies 2.1.

### 18.71 Ink Painting in China and Japan

3 hours; 3 credits
Origins and stylistic development of ink painting traditions in China and Japan. Landscape painting, Chan or Zen painting, and calligraphy. Technique, spiritual and cultural values underlying the art of ink painting, interrelationships between Chinese and Japanese artistic traditions. (Not open to students who have completed Art 18.7.)
Prerequisite: Art 1.3 or 1.4 or Core Studies 2.1. Prerequisites may be waived by the chairperson for students with a background in related fields.

## Architecture

### 20.20 Architecture from the Neolithic to the

## Fall of the Roman Empire

3 hours; 3 credits
Architecture and planning of the Neolithic and of Mesopotamian, Persian, Egyptian, Minoan, Mycenaean, Greek, and Roman civilizations. Cultural context and distinctive features of major monuments. (Not open to students who have completed Art 14.1 or 14.4.)
Prerequisite: Art 1.3 or Core Studies 2.1.

### 20.30 Architecture from the Medieval Period

to the Late Baroque Era
3 hours; 3 credits
Architecture and planning from medieval times to the late Baroque era. Medieval cities; the Renaissance, with focus on Brunelleschi, Alberti, Bramante, Michelangelo, and Palladio; the Baroque, with focus on Bernini and Borromini; the spread of Renaissance and Baroque principles throughout Europe. Cultural context and distinctive features of major monuments. (Not open to students who have completed Art 14.1 or 14.5.)

Prerequisite: Art 1.3 or Core Studies 2.1

### 20.40 Architecture from the Industrial Revolution to the Art Nouveau Movement

3 hours; 3 credits
Major developments in the architecture of Europe and the United States from the time of the Industrial Revolution to the end of the nineteenth century. Engineering, expositions, Neoclassicism, Gothic
Revivalism, social utopian ideals, expansion of cities and suburbs, arts and crafts, and the
Art Nouveau movement. (Not open to students who have completed Art 14.2 or 14.6.)
Prerequisite: Art 1.3 or Core Studies 2.1.

### 20.50 Architecture from 1900 to 1939

3 hours; 3 credits
Major personalities and developments in the architecture of Europe and the United States. Major architects: Wright, Gropius, Mies van der Rohe, Taut, Le Corbusier, Aalto. Major movements: Functionalism, Futurism, Constructivism, Expressionism, the Bauhaus movement, de Stijl.
Prerequisite: Art 1.3 or Core Studies 2.1.

### 20.60 Architecture from World War II to the Present

## 3 hours; 3 credits

Major personalities and developments in the architecture of Europe, Asia, and the United States. Major architects: Mies van der Rohe, Wright, Le Corbusier, Aalto, Kahn, Isozaki, Gehry. Major movements: the new Brutalism, Metabolism, utopian visions, Venturi, Post-Modernism, Rationalism, Deconstructionism. Prerequisite: Art 1.3 or Core Studies 2.1.

## Special topics and seminars

### 70.10 Special Topics in Art History

3 hours; 3 credits
Topic is selected by the instructor. Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take this course for credit twice, but may not repeat topics. Students may not earn more than a total of six credits in Art 70.10.
Prerequisite: Art 1.3 or Core Studies 2.1; and six credits in advanced art history courses.

### 71.10 Seminar: Methods in Art History

3 hours; 3 credits
Applicable art historical methodologies will be used for an in-depth study of a topic or an individual artist. Student participation in, and presentation of, research. Students may take this course for credit twice, but may not repeat topics.
Prerequisite: Art 1.3 or 1.4 or Core Studies 2.1; and three credits in an advanced art history course.

### 72.10, 72.20 Internships in the Visual Arts I, II

Minimum of 9 hours conference and independent work§;
3 credits
Internships in artistic vocations and in public service agencies in the arts.
Prerequisite of 72.10: permission of the chairperson.
Prerequisite of 72.20: Art 72.10.

## Honors courses in art history

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for the courses described below. Students may not register for more than six credits in honors courses in the department in one semester.

83.10, 83.20 Independent Research in Art History I, II<br>Minimum of 9 hours conference and independent work§;<br>3 credits<br>Independent research, supervised by a faculty member, on an approved topic. Weekly conference. Thesis or report. (Art 83.10 is not open to students who have completed Art 83.)<br>Prerequisite of 83.10: twelve credits in advanced courses in art history, including at least three credits in the subject area (e.g., early European art) in which the student proposes to work, and permission of the instructor and the chairperson.<br>Prerequisite of 83.20: Art 83 or 83.10 , and permission of the instructor and the chairperson.

## Courses in studio art

## Introductory courses

## *25.11 Basic Design, Drawing, and Color

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits Introduction to basic studio materials and elements of design, drawing, and color. Analysis of perception and visual expression for the general student and the art major. (Not open to students who have completed Art 20.1 or 21 or 25 .)
Prerequisite or corequisite: Art 1.3 or Core Studies 2.1.

## *25.12 Basic Three-Dimensional Design

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work $\S 3$ credits Introduction to the elements of three-dimensional design in a basic workshop. Development of expressive forms in various materials and the use of hand tools for the general student and the art major. (Not open to students who have completed Art 27 or 51.)
Prerequisite or corequisite: Art 1.3 or Core Studies 2.1.

## Drawing

*26.11 Drawing I
1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits
Representation of forms and pictorial expression in line, value, and texture. Development in perceptual and creative skills with a variety of drawing materials and techniques.
(Not open to students who have completed Art 26.)
Prerequisite: Art 25 or 25.11.

### 26.12 Drawing II

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits
Continuation of Art 26.11. Abstract and figurative expression and composition. (Not open to students who have completed Art 33.6 or 33.7.)
Prerequisite: Art 26 or 26.11.

### 26.21 Figure Drawing I

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits
Methods of drawing the human figure with reference to historical and contemporary modes of expression.
(Not open to students who have completed Art 34 or 34.3.)
Prerequisite: Art 26 or 26.11.

### 26.22 Figure Drawing II

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits Continuation of Art 26.21. Media-expressive interpretation of the human figure using selected drawing materials. (Not open to students who have completed Art 34.4.)
Prerequisite: Art 26.21 or 34.3.

### 26.30 Artistic Anatomy

1 hour recitation, 1 hour lecture, 2 hours laboratory,
a minimum of 4 hours independent work§; 3 credits
Study of drawing conventions within the Western figurative tradition. Recommended for students strongly motivated toward structural and aesthetic knowledge of human form. (Not open to students who have completed Art 34.2.)
Prerequisite: Art 26 or 26.11.

### 26.40 Pictorial Perspective

1 hour recitation, 1 hour lecture, 2 hours laboratory,
a minimum of 4 hours independent work§; 3 credits
Graphic expression of forms and their relation in space through perspective drawing systems. (Not open to students who have completed Art 56.)
Prerequisite: Art 25 or 25.11.

## Painting

### 26.51 Painting I

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits
Introduction to techniques of oil or acrylic painting. Development in painting expression, composition, and dynamics of color. (Not open to students who have completed Art 40.1 or 42.1.)
Prerequisite: Art 25 or 25.11.

### 26.52 Painting II

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits
Continuation of Art 26.51. Development of problems and ideas in painting. Analysis of modern and historical masterworks and techniques. (Not open to students who have completed Art 40.2.)
Prerequisite: Art 26.51 or 40.1.

### 26.53 Painting III

1 hour recitation, 1 hour lecture, 2 hours laboratory,
a minimum of 4 hours independent work§; 3 credits
Continuation of Art 26.52. Advanced problems and concepts in painting. (Not open to students who have completed Art 40.3.)
Prerequisite: Art 26.52 or 40.2.

### 27.11 Workshop in New Materials

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits
Creative and technical experimentation with a variety of non- traditional materials for selected workshop projects. (Not open to students who have completed Art 43.)
Prerequisite: Art 25.11 or 26 ; and 25.12 or 27.

### 27.21 Workshop in the History of Art I

1 hour recitation, 1 hour lecture, 2 hours laboratory,
a minimum of 4 hours independent work§; 3 credits
The relationship between materials and formal concerns in Western painting from the thirteenth to seventeenth centuries. Designed to acquaint the art history major with selected painting techniques. (Not open to students who have completed Art 44.)
Prerequisite: Art 26 or 26.11.

### 27.22 Workshop in the History of Art II

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits Continuation of Art 27.21. Studio techniques from the seventeenth century to Impressionism. (Not open to students who have completed Art 44 or 44.1.)
Prerequisite: Art 27.21 or 44.

## Sculpture

### 30.11 Sculpture I

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits Introduction to creative sculpture practice and techniques; to include plaster and clay. (Not open to students who have completed Art 51.1.)
Prerequisite: Art 25.12 or 27.

### 30.12 Sculpture II

1 hour recitation, 1 hour lecture, 2 hours laboratory,
a minimum of 4 hours independent work§; 3 credits
Continuation of Art 30.11. Advanced projects in creative sculpture and theory. (Not open to students who have completed Art 52.1.)
Prerequisite: Art 30.11 or 51.1.

### 31.11 Wood Sculpture I

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits
Sculptural form in wood. Use of hand and machine tools. Development of craftsmanship and structural ingenuity.
(Not open to students who have completed Art 54.1.)
Prerequisite: Art 25.12 or 27.

### 31.12 Wood Sculpture II

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits
Continuation of Art 31.11. Advanced sculptural techniques and concepts. Creative development of figurative and non- figurative sculptural form in wood. (Not open to students who have completed Art 54.2.) Prerequisite: Art 31.11 or 54.1.

### 32.11 Metal Sculpture I

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits Exploration of form and space using the special characteristics of metal. Methods of joining and forming. (Not open to students who have completed Art 55.1.)
Prerequisite: Art 25.12 or 27.

### 32.12 Metal Sculpture II

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits
Continuation of Art 32.11. Advanced concepts of form and space. Creative development of representational and abstract form in metal. (Not open to students who have completed Art 55.2.)
Prerequisite: Art 32.11 or 55.1.

### 33.11 Ceramics I

1 hour recitation, 1 hour lecture, 2 hours laboratory,
a minimum of 4 hours independent work§; 3 credits
Studio practice in techniques and aesthetics of ceramic form, to include pottery design, firing, and glazing methods. (Not open to students who have completed Art 53.1.)
Prerequisite: Art 25.12 or 27.

### 33.12 Ceramics II

1 hour recitation, 1 hour lecture, 2 hours laboratory,
a minimum of 4 hours independent work§; 3 credits
Continuation of Art 33.11. Advanced ceramics projects and firing and glazing techniques. (Not open to students who have completed Art 53.2.)
Prerequisite: Art 33.11 or 53.1.

## Printmaking

### 35.11 Printmaking: Relief and Woodcut

1 hour recitation, 1 hour lecture, 2 hours laboratory,
a minimum of 4 hours independent work§; 3 credits
Creative development of visual form using relief and planographic techniques of monoprint, linoleum, and woodcut. (Not open to students who have completed Art 67.1.)
Prerequisite: Art 25 or 25.11.

### 35.12 Printmaking: Lithography

1 hour recitation, 1 hour lecture, 2 hours laboratory,
a minimum of 4 hours independent work§; 3 credits
Continuation of Art 35.11. Creation of images using advanced relief and planographic techniques, including lithography. (Not open to students who have completed Art 67.2.)
Prerequisite: Art 35.11 or 67.1.

### 35.21 Printmaking: Etching I

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits Creative development of visual form using all etching techniques. (Not open to students who have completed Art 66.)
Prerequisite: Art 25.11 or 26.

### 35.22 Printmaking: Etching II

1 hour recitation, 1 hour lecture, 2 hours laboratory,
a minimum of 4 hours independent work§; 3 credits
Continuation of Art 35.21. Creative development of etching and engraving concepts. Experimentation in color. Thematic and nonthematic development of ideas. (Not open to students who have completed Art 66.1.)

Prerequisite: Art 35.21 or 66.

### 35.30 Edition Printing

1 hour recitation, 1 hour lecture, 2 hours laboratory,
a minimum of 4 hours independent work§; 3 credits
The techniques of printing an edition of fine art prints for an artist. Students will produce suites of lithographs, etchings, and woodcuts.
Prerequisite: Art 35.11 or 35.21 or 66 or 67.1 or permission of the chairperson.

## Photography

### 45.10 Photography I

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits
Photography as a creative art. Use of camera. Exposure, developing, and printing. Students must supply their own cameras. (Not open to students who have completed Art 45.1.)
Prerequisite: Art 25 or 25.11.

### 45.20 Photography II

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits
Continuation of Art 45.10. Further development of visual perception. Advanced training in handling photographic material. Analysis of main trends in contemporary photography. (Not open to students who have completed Art 45.2.)
Prerequisite: Art 45.1 or 45.10 .

### 45.30 Photography III

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits Continuation of Art 45.20. Development of a photography project relating to the history of photography and the work of selected master photographers. (Not open to students who have completed Art 45.3.)
Prerequisite: Art 45.2 or 45.20.

### 45.60 Workshop in the History of Photography

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits
Survey of the history and evolution of photography. Analysis of the work of significant photographers.(Not open to students who have completed Art 45.6.)
Prerequisite: Art 45.1 or 45.10.

## Design and computer arts

### 46.11 Architectural Design

1 hour recitation, 1 hour lecture, 2 hours laboratory,
a minimum of 4 hours independent work§; 3 credits
Analysis of the aesthetic, spatial, and functional elements inherent in architectural planning. Problems involve drafting disciplines and model building. (Not open to students who have completed Art 57.)
Prerequisite: Art 26.40 or 56.

### 47.10 Visual Communication I

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits
Exploration of creative typography. Projection of ideas through color, graphics, and photography. (Not open to students who have completed Art 47.1.)
Prerequisite: Art 25.11 or 26.

### 47.20 Visual Communication II

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits
Continuation of Art 47.10. Publication design. Techniques and methods applied to advertising and editorial projects. (Not open to students who have completed Art 47.2.)
Prerequisite: Art 47.1 or 47.10.

### 48.11 Electronic Image I

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits
Introduction to computer-imaging techniques. The methods by which a computer looks at an image and conveys it into conventional graphical formats. Exploration of the role of computer-imaging techniques in the creative process. (Not open to students who have completed Art 29.)
Prerequisite: Art 25 or 25.11; and 27 or 25.12.

### 48.12 Electronic Image II

1 hour recitation, 1 hour lecture, 2 hours laboratory,
a minimum of 4 hours independent computer laboratory work§; 3 credits
Continuation of Art 48.11, with focus on complexities of black-and-white techniques in producing images, line art, and gray scale. Screen technology. (Not open to students who have completed Art 30.)
Prerequisite: Art 29 or 48.11.

### 48.13 Electronic Image III

1 hour recitation, 1 hour lecture, 2 hours laboratory,
a minimum of 4 hours independent computer laboratory work§; 3 credits
Continuation of Art 48.12, with focus on the complexities of color in graphic design; techniques for scanning and color separation. (Not open to students who have completed Art 31.)
Prerequisite: Art 30 or 48.12.

### 48.14 Advanced Media I

1 hour lecture, 1 hour recitation, a minimum of 4 hours independent work§; 3 credits
Studio techniques of modeling and rendering computer design-media into formats for file exchange among existing applications. Storyboards, timeline, modeling, and rendering along a production ladder. Perception and theory of visual structures as applied to culturally accepted values studied as aesthetic values.
Prerequisite: all of the following: Art 25.12 or $27,26.11$ or $26,48.13$ or 31 ; Core Studies 5 or Computer and Information Science 1.10.

### 48.15 Advanced Media II

1 hour lecture, 1 hour recitation, a minimum of 4 hours independent work§; 3 credits Continuation of Art 48.14. Emphasis on refinement of studio techniques of modeling and rendering computer-design media into formats for file exchange among existing applications. Storyboards, timeline, modeling, and rendering along a production ladder. Advanced techniques, including transfer to such output systems as print and video tape.
Prerequisite: Art 48.14.

## Course for education majors

62.10 Image and Word in Western Culture

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits
Study of visual language and its extensions from the Renaissance to modern times. Individual components of line, color, and composition will be explored. Examination of how meaning is constructed and communicated into visual language through the consideration of illuminated manuscripts, illustrated books, paintings, architectural design, film, video, and communication arts.
Prerequisite: Core Studies 2.1.

## Special topics

### 70.12 Summer Archaeological Field School in Israel

3 hours lecture, 6 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. This course is the same as Judaic Studies 70.1. (Not open to students who have previously received credit for archaeological fieldwork.)
Prerequisite: permission of the chairperson and one of the following: Art 2.1, Anthropology 2.2, Classics 26, Judaic Studies 12, Core Studies 1, 2.1, 9, a course in archaeological theory and methodology.
70.20, 70.21 Special Topics in Studio Art I, II

1 hour recitation, 1 hour lecture, 2 hours laboratory, a minimum of 4 hours independent work§; 3 credits
Topics vary and reflect the interests of students and faculty. Emphasis on specialized techniques and art media or creative projects not otherwise covered in the regular curriculum.
Prerequisite of 70.20: permission of the chairperson.
Prerequisite of 70.21: Art 70.20.
72.10, 72.20 Internships in the Visual Arts I, II

Minimum of 9 hours conference and independent work§; 3 credits
Internships in artistic vocations and in public service agencies in the arts.
Prerequisite of 72.10: permission of the chairperson.
Prerequisite of 72.20: Art 72.10.

### 73.11, $\mathbf{7 3 . 1 2}$ Special Problems in the Visual Arts I, II

Minimum of 9 hours conference and independent work§; 3 credits
Independent work in a visual arts medium or a project agreed on by the student and the instructor and not covered in the regular curriculum.
Prerequisite of 73.11: permission of the instructor and the chairperson.
Prerequisite of 73.12: Art 73.11 and permission of the instructor and the chairperson.

## Honors courses in studio art

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for the courses described below. Students may not register for more than six credits in honors courses in the department in one semester.

### 86.10, 86.20, 86.30, 86.40 Honors Workshop in

## Creative Art I, II, III, IV

Minimum of 9 hours conference and independent work§; 3 credits
Individual development through traditional and experimental studio-art media. Students may not earn more than a total of twelve credits in the Art 86 sequence.
Prerequisite of 86.10: eighteen credits in advanced courses in studio art, including at least six credits in the subject area (e.g., sculpture) in which the student proposes to work, and permission of the instructor and the chairperson.
Prerequisite of 86.20: Art 86.1 or 86.10 , and permission of the instructor and the chairperson.
Prerequisite of 86.30: Art 86.2 or 86.20 , and permission of the instructor and the chairperson.
Prerequisite of 86.40 : Art 86.3 or 86.30 , and permission of the instructor and the chairperson.

## Biology

Department office: 200 Ingersoll Hall Extension
Telephone: 951-5396, 951-5397, 951-5398
Chairperson: Ray H. Gavin
Deputy Chairperson, CLAS and SGS: David R. Franz
Professors: Blamire, Cottrell, Eckhardt, Franz, Gavin,
Khan, Maderson, McGowan, Schreibman;
Associate Professors: Eshel, Forest, Nishiura;
Assistant Professors: Basil, Godde, He.

## Core curriculum

The Department of Biology participates in the college's core curriculum through Core Studies 8.1.

## B.A. degree program in biology <br> HEGIS code 0401

Department requirements (42-49 credits)
To enroll in any of the following laboratory courses: Biology 17.1, 29.1, 45.1, and 52.2, students must have completed a minimum of three lecture courses with a grade of C - or better. A student who receives a grade of $D$ or lower in any biology course applied toward fulfillment of department requirements must repeat the course until the grade of C - or higher is earned, or offer another course of equal or higher rank. Any substitution of courses must be approved by the chairperson.
All of the following: Biology 17, 29, 34, 38, 45, 52, 58.
All of the following: Biology 17.1, 29.1, 45.1, 52.2.
One of the following: Biology 15, 16.1, 21.2, 23.1 and 23.2, 24.2, 25, 26, 27.5, 32.1, 39.1, 42.1 and 42.2 , 55.1 and 55.2, 57, 62.5 .

One of the following chemistry sequences, $a$ ), b), or c):
a)Chemistry 5 and 50 .
b)Chemistry 2 and 50 .
c) Chemistry 1 , or 1.1 and $1.2,2,51$, and 52.

Mathematics 3.3.

## Department recommendations

Chemistry 51 and 52 and Physics 1 and 2 are required for some preprofessional programs and are strongly recommended for prospective graduate students in biology.
Students who anticipate majoring in biology must see a departmental adviser before the end of the sophomore year in order to plan their programs.

## B.S. degree program in biology <br> HEGIS code 0401

Department requirements (51-53 credits)
To enroll in any of the following laboratory courses: Biology 17.1, 29.1, 45.1, and 52.2, students must have completed a minimum of three lecture courses with a grade of C - or better.
A student who receives a grade of $D$ or lower in any biology course applied toward fulfillment of department requirements must repeat the course until a grade of C - or higher is earned, or offer another course of equal or higher rank. Any substitution of courses must be approved by the chairperson.
All of the following: Biology 17, 29, 34, 38, 45, 52, 58.
All of the following: Biology 17.1, 29.1, 45.1, 52.2.
Two of the following: Biology 15, 16.1, 21.2, 23.1 and 23.2, 24.2, 25, 26, 27.5, 28, 32.1, 39.1, 42.1 and 42.2, 43.3, 55.1 and 55.2, 57, 62.5, 73.1, 83.1.

All of the following: Chemistry 1, or 1.1 and 1.2, 2, 51, 52.
Mathematics 3.3.

## Department recommendation

Students who anticipate majoring in biology must see a departmental adviser before the end of the sophomore year in order to plan their programs.

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Additional requirements for a B.S. degree
Candidates for a B.S. degree with a major in biology must complete at least 60 credits in science and mathematics; 24 of these 60 credits must be completed in advanced courses in the Biology department. These 24 credits must be completed at Brooklyn College with a grade of \(C\) or higher in each course. Specific course requirements for a B.S. degree are described above.
The following courses may be applied toward the 60 credits in science and mathematics:
A)All courses in the departments of biology, chemistry, computer and information science, geology, mathematics, physics, and psychology.
B)Courses marked with a \((\cdot)\) symbol in the Department of Health and Nutrition Sciences.
C)Anthropology and Archaeology 2.4, 16, 24.1, 26.1, 26.2, 36, 85.3.
Core Studies 5, 7.1, 7.2, 8.1, 8.2.
Economics 30.2, 30.3, 31.1, 31.2.
Philosophy 13, 33, 42.
Physical Education 22.71, 22.75, 23, 30, 51.
Sociology 77.1.
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B.A., B.S. degree programs for biology teacher (7-12)

HEGIS code 0401.01
The student-teaching sequence of courses in secondary school science education is described in the
"Education" section in this Bulletin.

## Recommendation for prospective graduate students

Many graduate programs in biology require reading competence in two of the following languages: French, German, Russian. Prospective graduate students who studied one of the languages for two years in high school should study another of these languages through course 2 in college. Proficiency in a computer language may be substituted for one of the foreign languages.

## Undergraduate research participation

The department encourages students to participate in research programs with faculty members, without credit. This work may begin as early as feasible and continue throughout the student's academic program. Qualified students may enroll in Biology Department courses numbered 73.1, 73.2 or 83.1 through 83.4.

## Department honors

To be eligible for graduation with honors in biology, a student should have an average of 3.50 or higher in biology courses and complete a Biology Department course numbered 83.1 through 83.4 with distinction.

## Division of Graduate Studies

The Biology Department offers master of arts degree programs in biology, applied biology, and biology teacher (grades 7 through 12). Some courses may be creditable toward the CUNY doctoral degree. For information, students should consult the department's deputy for graduate studies. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 18 credits in advanced courses for majors in this department.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## *3 General Biology I

1 hour recitation, 2 hours lecture, 3 hours laboratory; 4 credits
Nature, functioning, and interrelationships of communities and organisms within the biosphere. Evolution, structure, and function of plants and animals. (Not open to students who are enrolled in or have completed Biology 2 or 6.1 or 6.2.)

## *4 General Biology II

1 hour recitation, 2 hours lecture, 3 hours laboratory; $41 / 2$ credits
Continuation of Biology 3. Cell structure, physiology, and genetics. Interrelationships of form and function in metabolism and embryonic development. (Not open to students who are enrolled in or have completed Biology 1.)

## 6.1, 6.2 Integrated Anatomy and Physiology

(Two-semester course) 2 hours lecture, 4 hours laboratory; 4 credits each term
(Not open to students who are enrolled in or have completed Biology 2, Biology 3, Health and Nutrition Sciences 22.71, Health and Nutrition Sciences 22.72, Physical Education 22.71, Physical Education 22.75.)
6.1: Structure and function on the cellular level. Maintenance of stable internal environment by means of the circulatory, respiratory, and urinary systems, and control of cellular homeostasis by genetic mechanisms.
6.2: Structure and function of the organism. Studies of the nervous system as a mechanism of integration, specialized sensory receptors, food processing and metabolism, endocrine functions, sexual reproduction, and human development.
Prerequisite of 6.2: completion of Biology 6.1.

To enroll in biology courses not marked (*), biology majors must earn a grade of $\mathbf{C}$ or higher in each biology course completed, unless excused from this requirement by the chairperson.
11.5 Plant Science

2 hours lecture, 4 hours laboratory; 4 credits
The plant kingdom from the perspectives of structure, reproduction, evolution, development, differentiation. The laboratory work involves greenhouse and experiments; plant form and structure; dissection of living material and microscopic examination; field trips to natural environments and to the Brooklyn Botanic Garden. Applied and economic aspects of plants. Appreciation and enjoyment of natural environments. (Not open to students who have completed Biology 11 or 12.)
Prerequisite: Biology 2 or 4 or permission of the chairperson.

### 12.5 Light and Life Process

3 hours; 3 credits
A fundamental survey of selected biological systems which require light in order to initiate, control, regulate, or integrate basic life processes.
Prerequisite: Biology 2 or 4 or permission of the chairperson.

## *13.5 Biology and Society

1 hour recitation, 2 hours lecture; 3 credits
Aspects of biology having application to present and future problems of human societies. Topics may include: the possibility of life on other planets and its implications for religion; population explosion; induction of hereditary changes by drugs and radiation; sexuality; races; organ transplantation; biological management of human society; the interaction of biology and national science policy; the biological future of the human race. (Not open to students who are enrolled in or have completed Biology 1 or 3 or Integrated Science 3.)

## *13.6 Ethical Issues in Biology

3 hours; 3 credits
Study of selected issues in current biological research with special attention to the moral and ethical considerations involved. This course is the same as Philosophy 16.1.
Prerequisite: Core Studies 8.1; and either Core Studies 10 or Philosophy 6.

## 15 Field Studies in Botany

30 hours lecture, 60 hours fieldwork and laboratory work; 4 credits
Field trips to observe associations in typical plant habitats. Laboratory consideration of the characteristics, evolutionary relationships, and geography of flowering plants. Summer session.
Prerequisite: Biology 11 or 11.5 or 29.

### 16.1 Biometry

4 hours laboratory; 2 credits
Analysis and interpretation of biological data.
Prerequisite: Biology 3 and 4, or Biology 17 and 29; and Core Studies 5 or the equivalent; or permission of the chairperson.

## *17 Molecular Biology

2 hours; 2 credits
Principles and problems of the structure and functions of cell components. Emphasis will be placed on the molecular composition of cells and on methods of research. (Not open to students who have completed Biology 35.)

### 17.1 Laboratory in Eukaryotic Cell Biology and Physiology

4 hours; 2 credits
Experiments designed around fundamental questions in eukaryotic cell biology and physiology with a strong emphasis on contemporary sophisticated cell and molecular biology techniques. Computer simulations and prerecorded video disks will supplement the experiments. (Not open to students who have completed Biology 35.)
Prerequisite: Biology 17 and any two of the following: 29, 34, 45, 52, 58.

## 21 Invertebrate Zoology

2 hours lecture, 4 hours laboratory; 4 credits
Structure, life histories, and phylogeny of the most important invertebrate forms.
Prerequisite: Biology 2 or completion of Biology 1 with a grade of B or higher; or Biology 4.

### 21.2 Parasitology

2 hours lecture, 4 hours laboratory; 4 credits
Selected topics in invertebrate zoology with emphasis on parasitic forms.
Prerequisite: Biology 21 or permission of the chairperson.

### 23.1 Animal Histology

3 hours lecture and demonstration; 3 credits
Cell structure; analysis of basic tissues and organ systems. (Not open to students who have completed Biology 23.)
Prerequisite: Biology 21 or 24.1 or 31 or 45.1 or permission of the chairperson.

### 23.2 Microtechnique

4 hours laboratory, 1 hour recitation; 3 credits
Preparation of tissues for microscopic analysis; basic histological and cytological methods; introduction to cytochemical procedures; methods for analyzing slides. (Not open to students who have completed Biology 23.)

Prerequisite or corequisite: Biology 23.1.

### 24.1 Developmental Anatomy

2 hours lecture, 4 hours laboratory; 4 credits
Introduction to structure, development, and phylogeny of vertebrates.
Prerequisite: Biology 2 or 4 or permission of the chairperson.

## 25 Field Studies in Zoology

30 hours lecture, 60 hours fieldwork and laboratory work; 4 credits
Field studies of animals in their natural environments. Laboratory work. Summer session.
Prerequisite: Biology 2 or 4 or 29.1.

## 26 Developmental Biology

3 hours lecture; 3 credits
Problems in cell determination, tissue differentiation, tissue homeostasis, and regenerative phenomena.
Prerequisite: Biology 23.1 or 24.1 or 27.5 or 31 or 35 or 45.1 ; or permission of the chairperson.

### 27.5 Molecular Biology of Development

1 hour recitation, 3 hours lecture; 4 credits
Experimental and biochemical analysis of development of echinoderm, molluscan, and amphibian embryos.
Biochemical analysis is primarily related to the replication, transcription, and translation of nucleic acids.
Analysis of experimental design and interpretation of work in current literature with emphasis on
experimental designs for future work.
Prerequisite: Biology 4 or 17.1 and Chemistry 50 or 51 . The chairperson may waive Chemistry 50 or 51 as a prerequisite of Biology 27.5 for students who received a grade of B or higher in Chemistry 2.

## 28 Electron Microscopy in Biology

1 hour lecture, 4 hours laboratory; 3 credits
Basic principles and practice of electron microscopy of biological materials. Emphasis on acquiring skills in preparation and study of samples in the scanning- and transmission-electron microscopes, and interpreting results.

## 29 Organismic Biology I, Botany

2 hours; 2 credits
Concepts in the structure, diversity, growth, and development of plants and related organisms. (Not open to students who have completed Biology 11.5.)

### 29.1 Plant Form and Function Laboratory

4 hours; 2 credits
Experiments and examination of the structure, diversity, growth, and development of plants and related organisms. (Not open to students who have completed Biology 11.5.)
Prerequisite: Biology 29 and any two of the following: 17, 34, 38, 45, 52, 58.

## 31 General Physiology

2 hours lecture, 4 hours laboratory; 4 credits
Survey of cellular and organismic problems in animal physiology.
Prerequisite: Biology 2 or completion of Biology 1 with a grade of B or higher; or Biology 4 and Chemistry 2.
32.1 Mammalian Physiology

3 hours; 3 credits
Interpretation of vital phenomena on the organ level. Topics include the major mammalian body systems and their functional relationships.
Prerequisite: Biology 31 or 34 .

## 34 Animal Physiology

2 hours; 2 credits
Lecture survey of how basic physiological processes are influenced and controlled by the nervous and endocrine systems. The relationships between structure and function will be emphasized. A comparative approach using examples from different groups of vertebrate animals. Those physiological processes that do not come under direct neuroendocrine control will be contrasted with those that do. (Not open to students who have completed Biology 31.)
Prerequisite: Biology 17 and 29.

## 35 Cell and Molecular Biology

3 hours; 3 credits
Introduction to the biology of the cell with emphasis on molecular aspects of biology. Ultrastructures, molecular composition, functions of the cell. Emphasis on cellular energetics, information storage and transfer, protein synthesis, growth, reproduction, and functional integration of cellular organelles and inclusions. (Not open to students who have completed Biology 38 or Biology 39.)
Prerequisite: Biology 2 or 4; and Chemistry 2.

## 36 Plant Physiology

2 hours lecture, 4 hours laboratory; 4 credits
The basic physiology of plants: photosynthesis, transpiration, translocation, hormone interactions, environmental perception, morphogenesis. (Not open to students who have completed Biology 36.1 or 36.2.)

Prerequisite: Biology 2 or 4, and Chemistry 2.

## 38 Evolution and Ecology

2 hours; 2 credits
Introduction to the major ideas and models of evolution; emphasis on natural selection and other processes in explaining structures and functions of individuals and populations; current ideas to account for the biodiversification of life on earth. (Not open to students who have completed Biology 50.)
Prerequisite: Biology 17 and 29.

### 39.1 Cell Culture Techniques

1 hour lecture, 4 hours laboratory; 3 credits
Cell culture techniques in planned laboratory experiments with supplementary lectures, discussions, and presentations. Methods presented include: autoradiography, cytochemical staining, initiation and maintenance of primary and continuous cell cultures, monolayer and suspension cultures, cell counting, vital staining, and chromosome banding techniques. Research design is emphasized and independent student projects are required.
Prerequisite: Biology 17 or 35 ; 40.1 or 41 or 52.2 ; and permission of the chairperson.

## *40.1 Microbiology (Nonmajors course)

2 hours lecture, 4 hours laboratory; 4 credits
Study of yeasts, molds, and bacteria in relation to human welfare. (Not open to students who are enrolled in or have completed Biology 41.)
Prerequisite: candidacy for a B.S. degree with a major in nursing or health and nutrition sciences or physical education, or candidacy for a B.A. degree with a major in home economics and consumer studies or health science; and Biology 2 or 4 or 6.2; and Chemistry 0.4 or 1.5 or 2 or 5.

## 41 General Microbiology

2 hours lecture, 4 hours laboratory; 4 credits
Origin, distribution, abundance, classification, and interrelationships of microorganisms. Basic techniques of pure culture study. (Not open to students who are enrolled in or have completed Biology 40.1.)
Prerequisite: Biology 2 or completion of Biology 1 with a grade of B or higher or Biology 4.
Prerequisite or corequisite: Chemistry 50 or 51.

### 42.1 Medical Microbiology

3 hours; 3 credits
Microbes as disease agents. Examination of host-microbe interactions, the immune response, nature and mechanisms of infectious diseases, chemotherapy, drug resistance, and epidemiology. (Not open to students who have completed Biology 42.)
Prerequisite: Biology 40.1 or 41 or 52.1 or 52.2 , or permission of the chairperson.

### 42.2 Medical Microbiology Laboratory

4 hours laboratory, 1 hour recitation; 3 credits
Diagnostic procedures for microbes from simulated clinical specimens, use of tissue culture as a diagnostic aid, basic procedures in immunology and serology as relating to bacteria, antibiosis and antibiotic resistance in bacteria, and medical mycology. (Not open to students who have completed Biology 42.)
Prerequisite or corequisite: Biology 42.1.

### 43.3 Microbial Ecology

## 3 hours; 3 credits

Ecological relationships of microbial organisms, as represented by bacteria, protozoa, algae, fungi, and viruses. Basic ecological principles as applied to microbes, microbes as components of the ecosystem, and ecology of microbial infections. (Not open to students who have completed Biology 43.1.)
Prerequisite: Biology 2 or 4 , or permission of the chairperson.

## 45 Organismic Biology II, Zoology

2 hours; 2 credits
Key concepts in the structure and development of animals with special reference to those species used as models in contemporary developmental biology. (Not open to students who have completed Biology 21 or 24.1.)

Prerequisite: Biology 17 and 29.

### 45.1 Animal Form and Function Laboratory

4 hours; 2 credits
Dissection and microscopic examination of the structure and development of animals. (Not open to students who have completed Biology 21 or 24.1.)
Prerequisite: Biology 45 and any two of the following: 17, 29, 34, 38, 52, 58.

## 50 Ecology and Evolution

3 hours; 3 credits
Introduction to ideas and models of evolutionary ecology. Emphasis on natural selection and other processes in explaining structures and functions of populations, communities, ecosystems. (Not open to students who have completed Biology 57 or 62.)
Prerequisite: Biology 2 or 4.

## 52 Microbiology

2 hours; 2 credits
Microbiology as a science, structure and function of microbes, microbial interrelationships, microbial metabolism, mechanisms of recombination, and microbes as agents of disease. (Not open to students who have completed Biology 40.1 or 41 .)
Prerequisite: Biology 3 and 4, or 17 and 29.

### 52.1 Microbiology Laboratory for Health Sciences

4 hours; 2 credits
Study of bacteria, molds, and yeasts in relation to human welfare. (Does not count towards the major in biology.) (Not open to students who have completed Biology 40.1 or 41.)
Prerequisite: Biology 3 and 4, and permission of the chairperson of Biology or Health and Nutrition Sciences.
Prerequisite or corequisite: Biology 52.

### 52.2 Microbiology Laboratory

4 hours; 2 credits
Techniques for isolation, cultivation, and characterization of bacteria and the use of microbes as experimental organisms. (Not open to students who have completed Biology 40.1 or 41.)
Prerequisite: Any two of the following: Biology 17, 29, 34, 38, 45, 58.
Prerequisite or corequisite: Biology 52.

### 53.5 Genetics

3 hours; 3 credits
Principles and problems of heredity. (Not open to students who have completed Biology 53.)
Prerequisite: Biology 1 or 4; and Chemistry 2.

### 55.1 Recombinant DNA Technology

2 hours lecture, 1 hour recitation; 3 credits
Introduction to recombinant DNA technology. Application to current biological research. Basic biological understanding that supports recombinant DNA laboratory technology.
Prerequisite: Biology 17 or 35 and 41 or 52.2 and 53.5 or 58 ; or permission of the chairperson.

### 55.2 Recombinant DNA Laboratory

4 hours laboratory; 2 credits
Central techniques used in recombinant DNA studies. Gene cloning.
Prerequisite or corequisite: Biology 55.1 and permission of the instructor.

## 57 Evolution

3 hours; 3 credits
Modern concepts of the mechanism and results of the evolutionary process. Readings from primary sources.
Prerequisite: Biology 11 or 11.5 or 12 or 21 or 24.1; and Biology 31 or 36 or 41 ; and Biology 35 ; and Biology 53 or 53.5; or permission of the chairperson.

## 58 Genetics

2 hours; 2 credits
Principles and problems of heredity, including gene transmission, mutation, recombination, and function. (Not open to students who have completed Biology 53.5.)
Prerequisite: Biology 17 and 29.

### 62.5 Ecology

2 hours lecture, 4 hours laboratory and supervised fieldwork;
4 credits
Populations of plants and animals, their relationships to environments and each other. Natural communities, their functions and utilizations. Field and laboratory methods in ecology. Five all-day field trips. (Not open to students who have completed Biology 62.)
Prerequisite: Biology 38 or 50 .

## 73.1, 73.2 Research I and II

Minimum of 9 hours conference and independent work§;
3 credits each term
Independent research in an approved area supervised by a faculty member. (Not open to students who are enrolled in Biology 83.1-83.4.)
Prerequisite of 73.1: one of the following: Biology 11, 11.5, 12, 21, 24.1, 31, 35, 41, 50, 53, 53.5; or any one of the following: Biology 17.1, 29.1, 45.1, 52.2; and permission of the sponsoring faculty member and department chairperson.
Prerequisite of 73.2: Biology 73.1 and permission of the sponsoring faculty member and department chairperson.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for courses described below. Students may not register for more than six credits in honors courses in the department in one term.

## 83.1, 83.2, 83.3, 83.4 Independent Research I, II, III, IV

Minimum of 9 hours conference and independent work§;
3 credits each term
Independent research supervised by a faculty member. Weekly conference. Thesis or report.
Prerequisite of 83.1: Biology 4; completion of at least two advanced Biology Department electives with a grade of A or B in each; or any two of the following: Biology 17.1, 29.1, 45.1, 52.2 with a grade of A or B in each; and permission of the instructor and the chairperson.
Prerequisite of 83.2: Biology 83.1 and permission of the instructor and the chairperson.
Prerequisite of 83.3: Biology 83.2 and permission of the instructor and the chairperson.
Prerequisite of 83.4: Biology 83.3 and permission of the instructor and the chairperson.

### 85.1 Colloquium

Minimum of 9 hours recitation, conference, and independent work§; 3 credits each term
Intensive reading in and group discussion of a special field. Students should consult department bulletin boards for current offerings. A term report or examination may be required.
Prerequisite: completion of an approved program of advanced Biology Department courses and permission of the chairperson.

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

5 The Biology of Aging
6 Philosophy of Biology
7 Ecological Principles and Environmental Problems
8 Human Embryology
9 Laws and Theories in Biology
10 Mini-Course in Special Topics in Biotechnology
14 Plants and Man
24.2 Advanced Vertebrate Anatomy and Phylogeny

37 Metabolism
44 Experimental Protozoology
52 History of Biology
54 Experimental Genetics

## Caribbean Studies Program

An interdisciplinary dual major
Program office: 3107 James Hall
Telephone: 951-5350, 951-5597
Director: Bert J. Thomas
Faculty: from the Departments of Africana Studies, History, Modern Languages and Literatures, Political Science, and Puerto Rican and Latino Studies.
B.A. degree program for Caribbean studies dual major HEGIS code 0308

Program requirements (18 credits plus a major in any department of the college)
Students must also complete parts 1 through 4.
1.Caribbean Studies 1.1.
2. Nine credits from the courses listed below, plus any prerequisite of the courses. The courses must be in three different participating departments.
Africana Studies 0.5 or 17
Africana Studies 17.4/Political Science 49.8
Africana Studies 17.5
Africana Studies 29/Comparative Literature 38.3/ Puerto Rican and Latino Studies 38
Africana Studies 37.2
Africana Studies 44.5
History 51.5
History 51.6
Political Science 49.6/Puerto Rican and Latino Studies 56
Puerto Rican and Latino Studies 18
Puerto Rican and Latino Studies 35 or Spanish 48, Spanish 49
3. Six additional credits in Caribbean studies chosen either from the courses listed above or approved by the program director. Students may use credits in relevant special topics courses and/or seminars toward satisfying this requirement. Such courses are offered by the Departments of Africana Studies, History, Political Science, and Puerto Rican and Latino Studies. Some seminars offer opportunities for field study in Caribbean countries. However, students must complete 12 credits in Caribbean studies before enrolling in a seminar.
4.A major in any of the departments of the college. Courses taken to satisfy requirements in the primary major may not be used to satisfy dual major requirements in the Caribbean Studies Program.

Requirements for a minor in Caribbean studies
A program of twelve credits of advanced electives in Caribbean studies, as defined above in part 1 of the description of the Caribbean Studies Program, including one seminar, each course completed with a grade of $C$ or higher.

## Course

### 1.1 Major Themes in Caribbean Studies

3 hours; 3 credits
Major factors that have shaped the Caribbean: discovery, slavery, colonialism, imperialism, "foreign" ideologies, and neo-colonialism. Comparative description of plantation societies in the Caribbean.

## Chemistry

Department office: 359 Ingersoll Hall Extension
Telephone: 951-5458, 951-5459
Chairperson: Dominick A. Labianca
Deputy Chairperson, CLAS: David E. Goldberg
Deputy Chairperson, Division of Graduate Studies: Darryl G. Howery
Professors: Cohen, Davenport, Goldberg, Haberfield, Howell, Howery, Labianca, Levine, Moriber, Pizer, Zieger;
Assistant Professors: Ciszkowska, Greer, Huang, Magliozzo.

## Core curriculum

The Department of Chemistry participates in the college's core curriculum through Core Studies 7.1.

## Courses for reentering students

A student who completed courses in chemistry at Brooklyn College that are no longer offered and who wants to take additional courses in chemistry, must consult a department counselor to determine which courses in the present numbering system are equivalent to those for which credit has already been given. Without clearance, credit may be denied.

## Choosing a first course in chemistry

Chemistry 1 and 1.1 are intended for students planning a career in any of the following: the physical, chemical, or biological sciences; engineering; geology; medicine; dentistry; pharmacy; or physical therapy. Students who have taken one year of high school chemistry and who have taken or are enrolled in Mathematics 2.9 or its equivalent should take Chemistry 1 . Students who are not prepared for Chemistry 1 but who have completed intermediate high school algebra or its equivalent should take Chemistry 1.1. Chemistry 5 is intended for students who plan a career in such health-related fields as occupational therapy, nursing, or nutrition. Students in health and nutrition sciences should consult with their department counselor before choosing a chemistry course.

## American Chemical Society Certification

The American Chemical Society recommends a program of study for students planning a career in chemistry. Chemistry majors who complete the curriculum described for the B.S degree in chemistry and who have taken selected courses, including instrumental analysis (Chemistry 42) and inorganic chemistry (Chemistry 76.1), may receive American Chemical Society certification. Students who will graduate in 2005 or after must also have taken biochemistry (Chemistry 57 or 57.1 ) in order to receive certification. Certified graduates are eligible to become members of the society; other chemistry graduates may become associate members of the society and members after three years of professional experience in chemistry. Interested students should consult the department counselor.

## B.S. degree program in chemistry HEGIS code 1905

This program is intended for students planning a professional career in chemistry or biochemistry.
Department requirements (67-7011/42 credits)
Chemistry 1 or both Chemistry 1.1 and 1.2.
All of the following: Chemistry 2, 41, 51, 52, 61, 62.
At least nine credits chosen from the following: Chemistry $42,53,55,57,58,58.1,64,72,76.1$, either 78 or 79; Biology 17 and 17.1.
One of the following physics sequences a) or b) or c):
a) Physics 1 and 2 .
b) Physics 1.5 and 2.5.
c) Physics 1.5 and 2 .

Computer and Information Science 1.10, 1.20, or 1.5.
One of the following mathematics sequences a) or b):
a)Mathematics 3.3 and 4.3 and 5.3.
b)Mathematics 3.20 and 4.20 and 4.31 and 5.3.

A college-wide minimum of 24 credits in advanced courses in one department must be completed at
Brooklyn College with a grade of C - or higher in each course.

## Department recommendations

Physics 1.5 and 2.5.
Chemistry 62 should be completed by the end of the junior year.
One of the following languages through level 3: French,
German, Russian.

## Additional requirements for a B.S. degree

Candidates for a B.S. degree with a major in chemistry must complete at least 60 credits in science and mathematics; 24 of these 60 credits must be completed in advanced courses in the Chemistry Department. These 24 credits must be completed at Brooklyn College with a grade of C- or higher in each course.
Specific course requirements for a B.S. degree are described above.
The following courses may be applied toward the 60 credits in science and mathematics:
A)All courses in the departments of biology, chemistry, computer and information science, geology, mathematics, physics, and psychology.
B)Courses marked with a $(\cdot)$ symbol in the Department of Health and Nutrition Sciences.
C)Anthropology and Archaeology 2.4, 16, 24.1, 26.1, 26.2,

36, 85.3 .
Core Studies 5, 7.2, 8.1, 8.2.
Economics 30.2, 30.3, 31.1, 31.2.
Philosophy 13, 33, 42.
Sociology 77.1.
B.A degree program in chemistry

HEGIS code 1905
This program is intended for premedical and predental students, for students preparing for teaching in secondary school, and for others for whom a broad background in chemistry is desirable.

Department requirements (49-531 $1 / 42$ credits)
Chemistry 1 or both Chemistry 1.1 and 1.2.
All of the following: Chemistry 2, 41,51, 52, 60.1 or 61.
At least five credits chosen from the following: Chemistry $42,53,55,57,58,58.1,62,64,72,76.1$, either 78 or 79; Biology 17 and 17.1.
One of the following physics sequences a) or b) or c):
a) Physics 1 and 2 .
b) Physics 1.5 and 2.5 .
c) Physics 1.5 and 2.

The following mathematics sequence: Mathematics 3.3 and 4.3.

## Department recommendation

Chemistry 60.1 or 61 should be completed by the end of the junior year.
B.A. degree program for chemistry teacher (7-12) HEGIS code 1905-01
The student-teaching sequence of courses in secondary school science education is described in the "Education" section of this Bulletin.

## Requirements for a minor in chemistry

A program of 12 credits of advanced electives in chemistry, each completed with a grade of C - or higher. Each course must be completed at Brooklyn College and must have 3 or more credits.

## Requirements for a minor in biochemistry

Biology 17; Chemistry 1, or both 1.1 and 1.2; Chemistry 2; Chemistry 41 or Biology 17.1; Chemistry 51, 52 , 57; Chemistry 58 or 58.1.

## Division of Graduate Studies

The Chemistry Department offers master of arts degree programs in chemistry, and chemistry teacher (grades 7 through 12). Some courses may be creditable toward the CUNY doctoral degree. For information, students should consult the department's deputy chairperson for graduate studies. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 18 credits in advanced courses for majors in this department for the B.A. degree or 24 credits for the B.S. degree. §Independent work means not less than three additional hours each week per credit of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## *0.5 Chemistry and Society

3 hours lecture; 3 credits
Role of chemistry in contemporary life. Topics may include consumer products, foods, drugs, energy sources, and environmental problems. Recommended for nonscience majors.
Prerequisite: Core Studies 7.1.

## *1 General Chemistry I

1 hour recitation, 3 hours lecture, 3 hours laboratory; 5 credits
Principles of chemistry. Emphasis on the facts, theories, and laboratory techniques needed for further courses in the sciences. Intended for students planning a career in any of the following: the physical, chemical, or biological sciences; engineering; geology; medicine; dentistry; pharmacy; physical therapy. (Not open to students who are enrolled in or have completed Chemistry 1.1.)
Prerequisite: a passing grade in high school chemistry.
Prerequisite or corequisite: Mathematics 2.9 or 2.92; or assignment by the Department of Mathematics to Mathematics 3.3.

## *1.1 General Chemistry IA

3 hours lecture; 2 credits
Introduction to the principles of chemistry with more introductory material than is covered in Chemistry 1. Chemistry 1.1 and 1.2 constitute a two-term sequence intended for students who are not prepared for Chemistry 1. (Not open to students who are enrolled in or who have completed Chemistry 1.)
Prerequisite: a passing grade in intermediate high school algebra or a grade of C - or higher in Mathematics 0.47 .

## *1.2 General Chemistry IB

3 hours lecture, 3 hours laboratory; 31/2 credits
Continuation of Chemistry 1.1. (Not open to students who are enrolled in or who have completed Chemistry 1.)

Prerequisite: Chemistry 1.1.

## *2 General Chemistry II

1 hour recitation, 3 hours lecture, 3 hours laboratory; 5 credits
Continuation of Chemistry 1.
Prerequisite: Chemistry 1 or 1.2.

## *5 General Chemistry for Health-related Professions

1 hour recitation, 3 hours lecture, 3 hours laboratory; 5 credits
Principles of chemistry with applications to biological systems and processes. Intended for students in nursing or other health-related fields. (Not open to students who have completed Chemistry 1 or 1.2 or the equivalent.)
Prerequisite: one year of high school algebra or Mathematics 0.22 .

## 41 Analytical Chemistry

3 hours lecture, 4 hours laboratory; 5 credits
Theory and practice of classical and modern analytical chemistry. Laboratory emphasizes quantitative methods.
Prerequisite: Chemistry 2.

## 42 Instrumental Analysis

2 hours lecture, 6 hours laboratory; 5 credits
Principles and applications of modern instrumentation in analytical chemistry including basic electronics, electroanalytical methods, chromatography, and spectroscopic methods.
Prerequisite: Chemistry 41; and Physics 2 or 2.5.

## *50 Organic Chemistry for Health-related Professions

1 hour recitation, 3 hours lecture, 3 hours laboratory; 5 credits
Survey of fundamental classes of organic compounds, and principles of organic chemistry as applied to aliphatic, aromatic, and biologically important compounds. Emphasis on structure, properties, and preparative methods. Intended for students in nursing or other health-related fields. Not intended for chemistry majors. (Not open to students who are enrolled in or have completed Chemistry 51.) Prerequisite: Chemistry 1 or 1.2 or 5 .

## 51 Organic Chemistry I

1 hour recitation, 2 hours lecture, 4 hours laboratory; 5 credits
Structure and properties of fundamental classes of organic compounds. Emphasis on reactivity, reaction mechanisms, synthesis, stereochemistry, and applications to allied fields. Chemistry 51 and 52 are required for admission to medical and dental schools. (Students who have taken Chemistry 50 will lose credit for Chemistry 50 upon successful completion of this course.)
Prerequisite: Chemistry 2.

## 52 Organic Chemistry II

1 hour recitation, 2 hours lecture, 4 hours laboratory; 5 credits
Continuation of Chemistry 51.
Prerequisite: Chemistry 51.

## 53 Advanced Organic Laboratory Techniques

2 hours lecture, 6 hours laboratory; 5 credits
Elucidation of the structures of organic compounds by spectrometric methods. Separation, purification, and identification of the components of mixtures. Synthesis of compounds utilizing modern methods.
Prerequisite: Chemistry 41 and 52.

## 55 Advanced Organic Chemistry

3 hours lecture; 3 credits
Intensive study of organic reaction mechanisms including topics of current interest.
Prerequisite: Chemistry 52.

## 57 Biochemistry I

3 hours lecture, 4 hours laboratory; 5 credits
Properties and reactions of compounds of biological importance. Oxygen-transport proteins. Enzyme kinetics and mechanisms. Basic immunology. Biological membranes. DNA replication, mutation, and repair. Transcription and the Genetic Code. Protein biosynthesis. Laboratory work emphasizes basic biochemical skills. (Not open to students who are enrolled in or have completed Chemistry 57.1.)
Prerequisite: Chemistry 41 or Biology 17.1; and Chemistry 52.

### 57.1 Biochemistry I Lectures

3 hours; 3 credits
This course is the same as Chemistry 57, but without laboratory work. (Not open to students who are enrolled in or have completed Chemistry 57.)
Prerequisite: Chemistry 52.

## 58 Biochemistry II

3 hours lecture, 4 hours laboratory; 5 credits
Common metabolic pathways. Reaction mechanisms and regulation of principal biochemical pathways. Biochemistry of metabolic disorders with clinical implications; viruses and oncogenes. Laboratory work involves an independent research project. (Not open to students who are enrolled in or who have completed Chemistry 58.1.)
Prerequisite: Chemistry 57.

### 58.1 Biochemistry II Lectures

3 hours; 3 credits
This course is the same as Chemistry 58, but without laboratory work. (Not open to students who are enrolled in or have completed Chemistry 58.)
Prerequisite: Chemistry 57 or 57.1.

### 60.1 Physical Chemistry for the Health Professions

3 hours lecture; 3 credits
Physical chemistry with applications to biochemical processes. Topics include thermodynamics, chemical and physical equilibria, transport phenomena, kinetics, and quantum chemistry. Not recommended for students who intend to take graduate courses in chemistry or biochemistry. Students who complete Chemistry 60.1 may take Chemistry 61, but must forfeit three credits of Chemistry 60.1. (Not open to students who are enrolled in or have completed Chemistry 61.)
Prerequisite: Chemistry 2; and Mathematics 4.3.
Prerequisite or corequisite: Physics 2 or 2.5.

## 61 Physical Chemistry I

3 hours lecture, 4 hours laboratory; 5 credits
Thermodynamics, including nonelectrolyte and electrolyte solutions, reaction equilibria, and phase equilibria. Laboratory emphasizes physicochemical measurements. Students who complete Chemistry 60.1 may take Chemistry 61, but must forfeit three credits earned for Chemistry 60.1.
Prerequisite: Chemistry 41; and Mathematics 5.3; and
Physics 2 or 2.5.

## 62 Physical Chemistry II

3 hours lecture, 4 hours laboratory; 5 credits
Continuation of Chemistry 61. Chemical kinetics; transport properties; quantum mechanics; atomic and molecular structure; spectroscopy; statistical mechanics. Laboratory emphasizes synthesis and physical characterization of inorganic compounds.
Prerequisite: Chemistry 61.

## 64 Quantum Chemistry

3 hours lecture; 3 credits
Application of quantum mechanics to molecular electronic structure, including the Schrödinger equation, operators, angular momentum, variation and perturbation methods, electron spin, Pauli principle, manyelectron atoms, application of molecular-orbital and valence-bond theories to diatomic and polyatomic molecules.
Prerequisite or corequisite: Chemistry 62.

## 68 Glassblowing for Scientific Research

3 hours laboratory; 1 credit
Design of glass apparatus, training in rudimentary glass- blowing operations: straight seals, graduated seals, T -joints, traps, condensors, and techniques of grinding and annealing.
Prerequisite: Chemistry 61.

## 70 Introduction to Research

1 hour lecture, plus independent work§; 1 credit
Introduction to the chemical literature. Lectures and independent study assignments. Library resources and tools including computer-assisted literature searches. Maintenance of research records and report writing. Common laboratory techniques and safety procedures. (Recommended for students who plan to take a research course.)
Prerequisite: Chemistry 52.

## 72 Mathematical Methods of Chemistry

3 hours lecture; 3 credits
Selected topics such as determinants, matrix algebra, molecular symmetry, group theory, computer programming (FORTRAN), numerical analysis, and probability.
Prerequisite: Chemistry 2; and Mathematics 5.3 or 5.20 .

## 73.1, 73.2, 73.3 Research I, II, III

Minimum of 6 hours conference and independent work§; 2 credits each
Planning and carrying out a research problem under supervision of a faculty member. Weekly conference. Written and oral reports. Students may not receive credit for more than three terms of undergraduate research in the Chemistry 73 and 83 sequences.
Prerequisite of 73.1: Chemistry 41 and 52 and permission of the instructor and the chairperson.
Prerequisite of 73.2: Chemistry 73.1 and permission of the instructor and the chairperson.
Prerequisite of 73.3: Chemistry 73.2 and permission of the instructor and the chairperson.

### 76.1 Inorganic Chemistry

3 hours lecture; 3 credits
Atomic and molecular structure. Chemical bonding. Solids. Proton transfer and electron transfer reactions. Chemistry of the transition elements.
Prerequisite: Chemistry 62.

## 78 Environmental Chemistry

3 hours lecture; 3 credits
Principles of chemistry applied to problems of the environment. Sources, reactions, effects of chemical species on the environment. General and specific problems of analysis, interpretation of results, and pollution control. Methods and impact of energy production.
Prerequisite: Chemistry 41 and 52.

## 79 History of Chemistry

3 hours lecture; 3 credits
Topics may include: atomic models of the composition and spatial structure of matter from Plato to G.N. Lewis. Nonatomic models of material composition and change from Aristotle to Lavoisier. Beginning of modern experimental science: Francis Bacon, the Royal Society. Chemistry in the nineteenth and twentieth centuries: the major ideas, people, and institutions.
Prerequisite: Core Studies 10; or permission of the chairperson.
Prerequisite or corequisite: Chemistry 50 or 51.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for courses described below. Students may not register for more than six credits in honors courses in the department in one term.
83.1, 83.2, 83.3 Independent Research I, II, III

Minimum of 9 hours conference and independent work§; 3 credits each
Independent research supervised by a faculty member. Weekly conference. Written and oral report.
Students may not receive credit for more than three terms of undergraduate research in the Chemistry 73 and 83 sequences.
Prerequisite of 83.1 : Chemistry 41, 52, an index of 3.30 or higher in chemistry, and permission of the instructor and the chairperson.
Prerequisite of 83.2: Chemistry 83.1, an index of 3.30 or higher in chemistry, and permission of the instructor and the chairperson.
Prerequisite of 83.3 : Chemistry 83.2 , an index of 3.30 or higher in chemistry, and permission of the instructor and the chairperson.

## 84.1, 84.2, 84.3 Seminar I, II, III

Minimum of 3 hours conference and independent work§; 1 credit each
Presentation and discussion of current topics.
Prerequisite: completion of an approved program of advanced courses and permission of the chairperson.

## 85.1, 85.2 Colloquium I, II

Minimum of 9 hours recitation, conference, and independent work§; 3 credits
Intensive reading and group discussion of a special field. A term report or examination may be required. Students should consult the department bulletin board for current offerings. Colloquium topics may include: statistical mechanics, polymer chemistry, interfacial phenomena, neurochemistry, physical biochemistry, spectroscopy, separation methods, solid-state, modern electrochemical methods. Students and faculty may suggest colloquium topics to the chairperson.
Prerequisite: completion of an approved program of advanced courses and permission of the chairperson.

## Classics

Department office: 2408 Boylan Hall
Telephone: 951-5191, 951-5192
Chairperson: J. Roger Dunkle
Deputy Chairperson: Donna Wilson
Professors: Clayman, Dunkle, Hansen, Harris, Van Sickle;
Associate Professors: Smith, Williams;
Assistant Professors: Barnes, Wilson.
The Classics Department offers a major and minor in classics.

## Core curriculum

The Department of Classics participates in the college's core curriculum through Core Studies 1.

## Placement in classical language courses

Students may continue study of Latin or Greek begun in high school or may begin study of Latin or Greek at Brooklyn College.

## Students who want to continue study of Latin or Greek begun in high school should consult the chairperson.

Students who take a Latin course at a level below the level reached in high school receive no credit for that course unless they are assigned to it by the department. Assignment is made on the basis of a proficiency examination or an interview with the chairperson or designee. However, no credit is given for Latin 1.1 taken by a student who studied Latin in high school, even if the student is assigned to the course by the department.

## Students who want to begin classical language study at Brooklyn College should follow these guidelines for registration.

a)Basic courses in classical Greek can be taken in two different tracks:
i. Greek 1, 2, 12, and 14.
ii. Greek 1.9.

In track i, each course is the prerequisite of the next. Greek 14 or 1.9 is a prerequisite of all advanced Greek courses. Some advanced courses have additional prerequisites.
b) Basic courses in Latin can be taken in four different tracks:
i.Regular track: Latin 1, 2, 11, and 12.
ii.Special skills acquisition track: Latin 1.1, 1.2, 2.1, 2.2, 11, and 12.
iii.Accelerated track: Latin 1.5, 11, and 12.
iv. Intensive track: Latin 1.9.

In tracks i , ii, and iii, each course is the prerequisite of the next. Latin 12 or 1.9 is a prerequisite of all advanced Latin courses. Completion of any track qualifies a student for all advanced work in Latin. For specific information on course content and prerequisites, students should see individual course listings. Students should consult a counselor in the Classics Department about questions concerning course placement, appropriate track, and registration.

## B.A. degree program in classics HEGIS code 1504

Department requirements (30-39 credits)
Classics 16 and 18.
Six courses chosen from the following: Greek 14 or 1.9, Latin 12 or 1.9, or any Classics, Greek, or Latin course numbered 13 or higher. (Greek 36 and Latin 36 each count as two courses for the fulfillment of this requirement.)
Two of the following: Art 12.60, 12.70, Comparative

Literature 42.1, English 50.2, 50.5, 50.7, History 21.4, 21.5, Philosophy 11.1.
Students wishing to earn departmental honors should register for Classics 85 or Greek 85 or Latin 85. Students considering a major or minor in classics should speak with a department counselor to help design an individual course of study.
The classics major is intended for students interested in a career in law, medicine, publishing, communications, the arts, or education, along with those who plan to pursue graduate study in classics. Classics majors can complete their course work in English translation but are encouraged to fulfill the college language requirement in Greek or Latin.
The study of Greek and Latin is necessary for graduate study in classics. Students planning an academic career in classics should do advanced work in one of these languages and at least two semesters in the other. The study of French or German is also recommended.

Concentrations in classics and in Latin for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher ( $\mathrm{K}-6$ ); special education teacher.
The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs may elect a concentration in classics or in Latin.

## Concentration in classics:

Six of the following courses completed with a grade of C or higher: Classics 14, 15, 16, 17, 18, 31, 32, 33, 35.

Concentration in Latin:
All of the following completed with a grade of $C$ or higher: Latin 11, 15; and two of the following courses: Latin 31, 32, 33, 34.

## Requirements for a minor in classics

Twelve credits in classics, Greek, or Latin courses numbered 11 and higher. All courses must be completed with a grade of C or higher.

## Summer programs

Three special programs are offered by the department each summer. They are Greek 1.9 Greek Institute, Latin 1.9 Latin Institute, and Classics 29 Summer Archaeological Field School. Students should consult the chairperson for details.

## Courses

*Courses marked (*) are not counted toward the major or minor.
§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## Classics

Knowledge of Latin or Greek is not required for classics courses. Works are read in English translation.

## *0.1 Special Topics

1 hour; 1 credit
Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take this course for credit twice, but may not repeat topics.

## *0.11 Vocabulary Building: The Greek and Latin Element in English

## 3 hours; 3 credits

Intensive study of word derivation through systematic analysis of Latin and Greek elements in English. Some attention to technical and scientific vocabulary. (Not open to students who are enrolled in or have completed either Latin 15 or 16.)

## *0.12 Medical and Scientific Terminology

3 hours; 3 credits
Introduction to medical and scientific terminology through a study of Greek and Latin word roots. (Not open to students who have completed Classics 3.1.)

## 13 Social Themes: Ancient and Modern

3 hours; 3 credits
Analysis of representative ancient Greek texts (epic, history, philosophy, tragedy, comedy) to investigate four significant social themes: the family, cultural diversity, love, and the role of women. Analysis of texts organized on the collaborative model with small working groups along with traditional lecture and classroom discussion.
Prerequisite: Core Studies 1 or permission of the chairperson.

## 14 Gender and Sexuality in Ancient Greece and Rome

3 hours; 3 credits
An exploration into the ways in which individual sexual experience was categorized and evaluated by society in the ancient world, with special attention to questions of gender role, sexual orientation, and the intersection of the personal and the political. Evidence from such literary and nonliterary sources as lyric poetry, epigram, drama, oratory, history, philosophy, epigraphy, and the visual arts.
Prerequisite: Core Studies 1.

## 15 Greek and Roman Mythology

3 hours; 3 credits
Classical myths and modern theories of mythology. Readings in English translation from the ancient sources. (Not open to students who have completed Classics 6.) This course is the same as Studies in Religion 16.
Prerequisite: Core Studies 1.

## 16 Rome: City of Empire

3 hours; 3 credits
The rise of Rome as the capital of an empire. Urban environment: housing, public buildings, monuments. Portrayals in literature of the Roman empire. Varied population of Rome: distinctions among social classes; role of women; ethnic minorities (e.g., Greeks, Jews, Christians). Later transformation of city and empire. (Not open to students who have completed Classics 12.)
Prerequisite: Core Studies 1.

## 17 Delphi and Apollo: The Oracle and the Site

3 hours; 3 credits
The religious, historical, and social significance of Apollo's shrine at Delphi. Literary and archaeological evidence. Athletic festivals held on the site.
Prerequisite: Core Studies 1.

## 18 Democracy and Imperialism: Athens in the <br> Fifth Century BC <br> 3 hours; 3 credits <br> The development of Athenian ideas about democracy and empire in the fifth century through a study of the literature of the period. <br> Prerequisite: Core Studies 1 or permission of the chairperson.

## 22 Greek Athletics

3 hours; 3 credits
An investigation of ancient Greek athletics as a cultural phenomenon with special attention to the nature of the various athletic events and the social context in which these competitions took place. Analysis of representative ancient Greek (and some Roman) texts (epic, history, philosophy, tragedy, comedy, medical writings, epigraphy) and relevant iconographical evidence. Comparison with modern athletics. (Not open to students who have completed Classics 9.)
Prerequisite: Core Studies 1 or permission of the chairperson.

## 25 The Material Remains of Ancient Greece

3 hours; 3 credits
Physical remains of ancient Greek civilization. Classical architecture and artifacts. Survey of Greek archaelogy. History of the Greek alphabet and readings in translation from ancient inscriptions and other primary documents. (Not open to students who have completed Classics 62.)
Prerequisite: Core Studies 1.

## 26 Introduction to Archaeology

3 hours; 3 credits
Survey of major techniques and methods of archaeology. Reconstruction of social and subsistence patterns from material remains. Methods and procedures in excavation, classification, and evaluation of finds. This course is the same as Anthropology 2.2. (Not open to students who are enrolled in or have completed Classics 2.2 or 19 or Anthropology 2.2.)
Prerequisite: Core Studies 1.

## 27 Interdisciplinary Approaches to Archaeology

3 hours; 3 credits
Historical and current trends in archaeology; methodology and techniques of anthropology, classics, art history, and the physical sciences relevant to archaeological studies. This course is the same as Anthropology 21. (Not open to students who have completed Classics 21 or Anthropology 21.) Prerequisite: one of the following: Classics 2.2, 26, 62.5, Anthropology 2.2, 20, or permission of the chairperson.

## 28 Science and Technology in Classical Antiquity

## 3 hours; 3 credits

Science and technological progress of classical antiquity. Place of science and technology in ancient society. (Not open to students who have completed Classics 51.)
Prerequisite: Core Studies 1.

## 29 Summer Archaeological Field School

(Intensive Program)
3 hours lecture, 6 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. This course is the same as Anthropology and Archaeology 70.1. (Not open to students who have previously received credit for archaeological fieldwork.)
Prerequisite: permission of the chairperson and one of the following: Classics 26, Anthropology 2.2, Core Studies 1, 2.1, 9, Judaic Studies 12, a course in archaeological theory and methodology.

## 30 Environmental Ideologies and Their Classical Roots

3 hours; 3 credits
Basic ideas about human nature and human activity that are rooted in the ancient Mediterranean ecosystem (Egypt, Greece, Italy) and still shape attitudes towards the environment, with special attention to such ideas as "nature, chaos, wildness, scarcity" and their contraries "culture, cosmos, tameness, fullness." Evidence from epic, historical, philosophical, and scientific writers.
Prerequisite: Core Studies 1 or permission of the chairperson.

## 31 Reading Tragedy

3 hours; 3 credits
Development of Greek tragedy. Different perspectives of Aeschylus, Sophocles, Euripides. Criticism of tragedy by Aristophanes, Plato, Aristotle. Roman drama of Seneca. Reading in the works of modern critics.
(Not open to students who have completed Classics 43.)
Prerequisite: Core Studies 1 or permission of the chairperson.

## 32 Homer and Heroism: Epic Dimensions

3 hours; 3 credits
The entire lliad and Odyssey in translation. Heroic ideologies. Narrative and thematic structure. Oral vs. written communication. (Not open to students who have completed Classics 41.)
Prerequisite: Core Studies 1 or permission of the chairperson.

## 33 Classical Reflections in Literature and the Arts

3 hours; 3 credits
Analysis of Greco-Roman ideas and motifs in literature and
the arts through comparisons of ancient sources and post- classical adaptations. There will be three supervised field trips to performances of plays, operas, or dance, and to museums in the New York area, for which there may be modest fees. This course is the same as Comparative Literature 47.
Prerequisite: Core Studies 1 or permission of the chairperson.

## 34 Roman Law

3 hours; 3 credits
Roman law from the law of the Twelve Tables to the Institutes of Justinian. Topics include sources and development of the law; criminal law; family law; property; contracts; delicts; succession; comparison of Roman law and common law; Latin legal terminology for the modern lawyer. (Not open to students who have completed Classics 52.)
Prerequisite: Core Studies 1 or permission of the chairperson.

## 35 Moral Choices in Classical Literature

3 hours; 3 credits
Moral problems as they were understood by the ancient Greeks and Romans. Topics include friendship, personal ambition, and social responsibility.
Prerequisite: Core Studies 1 or permission of the chairperson.

## 37 Pagans, Christians, and Jews

## 3 hours; 3 credits

Religious conflict in the Roman Empire. The relation of Judaism and Christianity to their pagan environment.
Prerequisite: Core Studies 1 or permission of the chairperson.

## 38 Special Topics

3 hours; 3 credits each term
Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take Classics 38 for credit twice but may not repeat topics. (Students may not receive more than a total of six credits in any combination of Classics 38, 58, and 59.)
Prerequisite: Core Studies 1 or permission of the chairperson.

## 39 The Comic Tradition in Greece and Rome

3 hours; 3 credits
The development of the comic tradition in Greece and Rome. Invective, the Old Comedy of Aristophanes, the New Comedy of Menander, Roman adaptations of Greek New Comedy by Plautus and Terence, satire, the novel, and the arts.
Prerequisite: Core Studies 1 or permission of the chairperson.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for courses described below. Students may not register for more than six credits in honors courses in the department in one term.

## 84 Seminar

Minimum of 9 hours conference and independent work§;
3 credits
Study of an area of classical civilization. Independent research. Course description may be obtained in the department office before registration. Essay or examination.
Prerequisite: six hours of Classics Department courses numbered 31 or above.

### 84.7 Interdepartmental Humanities Seminar

3 hours; 3 credits
A significant recurrent theme in Western literature and philosophy. Course description may be obtained in the department office before registration. Reports and term paper. Offered jointly by the Departments of Classics, English, Philosophy. This course is the same as Comparative Literature 84.7, English 84.7, Philosophy 84.7.
Prerequisite: a grade of $B$ or higher in six credits in advanced courses in the major field and permission of the instructors and the chairperson.

## 85 Senior Research Essay

3 hours; 3 credits
Bibliographical resources for research using classical texts. Directed research and paper. (Not open to students who are enrolled in or have completed Greek 85 or Latin 85.)
Prerequisite: six credits of Classics courses numbered 31
or above.

## Greek (classical)

*1 Elementary Greek 1
4 hours; 4 credits
Study of the fundamentals of the language in preparation for reading literary works and for linguistic studies. (Not open to students who are enrolled in or have completed Greek 0.5 or 1.9 or 5.2.)

### 1.9 Greek Institute

20 hours; 12 credits
Rapid, intensive introduction to the forms and syntax of Greek and to major authors and literary genres read in the original. History of Greek literature and methods of literary criticism. In the literature section, students study selections from the archaic through the Hellenistic periods. This program covers the entire sequence through course 14 and satisfies the college language requirement. Eleven-week summer course taught at the Graduate Center. (Not open to students who have completed Greek 5.2.)
Prerequisite: application to and permission of the director of the Latin/Greek Institute.

## *2 Elementary Greek 2

## 4 hours; 4 credits

Continuation of Greek 1. Review of fundamentals. Readings from Greek prose and poetry. (Not open to students who are enrolled in or have completed Greek 0.6 or 0.7 or 1.9 or 5.2.)
Prerequisite: Greek 1 or two years of high school Greek or permission of the chairperson.

## 12 Plato

3 hours; 3 credits
One dialogue and passages from others. (Not open to students who have completed Greek 1.9, 3.1, or 5.2 .) Prerequisite: Greek 2.

## 14 Homer

3 hours; 3 credits
Readings from the Iliad and the Odyssey. (Not open to students who have completed Greek 1.9, 4, or 5.2.)
Prerequisite: Greek 3.1 or 12.

## 31 Greek Drama I: Aeschylus and Sophocles

3 hours; 3 credits
One tragedy of Aeschylus and one of Sophocles. Close analysis of language, meter, and dramatic structure. Survey of modern critical perspectives. (Not open to students who have completed Greek 20.)
Prerequisite: Greek 1.9 or 4 or 5.2 or 14.

## 32 Greek Drama II: Euripides and Aristophanes

3 hours; 3 credits
One tragedy of Euripides and one comedy of Aristophanes. Close analysis of language, meter, and dramatic structure. Survey of modern critical perspectives. (Not open to students who have completed Greek 22.)
Prerequisite: Greek 1.9 or 4 or 5.2 or 14.

## 33 Herodotus and Thucydides: Athenian Politics

3 hours; 3 credits
Athenian democracy and political leadership in the fifth century B.C. Miltiades, Themistocles, and Pericles.
Readings from Herodotus and Thucydides. (Not open to students who have completed Greek 21.)
Prerequisite: Greek 1.9 or 4 or 5.2 or 14.

## 34 Plato and Aristotle: Political Ideals

3 hours; 3 credits
Selected readings from Plato and Aristotle. Contrasting views of society and political leadership. (Not open to students who have taken Greek 24.)
Prerequisite: Greek 1.9 or 4 or 5.2 or 14.
36 Greek Institute: Intensive Reading
21 hours for 7 weeks; 8 credits
Intensive reading program in Greek. Improvement of reading skills and knowledge of Greek syntax through the close reading of both prose and poetry. Regular prose composition exercises. The following texts will be read: Plato, Republic, Book 1; Thucydides, History of the Peloponnesian War, selections from Books 6 and 7; Lysias 1; Isocrates, Panegyricus, selections; Demosthenes, Third Philippic; Aeschylus, Prometheus Bound; Sophocles, Ajax; the Homeric Hymn to Demeter; and selected Odes of Pindar. Seven-week summer course taught at the CUNY Graduate School and University Center. Special fee for photocopied materials.
Prerequisite: one of the following: Greek 1.9, 31, 32, 33, 34; and permission of the director of the Latin/Greek Institute.

## 37 Prose Composition

3 hours; 3 credits
Writing of Greek prose exercises. Review of Greek forms
and syntax. (Not open to students who have completed Greek 25.5 or 90 .)
Prerequisite: Greek 1.9 or 4 or 5.2 or 14.

## 38 Studies in Greek

3 hours; 3 credits
Studies in a genre, period, or author not covered by the regular course offerings. (Not open to students who have completed Greek 60.)
Prerequisite: Greek 14 or 5.2.

## 39 Readings in Greek

1 hour; 1 credit
Translation of Greek texts to supplement classics courses. The department will announce coordinated classics courses each semester. Students may take this course for credit four times but may not repeat topics.
Prerequisite: Greek 1.9 or 4 or 5.2 or 14 ; and permission of the chairperson.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for the courses described below. Students may not register for more than six credits in honors courses in the department in one term.

## 84 Seminar

Minimum of 9 hours conference and independent work§;
3 credits
Study in an author, period, or genre. Independent research. Course description may be obtained in the department office before registration. Essay or examination.
Prerequisite: six credits of advanced Greek.

## 85 Senior Research Essay

3 hours; 3 credits
Bibliographical resources for research using Greek texts. Directed research and paper. (Not open to students who are enrolled in or have completed Classics 85 or Latin 85.)
Prerequisite: six credits of Greek in courses numbered 31or above.

## Latin

Regular track introductory courses
*1 Elementary Latin I
3 hours; 3 credits
Fundamentals of the language in preparation for reading literary works and for linguistic studies. (Not open to students who are enrolled in or have completed Latin $0.5,1.1,1.5,1.9$, or 5.2.$)$

## *2 Elementary Latin II

3 hours; 3 credits
Continuation of Latin 1. Review of fundamentals. Readings from Latin prose and poetry. (Not open to students who are enrolled in or have completed Latin $0.6,0.7,1.9,1.2,1.5$, or 5.2.)
Prerequisite: Latin 1 or two years of high school Latin or permission of the chairperson.
Special skills-acquisition track introductory courses

## *1.1 Special Elementary Latin I: Part 1

4 hours; 2 credits
Fundamentals of the language especially designed for students with little or no background in languages or in basic language skills. Tutorials and individual workshops are included. Credit is received for Latin 1.1 only on completion of Latin 1.2. (Not open to students who are enrolled in or have completed Latin 0.5, 1, $1.5,1.9$, or 5.2.)

## *1.2 Special Elementary Latin I: Part 2

4 hours; 2 credits
Continuation of Latin 1.1. Review of fundamentals. Emphasis on acquisition of basic language skills.
Tutorials and individual workshops. (Not open to students who are enrolled in or have completed Latin 0.6, $0.7,1.5,1.9$, 2, or 5.2.)
Prerequisite: Latin 1.1.

## *2.1 Special Elementary Latin II: Part 1

## 3 hours; 2 credits

Continuation of Latin 1.2. Review of fundamentals of the language. Individual tutorials and workshops. This course prepares students for Latin 2.2. (Not open to students who are enrolled in or have completed Latin $0.5,0.6,0.7,1.5,1.9,2$, or 5.2.)
Prerequisite: Latin 1.2.

## *2.2 Special Elementary Latin II: Part 2

3 hours; 2 credits
Completion of fundamentals of the language. Elementary and intermediate readings from Latin prose and poetry. Individual tutorials and workshops. This course prepares students for Latin 11. (Not open to students who are enrolled in or have completed any of the following: Latin $0.5,0.6,0.7,1.5,1.9,2$, or 5.2 .) Intensive track course

### 1.9 Latin Institute

20 hours; 12 credits
Rapid, intensive introduction to the forms and syntax of Latin and to major authors and literary genres read in the original. History of Latin literature and methods of literary criticism. In the literature section, students choose to concentrate on either classical or medieval authors. This program covers the entire sequence through course 12 and satisfies the college language requirement. Eleven-week summer course taught at the Graduate Center.(Not open to students who have completed Latin 5.2.)
Prerequisite: application to and permission of the director of the Latin/Greek Institute.

## Intermediate courses

## 11 Intermediate Latin

3 hours; 3 credits
Readings from Latin prose and poetry. (Not open to students who are enrolled in or have completed Latin 1.9, 3.2, 4, 5.2, or 12.)

Prerequisite: One of the following: Latin 0.7, 1.5, 2, 2.2, two years of high school Latin or permission of the chairperson.

## 12 Vergil

3 hours; 3 credits
Readings from the Aeneid. (Not open to students who are enrolled in or have completed Latin 1.9, 3, 4.1, or 5.2.)

Prerequisite: Latin 3.1, 3.2, 11 or three years of high school Latin or permission of the chairperson.

## Advanced courses

## *15 Latin for Children I

2 hours recitation/conference, 2 hours laboratory; 3 credits
Preparation and practice in word analysis, study of basic sentence structure and fundamental principles of Latin grammar. For students interested in teaching on the elementary/intermediate school level. (Not open to students who have enrolled in or have completed Classics 0.11.)
Prerequisite: Latin 1.9, 3.2.5.2, or 11 or permission of the chairperson.

## *16 Latin for Children II

1 hour conference, 2 hours laboratory; 1 credit
Continuation of Latin 15. (Not open to students who are enrolled in or have completed Classics 0.11.)
Prerequisite: Latin 15 or permission of the chairperson.

## 31 Catullus and Cicero: Roman Society in the Late Republic

3 hours; 3 credits
Two contrasting views of life and love among the upper classes at the end of the Roman republic. Love poems of Catullus and Cicero's speech in defense of M. Caelius Rufus. Analysis of authors' styles and rhetorical tradition.
Prerequisite: Latin 1.9 or 4.1 or 5.2 or 12 .

## 32 From Republic to Empire: Makers of Roman Myth

3 hours; 3 credits
Breakdown of Republican Rome. Search for new forms of
order. Philosophical, poetic, and historical models for renewal. Readings from Catullus, Horace, Livy, Virgil,
Propertius, and Augustus.
Prerequisite: Latin 1.9 or 4.1 or 5.2 or 12 .

## 33 The Satiric Spirit

3 hours; 3 credits
Satires and parodies from the works of Lucretius, Horace, Tacitus, Seneca, and Juvenal. (Not open to students who have completed Latin 26.)
Prerequisite: Latin 1.9 or 4.1 or 5.2 or 12 .

## 34 Vulgar and Medieval Latin

3 hours; 3 credits
Morphology and grammar of vulgar and medieval Latin by Petronius, Gregory the Great, Einhard, Abelard, and other authors. Inscriptions. Connections with Romance languages.
Prerequisite: Latin 1.9 or 4.1 or 5.2 or 12.

## 36 Latin Institute: Intensive Reading

21 hours for 7 weeks; 8 credits
Intensive reading program in Latin. Improvement of reading skills and knowledge of Latin syntax through the close reading of both prose and poetry. Regular prose composition exercises. The following texts will be read in their entirety: Cicero's Pro Archia, Somnium Scipionis and selected letters; Tacitus' De Vita Agricolae; the third book of Lucretius' De Rerum Natura; Catullus 64; and Horace's Ars Poetica. Sevenweek summer course taught at the CUNY Graduate School and University Center. Special fee for photocopied materials.
Prerequisite: one of the following: Latin 1.9, 31, 32, 33, 34; and permission of the director of the Latin/Greek Institute.

## 37 Prose Composition

3 hours; 3 credits
Writing of Latin prose exercises. Review of Latin forms and syntax. (Not open to students who have completed Latin 90.)
Prerequisite: Latin 4 or 4.1 or 5.2.

## 38 Studies in Latin

3 hours; 3 credits
Studies in a genre, period, or author not covered by the regular course offerings. (Not open to students who have completed Latin 60.)
Prerequisite: Latin 1.9 or 4 or 4.1 or 5.2 or 12.

## 39 Readings in Latin

1 hour; 1 credit
Translation of Latin texts to supplement classics courses. The department will announce coordinated classics courses each term. This course may be taken for credit four times but students may not repeat topics.
Prerequisite: Latin 1.9 or 4 or 5.2 or 12; and permission of the chairperson.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for the courses described below. Students may not register for more than six credits in honors courses in the department in one term.

## 84 Seminar

Minimum of 9 hours conference and independent work§; 3 credits
Study in an author, period, or genre. Independent research. Course description may be obtained in the department office before registration. Essay or examination.
Prerequisite: six credits of advanced Latin.

## 85 Senior Research Essay

3 hours; 3 credits
Bibliographical resources for research using classical texts. Directed research and paper. (Not open to students who have taken or are enrolled in Greek 85 or Classics 85.)
Prerequisite: six credits of classics courses numbered 31 and above.

The following courses are inactive and will be offered only if there is sufficient demand:
Classics 19.1 Humanism and Its Classical Origins
Latin *1.5Accelerated Elementary Latin I, II

## Computer and Information Science

Department office: 2109 Ingersoll Hall<br>Telephone: 951-5657, 951-5659<br>Chairperson: Aaron M. Tenenbaum<br>Deputy Chairperson, CLAS: Yedidyah Langsam<br>Deputy Chairperson, SGS: Joseph Thurm<br>Deputy Chairperson, Division of Graduate Studies:<br>Keith Harrow (Administrative); Gerald Weiss (Counseling)<br>Professors: Arnow, Augenstein, Harrow, Langsam, McAloon, Parikh, Raphan, Tenenbaum, Zachos, Ziegler; Associate Professors: Cox, Gurwitz, Jones, Kopec, Schnabolk, Thurm, Weiss, Whitlock, Zhou;<br>Assistant Professors: Clark, Dexter, Scarlatos, Yanofsky.

## Core curriculum

The Department of Computer and Information Science participates in the college's core curriculum through Core Studies 5.

## Grades in prerequisite courses

All prerequisite courses in computer and information science must be completed with a grade of C or higher.

## B.S. degree program in computer and information science <br> HEGIS code 0701

Department requirements (42-5111/42 credits)
A student excused, without credit, from a course may not take the course for credit later, except with permission of the chairperson.
Computer and Information Science 1.10 or 1.20 or 1.5 or 2.80 .
All of the following: Computer and Information Science 4.1, 11, 15 or 16, 22, 25, 60.1 or 88.1 .
One of the following options, a) or b):
a)Software Option: Computer and Information Science 2.10 or 2.20 or 2.30 or 2.40 or 2.50 or 2.70 or 2.85 ;

27 or 28; 23 or 38 .
Two additional courses chosen from among: Computer and Information Science 13.2, 23, 24, 29, 32, 38, $40,41,42,43,44,45,46,46.5,48,49,51,52,53,55,70.1$.
b)Computer Engineering Option: Physics 2.3; Computer and Information Science 28 and 42.

Two additional courses chosen from among: Computer and Information Science 23, 38, 40, 46, 46.5, 49. Mathematics 3.3 and 4.3, or 3.20 and 4.20 and 4.31.
Mathematics 8.1 or 51.1.
Transfer students who receive credit for Mathematics 3.20 and 4.20 are required to take Mathematics 4.31 and 8.1 to satisfy the mathematics requirement for the B.S. degree in computer and information science.


#### Abstract

Additional requirements for a B.S. degree Candidates for a B.S. degree with a major in computer and information science (including computational mathematics) must complete at least 60 credits in science and mathematics; 24 of these 60 credits must be completed in advanced courses in the major department or departments. These 24 credits must be completed at Brooklyn College with a grade of C or higher in each course. The following courses may be applied toward the 60 credits in science and mathematics:


A)All courses in the departments of biology, chemistry, computer and information science, geology, mathematics, physics, and psychology.
B)Courses marked with a $(\cdot)$ symbol in the Department of Health and Nutrition Sciences.
C)Anthropology and Archaeology 2.4, 16, 24.1, 26.1, 26.2, 36, 85.3.

Core Studies 5, 7.1, 7.2, 8.1, 8.2.
Economics 30.2, 30.3, 31.1, 31.2.
Philosophy 13, 33, 42.

Physical Education 22.71, 22.75, 23, 30, 51.
Sociology 77.1.

## Department recommendations

Students interested in computer-related careers should read the brochure Advice to Undergraduate Students, which may be obtained in the department office.
Students interested in studying computer science should take Computer and Information Science 1.5 and Mathematics 2.9 or 3.3 instead of Core Studies 5.
Students interested in studying computer science should take Physics 2.3 instead of Core Studies 7.2. Incoming students with a knowledge of a programming language other than BASIC should consult with a department adviser.
With counseling, students should choose electives in any departments that may prepare them to apply computer science to a particular field of interest.

## B.S. degree program in computational mathematics <br> HEGIS code 1701

An interdepartmental major offered by the Department of Computer and Information Science and the Department of Mathematics.
The computational option of this program enables students to apply mathematical and computational skills to the physical, biological, social, and behavioral sciences. The theoretical option is designed for students interested in the more abstract parts of computer science and for those interested in college teaching and research.
All mathematics courses offered to satisfy the requirements for a major in computational mathematics must be completed with a grade of C - or higher. All computer and information science prerequisites to computer and information science courses must be completed with a grade of $C$ or higher.

Program requirements (47-54 credits)
Students should select option I or option II.

## Option I: Computational.

Mathematics 3.3 and 4.3 and 5.3.
All of the following: Mathematics 10.1, 11.1, 13, 37.1,
and 51.1.
All of the following: Computer and Information Science 1.10 or 1.20 or 1.5 or $2.80 ; 2.10$ or 2.20 or 2.50 or 2.70 or $2.85 ; 4.1,11,15$ or 16, 22.

Two courses chosen from among: Computer and Information Science 23, 24, 38, 46, 48, 51.

## Option II: Theoretical.

Mathematics 3.3 and 4.3 and 5.3.
All of the following: Mathematics 10.1, 11.1, 14.1, and 14.5.
All of the following: Computer and Information Science 1.10 or 1.20 or 1.5 or $2.80 ; 2.10$ or 2.20 or 2.50 or 2.70 or $2.85 ; 4.1,11,15$ or 16, 22, 38.

One of the following: Computer and Information Science 23, 24, 46, 48, 51
One Computer and Information Science Department course numbered in the 60s or 80s.
One of the following: Mathematics 43, Philosophy 33, or a logic course offered by the Department of Computer and Information Science.

## Program recommendations

Mathematics 12.1 or 64.1 is recommended. With counseling, students should choose electives in any departments that may prepare them to apply computer science to a particular field of interest.

## B.S.-M.P.S. (Master of Professional Studies) in computer and information science and economics

 HEGIS code 0799
## Admission

Students should apply for admission to the program as early as possible, but no later than the fourth term of undergraduate work. Applications are considered by the chairperson of the Computer and Information

Science Department and the chairperson of the Economics Department on the basis of superior academic records and evidence of scholarly potential. Students must maintain a scholastic index of $B$ or higher to remain in the program.

## Planning the program

Students must plan their programs before the beginning of
the junior year with the assistance of a counselor in each department. Some undergraduate course requirements may be satisfied by advanced placement or exemption examination. Information about the examinations is in the chapters "Admission" and "Academic Standing" in this Bulletin.
A student who completes undergraduate requirements for a B.S. degree with a major in accounting may choose that degree on completion of the program.
Program requirements (140 credits)
Undergraduate courses (110 credits)
Computer and Information Science 1.5 or 2.80, 4.1, 5.2, 13.2, 15 or 16, 22, 60.1 or 88.1.
One course chosen from the following: Computer and Information Science 2.10, 2.30, 2.50, 2.60, 2.70,
2.85.

Two courses chosen from the following: Computer and Information Science 44, 45, 48, 49, 51. With permission of the chairperson of the Department of Computer and Information Science, the student may substitute one of the following courses for any course in this requirement: Computer and Information Science 23, 24, 25, 27.
Mathematics 3.3 and 4.3.
Mathematics 8.1 or Economics 30.2.
Mathematics 10.1 or Economics 31.1.
Economics 10.1 and 20.1.
Two of the following: Economics 70.1, 70.2, 70.3.
Accounting 1, 2, 3, 4, 5. CPA candidates must also complete Accounting 6, 10, 11, 12, 13, 30, 40, and 41.
Additional undergraduate courses in any department or program to bring the total number of undergraduate credits
to 110.
Graduate required courses (18 credits)
Three courses chosen from either group (a) or (b):
(a) Economics 705X, 720X, 721X, 722X.
(b) Economics $704 \mathrm{X}, 706 \mathrm{X}, 707 \mathrm{X}, 708 \mathrm{X}, 714 \mathrm{X}$. In order to qualify for the courses in group (b), the student
must have completed all of the following undergraduate courses in addition to the program requirements:
Accounting $6,10,11,12,13,30,40$, and 41 . Students who intend to use this program to qualify for the oneyear reduction in the experience requirement for the CPA license must elect Economics 700 X or 710X; 711X or 715X; and 722X as part of their graduate elective courses.
Three of the following: Computer and Information Science 714X, 717.1X, 726X, 757X, 758X, 759X, 760X, 764X, 765X.
Thesis or comprehensive examination under the guidance of the Department of Economics or the Department of Computer and Information Science.
Graduate elective courses (12 credits)
Twelve credits chosen with approval of the department under whose guidance the student chooses to write a thesis or take a comprehensive examination.

## Certificate program in computers and programming HEGIS code 5101

The Department of Computer and Information Science offers a certificate program in computers and programming. The curriculum outlined below ranges from 24 to 29 credits, depending on which options are taken. To be eligible for the certificate, students must earn at least 24 credits. Students must apply to the Office of Student Records for their certificates upon completion of program requirements. The certificate in computers and programming will be issued upon the completion of the program with a grade of $C$ or better in each course.
Admission requirements are described under the heading "Certificate programs" in the chapter "Admission." Students are required to pass the CUNY Assessment Tests for admission.
Program requirements (24-30 credits)
Computer and Information Science 1.10 or 1.20 or 1.5 or 2.80 .
Computer and Information Science 5.2.

Computer and Information Science 4.1.
Computer and Information Science 15 or 16.
Computer and Information Science 22.
Computer and Information Science 60.1 or 88.1.
One of the following: a) or b) or c):
a) Computer and Information Science 2.10 or 2.70, and 2.30,
and either 44 or 45 .
b) Computer and Information Science 2.50, and either 2.70
or 2.85, and 46.
c) Computer and Information Science 13.2 and 52.

In some cases, the department will permit students to take prerequisite courses as corequisites. Students may apply up to two courses of transfer credits towards the certificate.

## Computer and information science concentration for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher ( $\mathrm{K}-6$ ); special education teacher.

The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs and who elect a concentration in computer and information science must complete all of the following courses with a grade of C or higher: Computer and Information Science 1.10 or 1.20 or $1.5,11,15$, and two of the following: Computer and Information Science 5.1, 5.2, 22.

## Requirements for a minor in computer and information science

A program of 12 credits in advanced electives in computer and information science, including one course numbered 20 or higher, each with a grade of C or higher.

## Recommendations for prospective graduate students

Prospective doctoral students in computer-related fields should develop reading competence through course 2 in at least one of the following languages: French, German, Russian, and should take Computer and Information Science 23, 38, and 45.

## Division of Graduate Studies

The Computer and Information Science Department offers a master of arts degree program in computer science. Some courses may be creditable toward the CUNY doctoral degree.
For information, students should consult the graduate deputy chairperson for counseling. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 24 credits in advanced courses for majors in this department.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## *0.1 Computers in Our Society|

3 hours; 3 credits
Current and possible future role of computers in society. Basic concepts of computer technology. Topics include introduction to data processing, the information revolution, influence and control of computers, and learning and use of a programming language. (Not open to students who are enrolled in or have completed Core Studies 5 or who have received credit for or are enrolled in Computer and Information Science 1.1, 1.2, 1.10, 1.20, or 1.3.)

Prerequisite: permission of the chairperson.

## *0.2 Using Computers

1 hour lecture, 2 hours laboratory; 2 credits
Introduction to computers. Computers and peripherals.
The operating system and user interface. The file system. Word processing, including text entry, editing, and text file manipulation. Electronic mail and the Internet. Using the World Wide Web. Ethical issues in computing. (Not open to students who are enrolled in or have completed any course in computer and information science.)
Students who enroll in Computer and Information Science 1.10 or 1.20 or 1.5 should be aware that most students find it necessary to spend from seven to ten hours a week, although some students may need more or less, in preparing and running programming assignments at the College Computer Center.
*1.10 Introduction to Computing with General Applications Using Pascal
4 hours; 4 credits
Algorithms, programs, and computers. Processing quantitative and character information. Data representation. Debugging and verification of programs. Programming applications selected from the areas of statistics, business, and the social sciences. Basic concepts of computer science and surveys of selected significant technical activities in computing. Intended for students whose interest in computer processing is in areas other than science and engineering. (Not open to students who are enrolled in or have completed Computer and Information Science 1.20 or 1.5.)

## *1.20 Introduction to Computing with Scientific Applications Using Pascal

4 hours; 4 credits
Algorithms, programs, and computers. Processing quantitative and character information. Data representation. Debugging and vertification of programs. Programming applications selected principally from mathematics; including numerical integration, solution of equations, theory of numbers, probability, and simulation. Basic concepts of computer science and surveys of selected significant technical activities in computing. (Not open to students who are enrolled in or have completed Computer and Information Science 1.10 or 1.5.)
Prerequisite or corequisite: one term of high school or college calculus.

## *1.5 Introduction to Computing Using the <br> C Programming Language

4 hours; 4 credits
Algorithms, programs, and computers. Writing, debugging, and verifying programs. Data representation. 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. (Not open to students who are enrolled in or have completed Computer and Information Science 1.10 or 1.20 or 2.80 or 15 or 16 .)

## *2.10 PL/I for Programmers

3 hours; 3 credits
Programming in the PL/I language for students who can program in a language other than PL/I. PL/I program structure. Arithmetic and character data declarations and operations. Input/output operations. Loops and arays. PL/I structures. Subroutines. The computing milieu. (Not open to students who are enrolled in or have completed Computer and Information Science 1.1 or 1.2 or 1.3 or 3.10 or any course in PL/I programming.)
Prerequisite: Computer and Information Science 21 or 22.

## *2.20 Scientific Computing and FORTRAN

2 hours; 2 credits
FORTRAN programming language. Data representation. Numerical computation. Approximation and error analysis. Examples and applications drawn from mathematics and the sciences. (Not open to students who have completed Computer and Information Science 3.20.)
Prerequisite: Computer and Information Science 1.10 or 1.20 or 1.5 ; and Mathematics 4.20 or 4.3 or 5.10 .

## *2.30 COBOL for Programmers

## 2 hours; 2 credits

Programming in the COBOL language for students who can program in a language other than COBOL. Program structure, data description, arithmetic operations, input/output operations, tables, sorting and searching. The PERFORM statement, loops and subroutines. Design of data processing applications. (Not open to students who are enrolled in or who have completed Computer and Information Science 2.03 or 3.30 or any course in COBOL programming.)

Prerequisite: Computer and Information Science 1.10 or 1.20 or 1.5 .

## *2.40 Pascal for Programmers

2 hours; 2 credits
Programming in the Pascal language for students who can program in a language other than Pascal. Pascal program structure. Arithmetic and character data declarations and operations. Input/output operations. Loops and arrays. Records and files. Functions and procedures. (Not open to students who are enrolled in or have completed Computer and Information Science 1.10 or 1.20 or any course in Pascal programming.)
Prerequisite: Computer and Information Science 1.5 or an introductory programming course in a language other than RPG, BASIC, or Pascal.

## *2.50 UNIX Shell Programming

2 hours; 2 credits
The shell programming language. Command structure and I/O redirection. Control structures, metacharacters, process environment. Shell scripts, exception handling, numerical and string facilities, recursion. Filter programs, the software tools approach, pipeline programming. Regular expression pattern matching. Quoting. Subshells. Remote shell programs. Background processes, shell demons, process management.
Prerequisite: Computer and Information Science 15 or 16.

## *2.60 Visual Programming and Windowing Applications

2 hours; 2 credits
Visual programming languages and libraries. Creating windowing applications. Graphical user interfaces. Visual development environments, custom controls, dynamic link libraries, and database access.
Prerequisite: Computer and Information Science 22.

## *2.70 Java for Programmers

## 3 hours; 3 credits

The facilities of Java programming language core and the key Java class libraries. The imperative (nonobject-oriented) language, support for object-oriented programming, exception handling, concurrency and network programming. Images and graphic display techniques, drawing tools, event generation and handling, containers and container hierarchies, layout techniques and applet construction. Language issues such as comparison with C and $\mathrm{C}++$, compile-time vs. run-time checking, and implementation. Class design file I/O, threads, and navigating the Java class libraries. (Not open to students who are enrolled in or have completed Computer and Information Science 1.6 or 16.)
Prerequisite: Computer and Information Science 22.

## *2.80 C for Programmers

## 2 hours; 2 credits

Intensive introduction to programming in C for experienced programmers, covering all current features of the language. Special emphasis on pointers, parameter transmission, and multiple file programs. Implementation issues, application of $C$ to systems programming, and word processing. (Not open to students who are enrolled in or have completed Computer and Information Science 1.5 or 15.)
Prerequisite: An introductory programming course in a language other than RPG, BASIC, or C.

## *2.85 C++ for Programmers

2 hours; 2 credits
Introduction to the C++ language for students who know the
C programming language. Input and output streams, reference variables and arguments, overloaded and template functions, classes, self-reference, friends, class initialization, class templates, derived classes and inheritance, virtual functions, object-oriented programming.
Prerequisite: Computer and Information Science 22.

## *3 The Internet

2 hours lecture, 2 hours laboratory; 3 credits
A comprehensive survey of the design, implementation, history, and use of the Internet. Data communications and network concepts, Transmission Control Program/Internet Protocol (TCP/IP), clientserver computing, e-mail and web applications, Hypertext Markup Language (HTML), and client-side scripting tools. Security issues, financial and political applications, ethical concerns. (Not open to students who have completed any computer and information science course numbered 13 or higher.) Prerequisite: Core Studies 5 or Computer and Information Science 1.10 or 1.5.

## *3.1 Multimedia Production for the World Wide Web

## 2 hours lecture, 2 hours laboratory; 3 credits

Principles of good design in a digital context. Internet hardware and software, digital display basics. Tools and techniques for creating digital media. Aesthetics in digital media, interface design guidelines, supporting interaction on the Web. (Not open to students who are enrolled in or have completed Computer and Information Science 13.2 or 52 .)
Prerequisite: Core Studies 5 or Computer and Information Science 1.5.

## *4.1 Assembly Language Programming for Microcomputers

3 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 are enrolled in or have completed Computer and Information Science 4 or 2.90.)
Prerequisite: Computer and Information Science 1.10 or 1.20 or 1.5 or 2.40 or 2.80 .

## *5.1 Microcomputers in Education

2 hours lecture, 2 hours laboratory; 3 credits
Introduction to the use of the microcomputer as an educational tool. Computer literacy. Programming in LOGO and BASIC. Computers in relation to school curriculum. Comparison of computing languages in the schools. Implementation of computer peripherals and software. This course is the same as Education 68.1. (Not open to students who have completed Computer and Information Science 68.)
Prerequisite: Core Studies 5 or its equivalent, or permission of the chairperson of the Department of Computer and Information Science; Education 48.1 or 58.1 or 60.1 , or permission of the division coordinator.

## *5.2 Microcomputers in Business and Administration

3 hours; 3 credits
Introduction to the use of the microcomputer in the modern office. Computer literacy. Word processing, database systems, and electronic spreadsheets. Examination and evaluation of computer peripherals and software for personal computers. (Not open to students who are enrolled in or have completed Computer and Information Science 13.2.)
Prerequisite: Core Studies 5 or one of the following: Computer and Information Science 0.1 or 1.10 or 1.20 or 1.5 or permission of the chairperson.

## *5.3 Computers in the Laboratory

2 hours lecture, 4 hours laboratory; 4 credits
Introduction to modern methods of data acquisition in the laboratory for scientists other than computer specialists. Emphasis on personal computers and commercially available data acquisition devices. Use of a programming language for the acquisition and treatment of laboratory data. Intended for experimental science majors.
Prerequisite: Computer and Information Science 1.10 or 1.20 or 1.5 or 2.40 or 2.80 ; and Physics 2 or 2.3 or 2.5.

## *5.4 The Social Consequences of Computers

## 3 hours; 3 credits

Social impact of computers on various groups, subcultures, and institutions. Effect of computer toys on children. Video games, computers in classrooms, "hackers," the world of professional programmers, computers in the workplace, robots, and expert systems. Political and military impact of computers. Issues of privacy and ethics. This course is the same as Sociology 53.
Prerequisite: both a) and b): a) Core Studies 5 or any of the following: Computer and Information Science 1.10 or 1.20 or 1.5 or 2.80 ; b) Core Studies 3 or Sociology 5.

## 11 Introduction to Discrete Structures

3 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 1.10 or 1.20 or 1.5 or 2.40 or 2.80 ; and Mathematics 2.9 or 2.92 or assignment to Mathematics 3.20, 3.3, or 4.10 by the Department of Mathematics.

### 13.2 Advanced Personal Computer Techniques for Business Applications

## 3 hours; 3 credits

In-depth analysis of software and hardware available for current business applications. Advanced use of application packages. Critique and comparison of current application software. Designing a proper interface. Examination of current trends toward office automation. System design and analysis. Prerequisite: Computer and Information Science 1.10 or 1.20 or 1.5 or 2.80; and 5.2.

## 14 Programming and Data Structures I

3 hours; 3 credits
Disciplined programming techniques including style analysis, structured programming, structured documentation. Blocks and namescoping. Advanced programming concepts. Experience in selecting and using internal and external data structures. Stacks and their implementations. Prefix, postfix, and infix notation. Recursion. Pointers and introduction to list processing. (Not open to students who are enrolled in or have completed Computer and Information Science 22.)
Prerequisite: Computer and Information Science 1.10 or 1.20 or 2.40 .

## 15 Advanced Programming Techniques

3 hours; 3 credits
A second course in programming. Advanced programming techniques emphasizing reliability, aintainability, and reusability. Module design and multifile programs. Abstract data types. Storage class and scope. Data representation and conversion. 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. (Not open to students who are enrolled in or have completed Computer and Information Science 16 or 22.)
Prerequisite: Computer and Information Science 1.5 or 2.80 .

## 16 Object-oriented Programming Techniques

## 4 hours; 4 credits

An introduction to the object-oriented paradigm: objects, messages, classes, inheritance, polymorphism; class design; event programming and graphical user interface implementation. Advanced programming concepts: visibility and lifetime; data representation and conversion; addresses and pointers. Advanced programming techniques emphasizing reliability, maintainability, and reusability; multifile programming; test suites, test drivers, and testing strategies; debugging, assertions, and semiformal techniques; recursion; dynamic storage allocation procedural parameters. Abstract data types and the influence of the object paradigm on procedural programming. (Not open to students who are enrolled in or have completed Computer and Information Science 1.6, 2.70, 15, or 22. )
Prerequisite: Computer and Information Science 1.5 or 2.80.

## 21 Programming and Data Structures II

3 hours; 3 credits
Representations, implementations, and applications of stacks, queues, linked lists, trees, and graphs. Dynamic storage allocation and garbage collection. Searching and sorting techniques. (Not open to students who are enrolled in or have completed Computer and Information Science 22.)
Prerequisite: Computer and Information Science 14, and 1.10 or 1.20 or 2.40.

## 22 Data Structures

4 hours; 4 credits
Stacks and their implementations. Prefix, postfix, and infix notation. Queues and linked lists and their implementations. Binary and general trees and their implementations and traversals. Sorting and searching techniques. Graph algorithms. (Not open to students who are enrolled in or have completed Computer and Information Science 14 or 21.)
Prerequisite: Computer and Information Science 15 or 16.

## 23 Analysis of Algorithms

3 hours; 3 credits
Algorithms, data structures, and their analysis. Applications for and solution to recurrence problems. Upper and lower bounds on complexities of various problems. Classification by design structures. Sorting methods, graph and selection algorithms. Pattern matching. Efficient computation of transitive closure and equivalences. NP-completeness.
Prerequisite: Computer and Information Science 11; 21 or 22; Mathematics 3.20 or 3.3 or 4.10 .

## 24 Programming Languages

4 hours; 4 credits
The design, implementation, and evolution of programming languages. Language features and their effects upon translation and run-time environments. Languages studied are chosen for their historical and current significance, programming paradigm, and run-time environment. Syntax and semantic specification; formal grammars.
Prerequisite: Computer and Information Science 1.10 or 1.20 or 1.5 or 2.80 ; and 2.10 or 2.20 or 2.30 or 2.40 or 2.50 or 2.70 or 2.85 ; and 4.1 ; and 22.

## 25 Operating Systems

3 hours; 3 credits
Design and implementation of operating systems for large computers. Multiprogramming, multiprocessing, time sharing. Resource allocation and scheduling. Communications, conversational computing, computer networks. Memory protection, interrupts, segmentation, paging, and virtual memories.
Prerequisite: Computer and Information Science 21 or 22; and 27 or 28. It is recommended that students be acquainted with at least two computing platforms (e.g., PC, UNIX workstation, IBM mainframe) before taking Computer and Information Science 25.

## 27 Computer Organization

## 3 hours; 3 credits

Basic digital circuits. Boolean algebra and combinational logic, data representation and transfer, and digital arithmetic. Digital storage and accessing, control functions, input-output facilities, system organization, and reliability. Description and simulation techniques. Features needed for multiprogramming, multiprocessing, and real-time systems. Other advanced topics and alternate machine organizations. (Not open to students who are enrolled in or who have completed Computer and Information Science 28.)
Prerequisite: Computer and Information Science 4 or 4.1; and 11.

## 28 Digital Computer Systems

3 hours lecture, 3 hours laboratory; $411 / 42$ credits
Functional components of computer systems: registers, counters, coders, multiplexers. Data
representation. Memory, register, and bus transfer operations. Basic computer organization and design. Central processor organization. Hardwired and microprogrammed control units. Bus structures. Arithmetic logic units. Memory and I/O organization. Laboratory experiments on computer operations. Design of a digital computer system. (Not open to students who are enrolled in or have completed Computer and Information Science 27.)
Prerequisite: Computer and Information Science 4 or 4.1; and 11.

## 29 Compiler Construction

## 3 hours; 3 credits

Review of programming language structures, translation, loading, execution, and storage allocation. Compilation of simple expressions and statements. Organization of a compiler including compile-time and run-time symbol tables, lexical scan, object code generation, error diagnostics, object code optimization techniques, and overall design. Use of compiler-writing languages and bootstrapping.
Prerequisite: Computer and Information Science 2.10 or 2.20 or 2.30 or 2.40 or 2.50 or 2.70 or 2.85 ; 11; and 21 or 22.

## 32 Artificial Intelligence

3 hours; 3 credits
Techniques for making computers 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.
Prerequisite: Computer and Information Science 21 or 22.

### 32.1 Philosophy and Artificial Intelligence

3 hours; 3 credits
Contemporary issues in philosophy and psychology, such as the mind-machine analogy, the artificial intelligence model of the human mind, intentionality, representation, consciousness, concept formation, free will, behaviorism, mechanism. Discussion and evaluation of contemporary work in the field. This course is the same as Philosophy 29 and Psychology 57.2.
Prerequisite: Core Studies 5 or a course in computer and information science, and Core Studies 10 or a course in philosophy; or permission of the chairperson of the offering department.

## 38 Theoretical Computer Science

3 hours; 3 credits
Overview of theoretical computer science. Formal language theory, computability theory. Finite automata, context-free and regular grammars, push-down automata, and Turing machines. Other models of computation, including recursive functions. Universal program and unsolvability.
Prerequisite: Computer and Information Science 11, 21 or 22, and Mathematics 3.20, 3.3, or 4.10.

## 40 Microcomputer Systems Programming

3 hours; 3 credits
Advanced assembly language programming techniques for microcomputer systems. I/O routines. Device interfaces. Interrupt handling. Programming direct memory access devices. Disk I/O. Floating point, I/O, and graphics processors.
Prerequisite: Computer and Information Science 4.1 or 2.90; and 27 or 28.

## 41 Computer Graphics

3 hours; 3 credits
Fundamentals of computer graphics programming. Graphics hardware and software standards. 2D geometric primitives and raster images. 3D object representations. Data structures, algorithms, and the graphics pipeline. Graphical user interfaces. Underlying concepts in computer graphics systems, including games, animation, modeling, rendering, and paint systems.
Prerequisite: Computer and Information Science 11 and 22.

## 42 Microprocessors

2 hours lecture, 2 hours laboratory; 3 credits
Introduction to microprocessor technology. History and applications. Microprocessor architecture: eight- and sixteen- 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 completed Computer and Information Science 70.1 topic: Microprocessors.) Prerequisite: Computer and Information Science 2.90 or 4.1, and 27 or 28 ; or permission of the chairperson.

## 43 Real-time Systems

3 hours; 3 credits
Hardware and software problems associated with the interaction of digital computers with discrete and continuous processes. Applications to sensor-based process control, hybrid computers, on-line data acquisition, and laboratory automation. Use of mini-computers in these systems.
Prerequisite: Computer and Information Science 27 or 28.

## 44 File Processing

3 hours; 3 credits
Programming techniques for file processing. Merging and updating sequential files. Stream and record files. Defining, creating, accessing, updating, and deleting files. Sequential, indexed, and direct files. Inverted files and their applications. Blocking and buffering. Designing file structures for applications. Internal and external sorting. Binary and general search trees and their application to file design. Introduction to database systems.
Prerequisite: Computer and Information Science 1.1 or 1.2 or 1.3 or 2.10 or 3.10 ; and 21 or 22.

## 45 Database Systems

3 hours; 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.
Prerequisite: Computer and Information Science 21 or 22; and 5.2 or permission of the chairperson.

## 46 Workstation Programming

3 hours; 3 credits
Programming techniques for development of applications on networks of workstations. Process
environments, file system issues. Concurrent programming, interprocess communication. Graphical user interfaces, event-driven programming. Distributed programming; remote process creation, the client-server model, message passing.
Prerequisite: Computer and Information Science 22.

### 46.5 Distributed System Administration

2 hours lecture, 4 hours laboratory; 4 credits
The principles and practice of system administration in networked and internetworked, multi-user, multitasking distributed systems. Basic system administration, connectivity, domain name system management, distributed system information services, network file systems, network service daemons, security kernel modification, device drivers, ethics, and legal issues. System administration tools and languages.
Prerequisite: Computer and Information Science 2.50, and 25 or 46.

## 48 Introduction to Modeling and Simulation

3 hours; 3 credits
Introduction to simulation and comparison with other techniques. Discrete simulation models. Introduction to queueing theory and stochastic processes. Comparison of discrete change simulation languages. Simulation methodology including generation of random numbers and variates, design of simulation experiments for optimization, analysis of data generated by simulation experiments, and validation of simulation models and results. Selected applications of simulation.
Prerequisite: Computer and Information Science 4 or 4.1; and Mathematics 8.1 or 51.1.

## 49 Computer Networks and Protocols

3 hours; 3 credits
Computer networks and protocols. Network topologies and switching mechanisms. Protocol concepts and characteristics. Network protocol architectures. Physical layer concepts. Data link layer functions and protocols. Network layer concepts. Network access protocols. Local area networks and protocols. Internetworking. Transport layer functions and protocols. Upper layer issues and approaches. Application program interfaces. Network examples.
Prerequisite: Computer and Information Science 22; 27 or 28; and Mathematics 8.1.

## 51 Computer Optimization and Modeling

3 hours; 3 credits
Quantitative and logic-based software tools used in the managerial decision-making process. State-of-theart programming and modeling techniques. Spreadsheet optimization. Expert systems. Case studies including outsourcing, plant location, scheduling, staffing, and capital budgeting. What-if analysis. Fuzzy logic. Laboratory work and team projects.
Prerequisite: Computer and Information Science 11 and 22.

## 52 Multimedia Computing

3 hours; 3 credits
A survey of the interrelationship of state-of-the-art communication and computer technology. Hardware, software, and system design issues in the multimedia presentation of information. Multimedia standards. Audio and video compression techniques. Hypermedia database systems. Programming and the use of multimedia authoring systems. Survey of representative hypermedia applications.
Prerequisite: Computer and Information Science 5.2; and 13.2 or 22.

## 53 Client-Server Web Programming

3 hours lecture; 3 credits
Programming a Web-based interactive client-server application. HTTP protocol, Web browsers, and Web servers. HTML and its extensions. Java applets. Interaction with server using CGI and alternatives. Serverside programming and control. Session persistence. Design of interactive Web pages using client-side (browser) scripting.
Prerequisite: Computer and Information Science 2.70 or 16; and 22.

## 55 Parallel and Distributed Computing

3 hours; 3 credits
Development of parallel and distributed applications. Examples taken from scientific programming, artificial intelligence, operations research, and management science. Symmetric models and asymmetric models. Client-server. Threaded programming. Data parallelism versus algorithmic parallelism. Issues of resource utilization, program decomposition, performance, probability, debugging. Use of formal methods, faulttolerance, security and other distributed systems issues.
Prerequisite: Computer and Information Science 22; 27 or 28; and one of the following: 2.50, 2.70, 24, 25, 32, 46, 48, 51.

## 60.1, 60.2 Independent and Group Projects I, II

3 hours recitation and at least 6 hours independent work§; 3 credits each term
Planning and development of a real computer systems project supervised by a faculty member. Projects generally involve group participation. Achievement measured by demonstrable attainment of the project's goals. Written report.
Prerequisite of 60.1: Computer and Information Science 4 or 4.1 and permission of the chairperson.
Prerequisite of 60.2: Computer and Information Science 60.1 and permission of the chairperson.

### 70.1 Special Topics in Computer Science

3 hours; 3 credits
A topic in computer science not covered in the regular curriculum. Topics vary from term to term and reflect the interests of students and faculty. Course description may be obtained in the department office before registration. Topics may include mathematical software, advanced topics in switching theory, system design and analysis, and management information systems.
Prerequisite: Computer and Information Science 21 or 22; and permission of the chairperson.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for courses described below. Students may not register for more than six credits in honors courses in the department in one term.

## 84.1, 84.2 Seminar in Theoretical Aspects of Information Science I, II

3 hours recitation and a minimum of 7 hours conference and independent work; 3 credits each term Readings, discussions, and reports on topics in computer science. Topics may be selected from the study of formal linguistics, automata theory, theory of computation, and recursive function theory. Thesis or final examination.
Prerequisite of 84.1: a superior record, including an approved program of advanced courses, and recommendation of a department faculty member and permission of the chairperson.
Prerequisite of 84.2: Computer and Information Science 84.1 and permission of the chairperson.

## 84.3, 84.4 Seminar in Special Topics I, II

3 hours recitation and a minimum of 7 hours conference and independent work; 3 credits each term
Readings, discussions, and reports on computer science topics. Thesis or final examination.
Prerequisite of 84.3: a superior record, including an approved program of advanced courses, and recommendation of a department faculty member and permission of the chairperson.
Prerequisite of 84.4: Computer and Information Science 84.3 and permission of the chairperson.

## 88.1, 88.2, 88.3, 88.4 Independent Study and Research I, II, III, IV

Minimum of 9 hours conference and independent work§; 3 credits each term
Independent research study or project supervised by a faculty member; approved reading; project report or written examination
Prerequisite: Computer and Information Science 22, an advanced elective in Computer and Information Science numbered 23 or above, a minimum grade point average of 3.0 overall and in Computer and

Information Science advanced electives, a declared major in the Department of Computer and Information Science, and permission of the chairperson.

## Economics

Department office: 218 Whitehead Hall
Telephone: 951-5317, 951-5318, 951-5319
Chairperson and Adviser, SGS: Antony Arcadi
Deputy Chairperson, CLAS Economics Programs: Robert Cherry
Deputy Chairperson, Division of Graduate Studies: Gary J. Testa
Deputy Chairperson, Accounting Programs: Edward Shoenthal
Deputy Chairperson, Business Programs: Hershey Friedman
Professors: Bell, Cherry, Friedman, Laibman, Minars, Sardy, Shoenthal, Solomon; Associate Professors:
Arcadi, Arenberg, Davidoff, Fox, Goldberg, Klein, Lachman, McTague, Testa, Uctum, Widman, Zelcer;
Assistant Professors: Amoo, Bhattacharya, Giladi, Thorne.
The Department of Economics sponsors or co-sponsors the following degree, certificate, and minor programs: B.A. in economics; B.S. in business, management, and finance;
B.S. in accounting (non-C.P.A. qualifying); B.S. in accounting (C.P.A. qualifying); B.S.-M.P.S. in computer and information science and economics (jointly with the Department of Computer and Information Science); B.A., Social Studies Teacher, grades 7-12 (jointly with the School of Education). The department also offers a certificate of achievement
in accounting.
The department offers minors in marketing and economics. The requirements of these minors are such that students can not minor in the department in which they are majoring.

## B.A. degree program in economics HEGIS code 2204

Department requirements (35-39 credits)
a)All of the following: Economics 10.1, 20.1; Economics 30.2, or Business 30.2, or Mathematics 8.1 or 51.1; Economics 31.1, or Mathematics 10.1.
Each student must achieve a grade of $C$ or better in at least three of the above courses.
b) Economics 10.2 and 20.2 .
c) One of the following: Economics 30.3, 30.4, 31.4; Business 30.3, 31.4.
d)Four of the following: Economics 10.4, 31.2, 31.3, 40.1, 40.2, 40.4, 40.5, Business 50.4, Economics 60.2, $65.1,65.2,70.1$, Business 70.3, Economics 75.1, 75.2, 75.3, 75.4, 75.5, 75.6, 76.1, 76.2, 76.3; or any of the following not used to satisfy c) above: Economics 30.3 or Business 30.3, Economics 30.4, Economics 31.4 or Business 31.4.
e) One additional course in economics, business, or accounting not used to meet requirements in b), c), or d).

Students considering graduate work in economics are strongly encouraged to take courses beyond the minimum requirements in quantitative and mathematical economics.

## Requirements for an optional minor in economics

A program of 12 credits of advanced economics courses.
An "advanced" course is defined as any course that may be used to satisfy b), c), or d) in the list of requirements for the B.A. degree program in economics. Students majoring in accounting or business, management, and finance are eligible for this minor; economics majors are not. All courses used to satisfy the minor must be completed with a grade of C or higher.
B.S. degree program in business, management, and finance

HEGIS code 0506
Admission to program
In order to declare a major in this program, a student
must have completed at least 32 credits at Brooklyn College with a scholastic index of 2.20 or better. Students who enter Brooklyn College after earning at least 28 credits elsewhere, may declare a major in this program after earning at least 15 credits at Brooklyn College with a scholastic index of 2.20 or better.

Department requirements (49-53 credits)
Majors must complete four tiers of course requirements:
Tier I
All of the following: Economics 10.1, 20.1; Business 30.2 or Economics 30.2 or Mathematics 8.1 or 51.1; Business 50.1; Business 70.2; Accounting 1, 40.
Tier II
All of the following: Economics 31.1 or Mathematics 10.1; Business 31.4; Business 40.3 or Psychology 12.7;

Business 50.2; Philosophy 14 or Classics 35 or Speech 9 or 18 or 23; Computer and Information Science 1.10 or 1.5 or 5.2 .

Tier III
Students must complete one course from each of any two of the following three areas:
1.Business Management

Business 50.4, 50.5, 50.7, 50.8, 50.9; Accounting 2, 41; Psychology 12.
2.Finance

Business 70.3, 70.7, 76.4; Economics 70.1, 70.7, 75.2, 76.1;
Accounting 30; Mathematics 74.2 .
3.Quantitative Analytic Techniques

Business 30.3; Economics 20.2, 30.3, 30.4, 31.2; Accounting 4, 21; Mathematics 74.1; Computer and Information Science 48.
Tier IV
One of the following seminars: Business 80.1, 80.2, 80.3, 80.4.
Residence requirement: At least 24 credits in advanced economics, business, and accounting courses, including the required Tier IV course, must be completed at Brooklyn College.
Index requirement: Attainment of a scholastic index of 2.00 in all courses taken to satisfy department requirements.

## Requirements for a minor in finance

The minor in finance requires 20 credits.
All of the following: Accounting 1, Economics 10.1, Economics 20.1, Mathematics 74.1.
Two of the following: Economics 70.1, Business 70.2, Business 70.3 .
(Mathematics majors may count Mathematics 74.1 both for the major and for this minor.) Note: Accounting, Business, and Economics majors are not eligible for this minor.

## Requirements for an interdisciplinary minor in marketing

This minor is not open to students who major in a degree program within the Department of Economics or in the concentration in Philosophy and Business in the degree program in philosophy.
A grade of $C$ or higher in each of the five courses offered in the minor.
All of the following: Business 50.2; Sociology 77.2; and Television and Radio 17 or Business 50.7. Two courses chosen from the following: Business 50.9, English 19.1, Film 20, Psychology 12 or 12.1, Sociology 43.3 or 61.5, Television and Radio 19 or 26.15 or 26.16.

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B.S. degree program in accounting (non-C.P.A. qualifying)
HEGIS code 0502
Department requirements (49-52 credits)
All of the following: Economics 10.1, 20.1; Economics 30.2 or Business 30.2, or Mathematics 8.1 or 51.1;
Computer and Information Science 5.2; and Accounting 40.
All of the following with a grade of C- or higher: Accounting 1, 2, 3, 4, 5, 6, and 30.
Two of the following: Economics 70.1, Business 70.2, Business 70.3.
One of the following: Accounting 10, 11, 12, or 31.
One of the following: Philosophy 14 or Speech 23.
Students must consult a department counselor to prepare a plan of study and obtain approval of courses
chosen to fulfill department requirements.
Residence: Students must complete a minimum of 48 credits at Brooklyn College including at least 12 credits with a grade of C- or higher from Accounting 1 through 31. The work of the senior year must be completed at Brooklyn College.
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## B.S. degree program in accounting (C.P.A. qualifying) HEGIS code 0502

Accreditation: The Brooklyn College certified public accountancy program is registered with the New York State Education Department. Holders of bachelor of science degrees with a major in accounting who satisfactorily complete this registered program meet the collegiate education requirements for the New York State C.P.A. certificate.
Department requirements (61-64 credits)
All of the following: Accounting 1, 2, 3, 4, 5, 6, 10, 11, 12, 13, 30, 40, 41; Economics 10.1, 20.1; Business 30.2 or Economics 30.2; Computer and Information Science 5.2.

Two of the following: Economics 70.1, Business 70.2, Business 70.3.
One of the following: Philosophy 14 or Speech 23.
Students must achieve a grade of C - or better in each of
the following courses: Accounting 1, 2, 3, 4, 5, 6, 10, 11, 12, 13, 30.

## Certificate of achievement in accounting HEGIS code 0502

Admission requirements are described under the heading "Certificate programs" in the chapter "Admission."
Program requirements (25-26 credits)
The certificate of achievement in accounting program consists of eight courses: Economics 10.1;
Economics 30.2 or Business 30.2 or Mathematics 8.1 or 51.1; Business 50.1; Business 70.2; Accounting 1, 2, 4; and one course chosen from Accounting 3, 30, or 40.
Students who have received transfer credits from other colleges must complete at least 20 of the 25 or 26 credits at Brooklyn College.
Students must apply to the Office of Student Records for their certificates upon completion of program requirements. The certificate of achievement in accounting will be issued upon the completion of the program with a grade of $C$ or better in each course.

## Department recommendation

Students planning careers in areas other than public accounting or teaching, such as internal, managerial, or governmental accounting, should consult a department counselor to prepare a plan of study appropriate to their professional goals.
B.S.-M.P.S. degree program (Master of Professional Studies) in computer and information science and economics
HEGIS code 0799

## Admission

Students should apply for admission to the program as early as possible, but no later than the fourth term of undergraduate work. Applications are considered by the chairperson of the Computer and Information Science Department and the chairperson of the Economics Department on the basis of superior academic
records and evidence of scholarly potential. Students must maintain a scholastic index of B or higher to remain in the program.

## Planning the program

Students must plan their programs before the beginning of the junior year with the assistance of a counselor in each department. Some undergraduate course requirements may be satisfied by advanced placement or exemption examination. Information about the examinations is in the chapters "Admission" and "Academic Standing" in this Bulletin.
A student who completes undergraduate requirements for a B.S. degree with a major in accounting may choose that degree on completion of the program.

Program requirements (140 credits)
Undergraduate courses (110 credits)
Computer and Information Science 1.5 or 2.80, 4.1, 5.2, 13.2, 15 or 16, 22, 60.1 or 88.1.
One course chosen from the following: Computer and Information Science 2.10, 2.30, 2.50, 2.60, 2.70,
2.85.

Two courses chosen from the following: Computer and Information Science 44, 45, 48, 49, 51. With permission of the chairperson of the Department of Computer and Information Science, the student may substitute one of the following courses for any course in this requirement: Computer and Information Science 23, 24, 25, 27.
Mathematics 3.3 and 4.3.
Mathematics 8.1 or Economics 30.2.
Mathematics 10.1 or Economics 31.1.
Economics 10.1 and 20.1.
Two of the following: Economics 70.1, 70.2, 70.3.
Accounting 1, 2, 3, 4, and 5. CPA candiates must also complete Accounting 6, 10, 11, 12, 13, 30, 40, and 41.

Additional undergraduate courses in any department or program to bring the total number of undergraduate credits to at least 110.

Graduate required courses (18 credits)
Three courses chosen from either group (a) or (b):
(a) Economics 705X, 720X, 721X, 722X.
(b) Economics $704 \mathrm{X}, 706 \mathrm{X}, 707 \mathrm{X}, 708 \mathrm{X}, 714 \mathrm{X}$. In order to qualify for the courses in group (b), the student must have completed all of the following undergraduate courses in addition to the program requirements:
Accounting $6,10,11,12,13,30,40$, and 41 . Students who intend to use this program to qualify for the oneyear reduction in the experience requirement for the CPA license must elect Economics 700X or 710X; 711X or 715X; and 722X as part of their graduate elective courses.
Three of the following: Computer and Information Science 714X, 717.1X, 726X, 757X, 758X, 759X, 760X, 764X, 765X.
Thesis or comprehensive examination under the guidance of the Department of Economics or the Department of Computer and Information Science.

Graduate elective courses (12 credits)
Twelve credits chosen with the approval of the department under whose guidance the student chooses to write a thesis or take a comprehensive examination.
B.A. degree program for social studies teacher (7-12) HEGIS code 2201.01
The student-teaching sequence of courses in secondary school social studies education is described in the "Education" section in this Bulletin.

## Division of Graduate Studies

Graduate economics courses. Undergraduate students whose scholastic work is superior may be permitted to take graduate courses and apply the credit towards the baccalaureate degree. Students must consult with the deputy chairperson for graduate studies or the director of the accounting programs for approval prior to registration.

The Economics Department offers a master of arts degree program in economics and cosponsors, with the Department of Political Science, a master of arts degree program in political economy. Some courses may be creditable toward the CUNY doctoral degree. Courses in accounting may be used to qualify for the C.P.A. examination in the State of New York.

For information, students should consult the department's deputy for graduate studies. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

+Economics 10.1 and 20.1 are required courses for students majoring in economics and accounting. Sophomores may take Economics 10.1 as a corequisite course. Juniors and seniors majoring in other departments may enroll in advanced courses without taking Economics 10.1, but they must have the necessary background information.
§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses
offered. Not all courses are offered each term.

## Macroeconomics

## *0.1 Contemporary Problems of the Economy

3 hours; 3 credits
Instability, monopoly, inequality, poverty, development. Topics studied vary with each section and reflect the interests of the students and the instructor. Intended for nonmajors.

## *+10.1 Elementary Macroeconomics

4 hours; 4 credits
Contemporary economic analysis of the operation of the United States economy. Role of markets and the determination of the overall level of economic activity. Dynamic process of growth, inflation, and international trade.
Prerequisite: a score of 32 or higher on the CUNY Mathematics Skills Assessment Test or a grade of $C$ or higher in Core Studies 5, or passing Mathematics 2.9 or higher.

### 10.2 Intermediate Macroeconomics

3 hours; 3 credits
Static and dynamic analysis of national income measurement; aggregate approaches to theories of income; employment, prices, interest rates; public policies for growth and stabilization. (Not open to students who have completed Economics 19.1.)
Prerequisite: Economics 20.1 and 31.1, or the equivalent.

### 10.4 Theory of Economic Growth

3 hours; 3 credits
Steady state growth equilibria, comparative dynamics, and disequilibrium growth. Post-Keynesian, neoclassical, and neo-Ricardian models. Production functions and the capital valuation problem; the duality of the growth rate and the profit rate; two-sector and multisector models; the golden rule and problems of optimal growth. Critical analysis of growth models. Structural requirements and behavioral conditions for existence and stability of equilibrium. Fundamental question of why economies generate pressures for growth.
Prerequisite: Economics 20.1 and 31.1, or the equivalent.

## Microeconomics

## +20.1 Elementary Microeconomics

3 hours; 3 credits
Basic laws and principles of economic science. Value, price, and distribution. Preparation for more comprehensive studies involving application of the tools of analysis to economic problems.
Prerequisite: +Economics 10.1 and a score of 32 or higher on the CUNY Mathematics Skills Assessment Test or a grade of C or higher in Core Studies 5, or passing Mathematics 2.9
or higher.

### 20.2 Intermediate Microeconomics

3 hours; 3 credits
Methods and results of economic analysis used in interpretation of economic data and in solution of economic problems. Outstanding exponents of major theoretical approaches.
Prerequisite: +Economics 20.1 and 31.1, or the equivalent.

## Quantitative and mathematical economics

### 30.2 Introduction to Economic and Business Statistics

4 hours; 4 credits
Descriptive statistics including measures of central tendency, dispersion, and skewness. Probability and theoretical probability distributions including the binomial function and the normal curve. Sampling, estimation, and test of hypothesis. Simple correlation and regression analysis. Applications from social sciences. This course is the same as Business 30.2. (Not open to students who are enrolled in or have completed any of the following: Sociology 19.1, 20, 20.1, Political Science 12.5, 57, Psychology 40.1, 50, Mathematics 8.1, 51.1.)
Prerequisite: a score of 32 or higher on the CUNY Mathematics Skills Assessment Test or a grade of C or higher in Core Studies 5, or passing Mathematics 2.9 or higher.

### 30.3 Advanced Economic and Business Statistics

## 3 hours; 3 credits

Index number construction. Time series analysis. Chi-square, F, and student's t distributions. Advanced topics in statistical inference. Variance, multiple regression, and correlation analysis. Applications from economics. This course is the same as Business 30.3.
Prerequisite: Economics 30.2 or Business 30.2 or Mathematics 51.1; and Economics 31.1 or its equivalent.

### 30.4 Econometrics

3 hours; 3 credits
Relation of economic theory to empirical investigation. Construction of economic models, with attention to the operational definition of theoretical concepts and to the problem of identification. Least squares estimation of the general linear model. Estimation problems arising from errors in variables, autocorrelation, estimation by two-stage least squares, and other methods.
Prerequisite: Economics +10.1 or 20.1; and Economics 31.1 or its equivalent; and either Mathematics 51.1 or both of the following: Economics 30.2 or Business 30.2, and Economics 30.3 or Business 30.3.

### 31.1 Fundamental Methods of Mathematical Economics I

3 hours; 3 credits
Mathematical tools necessary for advanced study. Application of differential calculus and matrix algebra to economic analysis. Consideration of static, comparative static, and optimization models. (Not open to students who have completed Mathematics 10.1.)
Prerequisite: +Economics 20.1 and Mathematics 2.9 or any Mathematics course numbered higher than 2.9, or placement in Mathematics 3.3 on the basis of the calculus placement test.

### 31.2 Fundamental Methods of Mathematical Economics II

3 hours; 3 credits
Application of matrix algebra, integral calculus, differential and difference equations, linear algebra, and the calculus of variations to the study of economic analysis. Economic models dealing with dynamic aspects of optimization, maximization, and minimization including problems from mathematical programming, queueing theory, growth, input- output, cyclical models. Intended for prospective graduate students in economics or business.
Prerequisite: Economics 31.1 or its equivalent.

### 31.3 Introduction to Mathematical Economic Theory

3 hours; 3 credits
Demand, supply, cost, production, utility, and elasticity. Theory of the firm: marginal analysis versus linear programming. Theory of value, general economic equilibrium, macroeconomic relations, and simple dynamic models.
Prerequisite: +Economics 20.1 and 31.2 or permission of the chairperson.

## Human resources and economics of poverty

### 40.1 Labor Economics

3 hours; 3 credits
Labor force concepts, composition, trends, and measurements. Human resource development problems in relation to population and economic growth. Wage patterns and theories. Characteristic risks and problems of the wage earner. Legislative and private attempts to secure full employment. Insecurity and underutilization of the labor force.
Prerequisite: +Economics 10.1.

### 40.2 Trade Unionism

3 hours; 3 credits
Trade unions and collective bargaining. Labor's relations with the community.
Prerequisite: +Economics 10.1.

### 40.4 Welfare and Social Security

3 hours; 3 credits
Public and private programs for needs arising from poverty, old age, sickness, disability, unemployment, and death. Problems of financing and adequacy of Social Security and welfare. Relations between such public programs as Old Age and Survivor's Insurance and Medicare, and such private programs as old-age pension plans and group health insurance. Such alternatives as manpower retraining, negative income tax, and antipoverty measures.
Prerequisite: +Economics 10.1.

### 40.5 Economics of Discrimination

3 hours; 3 credits
Discrimination in labor markets as it applies to sex, race, ethnic, and religious groups. Historical and theoretical analysis of the relationship of discrimination to economic systems, presented from alternative perspectives. Slavery, immigration, unionization, affirmative action, and the problem of quotas.
Prerequisite: +Economics 10.1.

## Economic geography

### 60.1 Introduction to Economic Geography

3 hours; 3 credits
Economic-geographic factors in the use of the earth. Land forms, soils, and climatic regions of the world.
Power and mineral resources, agricultural production, and major industries of the world with emphasis on the United States.
Prerequisite: +Economics 10.1.

### 60.2 Environmental and Natural Resource Economics

3 hours; 3 credits
Economic aspects of pollution and resource conservation. Resource scarcity. Allocation of renewable and depletable resources. Application of environmental and conservation economics to current public policy problems.
Prerequisite: Economics 20.1 or permission of the chairperson.

## Growth and history of economic thought

### 65.1 Evolution of Modern Economic Thought

3 hours; 3 credits
Economic thought from medieval times through the nineteenth century. English classical doctrine and variants.
Prerequisite: +Economics 10.1.

### 65.2 Newer Trends of Economic Thought

3 hours; 3 credits
Development of economic thought since 1870. Neoclassicism, institutionalism, general equilibrium, and socialist and Keynesian economics.
Prerequisite: +Economics 20.1.

### 65.3 American Economic History

3 hours; 3 credits
The nature and sources of American economic growth from
the colonial period to the present. The development of
colonial economy; economic growth before the Civil War; industrialization of the American economy and the rise of big business; government, business, and labor, including the changing participation of women and minorities in the era of industrial maturity; the creation of a managed economy in the mid-twentieth century. This course is the same as History 43.6.
Prerequisite: Core Studies 4, or Economics 10.1, or permission of the chairperson.

## Money and finance

### 70.1 Money and Banking

3 hours; 3 credits
The nature of money, the monetary system, and monetary standards. Commercial banking operations and noncommercial banking institutions. Relationship of money and banking to prices and economic activity.
Prerequisite: +Economics 10.1.

### 70.4 International Economic Relations

3 hours; 3 credits
United States commercial policy. Multicountry trade groupings. International economic organizations. Underdeveloped areas and technical assistance. The private firm in international trade organization and operations. Interrelationship of private and government foreign trade policies and practices.
Prerequisite: +Economics 10.1.

### 70.7 Investment Science

4 hours; 4 credits
Net present value, internal rate of return; yield, duration, immunization, and convexity of fixed-income securities; mean-variance portfolio theory, Markowitz model, CAPM, factor models, arbitrage pricing theory; models of asset dynamics, Ito's lemma, options theory, Black-Scholes equation, interest-rate derivatives. (This course is the same as Business 70.7 and Mathematics 74.2.)
Prerequisite: Economics 30.2 or Business 30.2 or Mathematics 8.1 or Mathematics 51.1; Economics 31.1 with a grade of B- or better; Economics 70.2 or Business 70.2.

## Economic policy

### 75.1 Contemporary Economic Policy

3 hours; 3 credits
Objectives of economic policy: full employment, price stability, growth, and general welfare. Techniques for securing such objectives including fiscal and monetary policy, national and regional planning, use of product and income accounts, forecasting, macroeconomic models, and decision design.
Prerequisite: +Economics 10.1.

### 75.2 Public Finance

3 hours; 3 credits
Economics of public finance. Government expenditures, taxation, and debt in relation to efficient resource use, equity in the distribution of wealth and income, stable growth, and related aspects of economic wellbeing.
Prerequisite: +Economics 20.1.

### 75.3 Comparative Economic Systems

## 3 hours; 3 credits

Different methods for reorganization and control of the present economic system. Comparison of selected recent economic developments in such countries as Russia, France, China, and the United States.
Prerequisite: +Economics 20.1.

### 75.4 Socialist Thought

3 hours; 3 credits
Various forms of socialism in their historical setting. Ideologies, critiques of capitalism, and programs of change.
Prerequisite: +Economics 20.1.

### 75.5 Urban Economics

3 hours; 3 credits
Economic basis of the urban economy. Land utilization, land tenure, and land and building income. Ratios of improvement value to site value. Zoning regulations and city planning. Common real estate instruments. Prerequisite: +Economics 20.1.

### 75.6 Industrial Organization

3 hours; 3 credits
Economic analysis of the structure of markets and the behavior of firms. Examination and evaluation of public policy toward business. Topics include pricing strategies, product differentiation, barriers to entry, corporate mergers, research and development, and antitrust legislation and regulation.
Prerequisite: Economics 20.1

## Development and trade

### 76.1 International Macroeconomics and Finance

3 hours; 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: +Economics 20.1.

### 76.2 Economic Development Theory

3 hours; 3 credits
Cumulative process of economic growth. Consideration of major contributing factors and their interaction, capital formation, expanding markets, and population growth. Role of social and political institutions. Economic development of stationary economies. Economic growth and the problem of fluctuations. Concepts, theories, and measurements.
Prerequisite: +Economics 20.1.

### 76.3 International Trade

3 hours; 3 credits
Gains from trade, the nature of comparative advantage and the determination of patterns of trade, the roles of scale economies, imperfect competition, and factor movements in the international economy. Tariffs, non-tariff barriers, administered protection, and some aspects of the political process of the formation of trade policy. Effects of trade policies on employment, prices, income distribution, and national economic welfare. Case studies.
Prerequisite: +Economics 20.1.

## Honors seminars

### 81.1 Seminar in Macroeconomics

3 hours; 3 credits
Mathematical and econometric techniques. Course description may be obtained in the department office before registration.
Prerequisite: Economics 10.2.

## 81.3, 81.4 Independent Research in Macroeconomics

Minimum of 9 hours conference and independent work§; 3 credits
Independent research supervised by a faculty member. Approved topic. Weekly conference. Research paper.
Prerequisite: Economics 10.2.

## 82.1, 82.2 Seminar in Microeconomics

3 hours; 3 credits
Problems of theory of production, the firm, and consumer behavior. Course description may be obtained in the department office before registration.
Prerequisite: Economics 20.2.

### 82.3 Independent Research in Microeconomics

Minimum of 9 hours conference and independent work§; 3 credits
Independent research supervised by a faculty member. Approved topic. Weekly conference. Research paper.
Prerequisite: Economics 20.2.

### 83.1 Seminar in Quantitative and

## Mathematical Economics

3 hours; 3 credits
Course description may be obtained in the department office before registration.
Prerequisite: Economics 30.3 or 31.2; or Business 30.3.
83.3 Independent Research in Quantitative and Mathematical Economics

Minimum of 9 hours conference and independent work§; 3 credits
Independent research supervised by a faculty member. Approved topic. Weekly conference. Research paper.
Prerequisite: Economics 31.2 or Business 31.4.

### 84.1 Seminars in Human Resources and Economics of Poverty

3 hours; 3 credits
Labor movements, industrial relations systems, and poverty. Course description may be obtained in the department office before registration.
Prerequisite: Economics 40.1 or 40.4 .
84.3, 84.4 Independent Research in Human Resources and Economics of Poverty

Minimum of 9 hours conference and independent work§; 3 credits
Independent research supervised by a faculty member. Approved topic. Weekly conference. Research paper.
Prerequisite: Economics 40.1 or 40.4 .

## 85.1, 85.2 Seminar in Business Policy and Managerial Economics

## 3 hours; 3 credits

Business price formation, marketing and finance, and relevant contributions to theories of decision making and of the behavioral sciences. Course description may be obtained in the department office before registration. (Economics 85.1 is not open to students who have completed Economics 80.1 or Business 80.1.)

Prerequisite: one of the following: Business 31.4, 40.3, 50.1, 50.2, 50.4 .

### 86.2 Seminar in Economic Geography

3 hours; 3 credits
Analysis of a nation, continent, or area by ecogeographic phenomena. Course description may be obtained in the department office before registration.
Prerequisite: Economics 60.1.

## 87.1, 87.2 Seminar in Money and Finance

3 hours; 3 credits
Four financial markets: the corporation-security, mortgage, municipals, and federal government securities. The elements analyzed in each of the markets are the determinants of demand for funds, the mechanism through which borrowing and lending take place, and the determinants of the supply of funds. Course description may be obtained in the department office before registration. (Economics 87.1 is not open to students who have completed Business 80.2.)
Prerequisite: Economics 70.1.

## 87.3, 87.4 Independent Research in Money and Finance

Minimum of 9 hours conference and independent work§; 3 credits
Independent research supervised by a faculty member. Approved topic. Weekly conference. Research paper.
Prerequisite: Economics 70.1.

### 88.1 Seminar in Economic Growth and the History of Economic Thought

3 hours; 3 credits
The thought of an economist or economic school, or the study of the economic history of a world area or group of people. Course description may be obtained in the department office before registration.
Prerequisite: Economics 65.1 or 65.3 or 76.2 .
88.3 Independent Research in Growth and the History of Economic Thought

Minimum of 9 hours conference and independent work§; 3 credits
Independent research supervised by a faculty member. Approved topic. Weekly conference. Research paper.
Prerequisite: Economics 65.1 or 65.3 or 76.2 .

### 89.1 Seminar on Economic Policy

3 hours; 3 credits
Public economic policy and theoretical, historical, and statistical aspects of economic growth in developed and underdeveloped countries. Course description may be obtained in the department office before registration.
Prerequisite: Economics 75.2.

### 89.3 Independent Research in Economic Policy

Minimum of 9 hours conference and independent work§; 3 credits
Independent research supervised by a faculty member. Approved topic. Weekly conference. Research paper.
Prerequisite: Economics 75.2.

### 90.3 Special Topics

3 hours; 3 credits
Topics vary from term to term. Course descriptions may be obtained from department office before registration. Students may take this course for credit twice, but may not repeat topics.
Prerequisite: permission of the chairperson.

### 92.1 Seminar in Economic Development and Trade

## 3 hours; 3 credits

Study of a people, country, or area and the international aspects of their economic development. (See also
Seminar 89.1.) Course description may be obtained in the department office before registration.
Prerequisite: Economics 76.1 or 76.2 .

## 92.3, 92.4 Independent Research in Economic Development and Trade

Minimum of 9 hours conference and independent work§; 3 credits
Independent research supervised by a faculty member. Approved topic. Weekly conference. Research paper.
Prerequisite: Economics 76.1 or 76.2 .
The following course is inactive and will be offered only if there is sufficient demand:
10.3 Business Cycles

## Accounting

## Accounting 1 Introductory Accounting

4 hours; 4 credits
Introduction to the concepts and principles of accounting. Techniques of data accumulation. Nature and interpretation of financial statements. Corporate accounting. (Not open to students who have completed Economics 71.01 or 71.1.) Fall and spring terms.

## Accounting 2 Introduction to Managerial Accounting

3 hours; 3 credits
Accounting systems and controls. Cost accounting for manufacturers. Uses of accounting data. Analysis of changes in financial position. (Not open to students who have completed Economics 71.02 or 71.2 .) Fall and spring terms.
Prerequisite: Accounting 1, or Economics 71.01 or 71.1.

## Accounting 3 Intermediate Financial Accounting I

3 hours; 3 credits
Detailed consideration of the accounting principles and valuation of current assets, operational assets, liabilities, and taxes. Concepts of future and present value. Emphasis placed on pronouncements of the Financial Accounting Standards Board and the Accounting Principles Board. (Not open to students who have completed Economics 71.03 or 71.3 .) Fall and spring terms.
Prerequisite: Accounting 2, or Economics 71.02 or 71.2.

## Accounting 4 Cost Accounting

3 hours; 3 credits
The theories and methods of accounting for manufacturing costs with the emphasis placed on control, planning, and decision making. Historical and predetermined cost accumulation. Costs for special purposes. Cost concepts, problems, and applications. (Not open to students who have completed Economics 71.04 or 71.5 .) Fall and spring terms.
Prerequisite: Accounting 2, or Economics 71.02 or 71.2.

## Accounting 5 Intermediate Financial Accounting II

3 hours; 3 credits
Detailed consideration of long-term investments, liabilities,
and stockholders' equity. Statement of changes in financial position. Other related topics. (Not open to students who have completed Economics 71.05 or 71.3.) Fall and spring terms.
Prerequisite: Accounting 3, or Economics 71.03.

## Accounting 6 Introduction to Auditing

3 hours; 3 credits
Internal auditing. Control systems. Auditing programs and techniques. Adequacy of evidence. (Not open to students who have completed Economics 71.06 or 71.6 .) Fall and spring terms.
Prerequisite: Accounting 3, or Economics 71.03 or 71.3.

## Accounting 10 Advanced Financial Accounting

## 3 hours; 3 credits

Significant issues relating to theory and problems of accounting topics including leases, pensions, and earnings per share. Partnership accounting. (Not open to students who have completed Economics 71.07 or 71.7.) Fall and spring terms.
Prerequisite: a grade of C or higher in Accounting 5 or Economics 71.05 .

## Accounting 11 Consolidated and Not-for-Profit Entities

3 hours; 3 credits
Theory and problems of consolidated statements and not-for-profit entities. (Not open to students who have completed Economics 71.08 or 71.4 .) Fall and spring terms.
Prerequisite: a grade of C or higher in Accounting 5, or Economics 71.05 or 71.3.

## Accounting 12 Advanced Managerial Accounting

3 hours; 3 credits
Quantitative analysis for decision making in manufacturing. Topics in capital budgeting, inventory control, and linear programming. Decision models under uncertainty. Cost behavior patterns and cost allocations. The computer as a tool. (Not open to students who have completed Economics 71.09 or 71.5 .) Fall and spring terms.
Prerequisite: Economics 30.2 or Business 30.2; and a grade of $C$ or higher in Accounting 4 or Economics 71.04.

## Accounting 13 Auditing in the Public Environment

3 hours; 3 credits
The attest function. Independent public accounting: principles and procedures. The code of professional ethics. Detailed consideration of Statements on Auditing Standards. (Not open to students who have completed Economics 71.10 or 71.6 .) Fall and spring terms.
Prerequisite: Economics 30.2 or Business 30.2; and grades of $C$ or higher in Accounting 5 or Economics 71.05, and in Accounting 6 or Economics 71.06.

Prerequisite or corequisite: Accounting 10 or Economics 71.07.

## Information systems and control

## Accounting 20 Budgeting Systems

2 hours; 2 credits
Concepts of planning and control. Areas of budgetary application and alternative planning techniques. Applications to private, semiprivate, and public sectors of the economy. (Not open to students who have completed Economics 79.1.)
Prerequisite: Accounting 5, or Economics 71.05 or 71.3; and Accounting 4, or Economics 71.04 or 71.5 ; or the equivalent of the courses.

## Accounting 21 Accounting Information Systems

## 2 hours; 2 credits

Purposes and uses of accounting information systems; design, implementation, and evaluation. Interrelationship of accounting and managerial information systems. Emphasis on computer applications.
(Not open to students who have completed Economics 79.2.)
Prerequisite: Core Studies 5 or the equivalent and Accounting 2.

## Accounting 22 Accounting Systems for Nonprofit and Government Enterprise

## 2 hours; 2 credits

Problems relating to use and control of budgets and accounting aspects of funding. Principles and financial reporting standards for municipalities, hospitals, charitable, religious, and educational institutions. Includes general fund accounting, capital and debt service funds, trust and agency funds, hospital and college accounting; cost-benefit analysis and program planning. (Not open to students who have completed Economics 79.3.) Fall and spring terms.
Prerequisite: Accounting 3 or Economics 71.03, and Accounting 4 or Economics 71.04; or permission of the chairperson.

## Taxation

## Accounting 30 Income Taxation

4 hours; 4 credits
Principles and problems associated with the federal income-tax laws. Methods of tax research. Broad implications and consequences of the tax system with brief coverage of other tax laws and jurisdictions. (Not open to students who have completed Economics 70.5.) Fall and spring terms.
Prerequisite: Accounting 1, or Economics 71.01 or 71.1 .

## Accounting 31 Taxation of Business Enterprises

3 hours; 3 credits
A survey course outlining the basic tax law affecting business enterprises. Corporate income tax from organization of the corporate entity, capital structure, corporate distributions, the income process, redemptions, liquidations, and reorganizations; small business corporations (Sub Ch. S); and partnership taxation. This course is designed to provide theoretical and practical experience with tie-ins to applicable tax forms. The case study method will be used where applicable. A class project or research paper will be required. (Not open to students who have completed Economics 70.6.) Fall and spring terms.
Prerequisite: Accounting 30 or Economics 70.5, and Accounting 3 or Economics 71.03; or their equivalent.
Business law

## Accounting 40 Business Law I

3 hours; 3 credits
Systematic analysis of legal concepts and principles applied to economic institutions. Wealth and income of individuals, families, and business enterprises including: fixing future behavior (contracts); the rules of the game in commodity markets (sales); distribution of risks through primary and secondary underwriters (insurance, guaranty, and suretyship); storage of commodities function (bailments); sales of commodities with secured interests (secured transactions); accumulated capital, consumer goods, and legal rights in commodities and diverse intangibles (personal property). (Not open to students who have completed Economics 50.5.) Fall and spring terms.
Prerequisite: +Economics 10.1.

## Accounting 41 Business Law II

3 hours; 3 credits
Systematic analysis of legal concepts and principles applied to ownership, control, and management of natural resources (real property); delegating authority and responsibility (agency); structure and functions of business enterprises (partnerships, corporations, and holding companies); creditors' rights, rehabilitation of failing firms (creditors' compositions and bankruptcy); substitutes for money (negotiable instruments); and elements of providing wealth and/or income during life and after death (trusts and wills). (Not open to students who have completed Economics 50.6.) Fall and spring terms.
Prerequisite: Accounting 40 or Economics 50.5.

## Accounting seminars

## Accounting 83.1, 83.2 Seminar in Law in Economic Society

3 hours; 3 credits
Interdisciplinary analysis of legal and economic theory; their relationship and interaction covering selected topics that may include commodity and resource markets, money and banking, investments, accounting, international trade, human resources, and urban land contracts. Course description may be obtained in the department office before registration. (Accounting 83.1 is not open to students who have completed Economics 85.5. Accounting 83.2 is not open to students who have completed Economics 85.6.)
Prerequisite: Accounting 41 or Economics 50.6.

## Accounting 84.1, 84.2 Seminar in Accounting

3 hours; 3 credits
Basic postulates of accounting and income measurement. Accounting aspects of business control and decision making. Application of accounting in special areas including those subject to administrative control. Written and oral reports. Course description may be obtained in the department office before registration. (Accounting 84.1 is not open to students who have completed Economics 93.6. Accounting 84.2 is not open to students who have completed Economics 93.7.)
Prerequisite: Accounting 5, or Economics 71.05 or 71.3; and Accounting 4, or Economics 71.04 or 71.5 .

## Accounting 90.2 Special Topics

2 hours; 2 credits
Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take this course twice, but may not repeat topics.
Prerequisite: permission of the department chairperson.

## Accounting 90.3 Special Topics

## 3 hours: 3 credits

Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take this course twice, but may not repeat topics.
Prerequisite: permission of the department chairperson.

## Business, Management, and Finance

## Business 30.2 Introduction to Economic and Business Statistics

4 hours; 4 credits
Descriptive statistics including measures of central tendency, dispersion, and skewness. Probability and theoretical probability distributions including the binomial function and the normal curve. Sampling, estimation, and test of hypothesis. Simple correlation and regression analysis. Applications from social sciences. This course is the same as Economics 30.2. (Not open to students who are enrolled in or have completed any of the following: Sociology 19.1, 20, 20.1, Political Science 12.5, 57, Psychology 40.1, 50, Mathematics 8.1, 51.1.)
Prerequisite: a score of 32 or higher on the CUNY Mathematics Skills Assessment Test or a grade of C or higher in Core Studies 5, or passing Mathematics 2.9 or higher.

## Business 30.3 Advanced Economic and Business Statistics

3 hours; 3 credits
Index number construction. Time series analysis. Chi-square, F, and student's t distributions. Advanced topics in statistical inference. Variance, multiple regression, and correlation analysis. Applications from economics. This course is the same as Economics 30.3.
Prerequisite: Business 30.2 or Economics 30.2 or Mathematics 51.1; and Economics 31.1 or its equivalent.

## Business 31.4 Operations Management

3 hours; 3 credits
Study in managerial decision making to solve a wide range of operating management problems. Topics covered include: planning, evaluating, and control of operations; forecasting and inventory management; scheduling; project design and management; resource allocation; queueing models; quality of the work environment; and technological change. Design and implementation of management strategy will be emphasized through computer simulation, problems, and cases. (Not open to students who are enrolled in, or who have completed Mathematics 73.2 or Economics 31.4.)
Prerequisite: +Economics 20.1, 31.1; and Business 50.1.

## Business 40.3 Personnel Management

3 hours; 3 credits
Managerial labor policies. Factors affecting productive efficiency and morale of workers. Methods and policies of apprenticeship, recruitment, dismissal; criteria of employee selection, wage payment, and work standards. Problems of monotony and work schedules. Welfare policies. This course is the same as Psychology 12.7. (Not open to students who have completed Economics 40.3.)
Prerequisite: +Economics 10.1 or Psychology 10.
+Juniors and seniors not majoring in economics or accounting may take this course without any prerequisites.

## Business 50.1 Introduction to Management

3 hours; 3 credits
Principles of management. Functions of the manager. Organization and operation of American business. Management processes, concepts, and specific problems of production, management, labor relations, marketing, financing, decision-making and accounting. Lectures, discussions, and case studies. (Not open to students who have completed Economics 50.1.)
Prerequisite: +Economics 10.1.
+Juniors and seniors not majoring in economics or accounting may take this course without any prerequisites.

## Business 50.2 Principles of Marketing Management

3 hours; 3 credits
An overall view of the field of marketing and the theory of consumer and enterprise demand. Emphasis is given to consumer behavior, advertising, social responsibility, marketing strategies, market potential, product planning and development, market research, pricing, sales promotion, channels of distribution and government regulation. (Not open to students who have completed Economics 50.2.)

## Business 50.4 Organizational Behavior

3 hours; 3 credits
This course deals with individual and group behavior within organizational systems. Topics covered include: job satisfaction, work motivation, communications, organizational design, organizational culture, organizational change, leadership, team development, interpersonal and intergroup conflict management, total quality management, and social responsibility/ethics. (Not open to students who have completed Economics 50.4.)
Prerequisite: Business 50.1.

## Business 50.5 Small Business Management and Minority Entrepreneurship

3 hours; 3 credits
Entrepreneurial processes of new venture creation and small business management. How entrepreneurs start businesses, psychological and economic characteristics of entrepreneurs, obtaining financing, small business marketing and advertising, financial and cash management for a small business, managing a small business, and using the World Wide Web as a profitable business tool. Importance of small business development by minorities. Case studies of successful minority entrepreneurs will be examined.
Prerequisite: Business 50.1.

## Business 50.7 Advertising and Direct Marketing

3 hours; 3 credits
Importance of advertising and direct marketing in the mix of strategies for selling. Determining budgets and objectives. Evaluating strategies. Development of a media plan. Analysis of the creative process. Copy and media testing. Direct response advertising, direct mail, catalogs, mailing lists, cooperative advertising, telemarketing, and lead generation. Group projects and real-life applications. (Not open to students who have completed Economics 50.7.) This course is the same as Television and Radio 17.
Prerequisite: Business 50.2 or Television and Radio 6.5.

## Business 50.8 Management of New and Emerging Technologies

3 hours; 3 credits
The focus of this course is on the management of work units charged with technical renewal or new applications of technology. The practical problems of people in industry, involving interpersonal relations, groups, leadership, and organizational change, will be viewed in light of the overall strategy of the firm. Issues will range from managing project groups in traditional pyramid organizations, as well as in the newer matrix organizations, to managing the transfer of technology on an international basis. This course will use the case study approach predominantly, but also will include small group student projects. (Not open to students who have completed Economics 50.8.)
Prerequisite: Business 50.1.

## Business 50.9 Consumer Behavior

3 hours; 3 credits
Interdisciplinary approach to understanding consumer motivation and behavior. The relationship of information processing and learning theory on buyer behavior, importance and measurement of images and attitudes, theories of promotion and communication, and models of consumer behavior. Consumerism. Application of theoretical principles
to advertising, positioning, segmentation, and product strategies. (Not open to students who have completed Economics 50.3 or Economics 50.9.)
Prerequisite: Business 50.2.

## Business 70.2 Corporation Financial Management

3 hours; 3 credits
Basic problems faced by financial managers. Goals and functions of financial managers, tools of financial analysis, forecasting funds requirements, management of current assets, short-, intermediate-, and longterm financing.
(Not open to students who have completed Economics 70.2.)
Prerequisite: Economics 20.1 and Accounting 1.

## Business 70.3 Investment and Securities Markets

3 hours; 3 credits
Existent markets including investment institutions and security exchanges. Technique of investment analysis. (Not open to students who have completed Economics 70.3.)
Prerequisite: Business 70.2 or Economics 70.2.

## Business 70.7 Investment Science

4 hours; 4 credits
Net present value, internal rate of return; yield, duration, immunization, and convexity of fixed-income securities; mean-variance portfolio theory, Markowitz model, CAPM, factor models, arbitrage pricing theory; models of asset dynamics, Ito's lemma, options theory, Black-Scholes equation, interest-rate derivatives. (This course is the same as Economics 70.7 and Mathematics 74.2.)
Prerequisite: Economics 30.2 or Business 30.2 or Mathematics 8.1 or Mathematics 51.1; Economics 31.1 with a grade of B - or better; Economics 70.2 or Business 70.2.

## Business 76.4 International Business and Marketing

3 hours; 3 credits
An introduction to the international business environment. Topics covered include: issues involved in researching and entering overseas markets, identification and evaluation of opportunities in overseas markets, and problems faced by international business. Emphasis will be placed on understanding the economic, financial, technological, sociopolitical, and cultural environments in designing international business strategies.
Prerequisite: Economics 10.1 or Business 50.2.

## Seminars

## Business 80.1 Seminar in Business Management and Policy

3 hours; 3 credits
Analysis and discussion of selected cases in business organization, staffing, supervision, motivation, and compensation of employees; strategic planning, budgeting, controllership, and decision-making in the financing, marketing, and production functions of business firms. The students will employ models to develop solutions to common management problems. (Not open to students who have completed Economics 80.1.)
Prerequisite or corequisite: Business 50.1 or Economics 50.1, and senior standing, and at least 34 credits in departmental courses required for the B.S. degree in business, management, and finance.

## Business 80.2 Seminar in Business Finance

3 hours; 3 credits
Research, analysis, and discussion of case histories in the financing of business, multinational, and not-forprofit enterprises, including study of debt and equity issues in mergers, consolidations, acquisitions, splitups and expansions. Financing by venture capital, banks, and other financial institutions including underwriters and governmental agencies. Emphasis on alternatives facing financial managers in decision making under conditions of certainty and uncertainty. (Not open to students who have completed Economics 80.2.)
Prerequisite or corequisite: Business 50.1, Economics 70.1, and Business 70.2; and senior standing; and at least 34 credits in departmental courses required for the B.S. degree in business, management, and finance.

## Business 80.3 Seminar in Computer-Assisted Management Games

3 hours; 3 credits
Simulation of a business environment providing practice in various management functions such as objective setting, planning, supervision, organizing, controlling, problem solving, and leadership. Emphasis on presentation and communication skills in presenting results and their justification. Includes games involving competition in the marketplace and use of knowledge-based management software for the business executive. The desired course objectives are enhanced negotiating skills, improved personnel observations, and optimized managerial behaviors. (Not open to students who have completed Economics 80.3.) Prerequisite or corequisite: Business 30.2; or Mathematics 8.1 or 51.1 ; and Business 31.4; and Business 50.1 or Economics 50.1; and Computer and Information Science 5.2 or 1.10; and senior standing; and at least 34 credits in departmental courses required for the B.S. degree in business, management, and finance.

## Business 80.4 Seminar in Marketing Research

3 hours; 3 credits
Basic techniques of marketing research, including research design, use of primary and secondary data, questionnaire construction, sample selection, data collection and analysis, report writing, and applications of research to the solution of marketing problems. A group research project involving data collection and analysis is required. (Not open to students who have completed Economics 80.4.)
Prerequisite or corequisite: Business 30.2 or Economics 30.2, or Mathematics 8.1 or 51.1; and Business 50.2; and senior standing.

## Honors seminars

## Business 85.3, 85.4 Independent Research in Business Policy and Managerial Economics

Minimum of 9 hours conference and independent work§; 3 credits
Independent research supervised by a faculty member. Approved topic. Weekly conference. Research paper. (Students may not receive credit for more than two of the following courses: Business 85.3, 85.4; Economics 85.3, 85.4.)
Prerequisite: one of the following: Business 31.4, 40.3, 50.1, 50.2, 50.4; Economics 31.4, 40.3, 50.1, 50.2, 50.3, 50.4.

## Business Internship

97.5, 97.6 Fieldwork I, II

9 hours fieldwork; 3 credits
Off-campus internship or independent research project supervised by a faculty member. Final report. (Business 97.5 is not open to students who have completed Economics 87.5 or 97.5 . Business 97.6 is not open to students who have completed Economics 87.6 or 97.6.)
Prerequisite: Economics 20.1 and nine credits in advanced courses in economics and permission of the instructor and chairperson.

## Education

Dean: Deborah A. Shanley
Office of the Dean: 2111 James Hall
Telephone: 951-5214, 951-5208
Assistant Dean (Acting): Alberto M. Bursztyn
2107 James Hall
Telephone: 951-5214, 951-5208
Office of Student Advisement and Services
Director: John L. Stahlnecker
2105 James Hall
Telephone: 951-5447, 951-5820
Program Offices
Early childhood education
Elementary education
Secondary education
2309 James Hall
Telephone: 951-5205
Professors: Barbanel, Brumberg, Fuys, Gluck, Harner, Lemke, Rose, Waters, Welchman;
Associate Professors: Bloomfield, Bursztyn, Duboys, Korn, Lynch, Martinez-Pons, Rubal-Lopez, Taubman;
Assistant Professors: Denis, Elizalde-Utnick, Forbes, Giles, Hwu, McCormick, McSorley, Miele, Progler, Reyes, Rubinson, Winslow;
Lecturer: Beauclerk.
The School of Education offers B.A. degree programs in early childhood education, elementary education, elementary bilingual education, and course sequences for students majoring in other departments of the college who plan to teach in secondary school.
The School of Education cosponsors with Kingsborough Community College a joint A.S. degree in Educational Studies/B.A. in Early Childhood Education Teacher and a joint A.S. in Educational Studies/B.A. in Elementary Education Teacher. Information about these programs may be obtained from Kingsborough Community College.

## The curriculum

The School of Education offers undergraduate programs for the education of teachers in the following areas and levels:
1.Early Childhood (prekindergarten through grade 3).
2. Elementary (kindergarten through grade 6).
3.Elementary Bilingual Education (kindergarten through grade 6).
4.Secondary (grades 7 through 12: English, social studies, mathematics, science, languages other than English; kindergarten through grade 12: art, health, music, physical education, speech; speech and hearing handicapped).
Each program includes courses and related field experiences in schools and communities.
Advisement and counseling for all programs are coordinated through the Office of Student Advisement in 2105 James Hall. Students who have completed courses no longer listed in the Bulletin must have them evaluated by the assistant dean before taking additional education courses.
To continue in an education sequence, students must meet New York City health requirements and School of Education competence and scholastic index requirements at specified levels.

Note: The School of Education is in the process of changing the curriculum to comply with new regulations recently approved by the New York State Education Department. Students seeking New York State teacher certification in early childhood, childhood, and adolescence education should consult the School of Education for current certification and degree requirements.

## New York State teaching certificate

The Early Childhood, Elementary, and Elementary Bilingual programs are registered with the State Education Department as approved programs for provisional teacher certification for prekindergarten through grade 6. In addition, the Elementary Bilingual program is approved for the provisional Bilingual Extension certificate. The Secondary Education program is registered as an approved program for provisional teacher certification for the grades and areas listed in the previous section.
During their final semester before graduation, students should apply in the Office of Student Advisement and Services, 2105 James Hall, for review of their records and should complete an application for certification.

## New York City teaching license

A New York State Certificate is required for a New York City Regular License. In addition, applicants must pass an Oral License Examination. General information is available from the Office of Student Advisement and Services, 2105 James Hall. For detailed information about specific licenses and other requirements, individuals should contact the Board of Education, Office of Recruitment, Personnel Assessment, and Licensing, 65 Court Street, Room 102, Brooklyn, New York 11201 (telephone: (718) 935-2670).

## Early Childhood Center

The Early Childhood Center provides opportunities for students in the School of Education to observe and study young children in an educational setting. There are opportunities for planned observations and conferences.

## Honors

Students are eligible for School of Education honors when they fulfill the following requirements: an index of 3.50 or higher in School of Education courses; a grade of B or higher on an independent study project done in addition to the regular requirements of a School of Education course of three credits or more; and a grade of B or higher in the course in which the project is done.

## Division of Graduate Studies

The School of Education offers master's degree programs in early childhood education, elementary education, education of the speech and hearing handicapped, reading, special education, and secondary education. There is an advanced certificate program in educational administration and supervision, and master's degree and advanced certificate programs in guidance and counseling and school psychology. For information, students should consult the assistant dean.
A Graduate Bulletin may be obtained in the Office of Admissions.

## Admission requirement for education programs

In order to declare a major in education, a student must have completed at least 30 credits with a scholastic index of 2.50 or better in liberal arts and sciences.

## Admission requirements for student teaching for early childhood and elementary education teacher

In order to register for student teaching a student must have completed all education courses with a scholastic index of 2.75 or higher, and a scholastic index of 2.50 or higher in liberal arts and sciences courses.

## Preregistration for student teaching on the secondary-school level

Students who plan to take a course in the series Education 65.01 through 65.17 should preregister in the Secondary Education Office, 2309 James Hall. Obtain application forms and file by October 1 for spring term enrollment and by
March 1 for fall term enrollment. Education 65.01-65.04 are offered only in the spring term, and Education 65.05-65.17 are offered only in the fall term.
B.A. degree program for early childhood education teacher (prekindergarten-3) HEGIS code 0802

Completion of the B.A. degree with a major in early childhood education qualifies students to receive New York State provisional teacher certification (prekindergarten through grade 6) and prepares students for the New York State Early Childhood Annotation Examination (prekindergarten-2). Program requirements are described below.

## B.A. degree program for elementary education teacher (K-6) HEGIS code 0802

Completion of the B.A. degree with a major in elementary education qualifies students to receive New York State provisional teacher certification (prekindergarten through grade 6) and prepares students for the New York City teaching license examination (grades 1 through 6). Program requirements are described below. B.A. degree program for elementary bilingual education teacher (K-6) HEGIS code 0802 Completion of the B.A. degree with a major in elementary bilingual education qualifies students to receive a New York State provisional teacher certification (prekindergarten through grade 6) and extension of that certification to include teaching bilingual education. This program is offered for selected students interested in teaching children in bilingual programs or qualifying for teacher certification in bilingual education. For the courses in Chinese, French, Haitian Creole, and Italian, students should seek counseling in the School of Education and the Department of Modern Languages and Literatures. For courses in Spanish, students should seek counseling in the School of Education and the Department of Puerto Rican and Latino Studies Students must demonstrate proficiency in English and in the language of instruction other than English. Program requirements are described below.
Note: The B.A. degree program in special education, which is described in the 1994-97 Undergraduate Bulletin, has been discontinued. Students enrolled in this program prior to September, 1996, will be allowed to complete the program.

Program requirements (65-73 credits)
Students majoring in any of the three programs listed above must complete all courses in A through C (below) with the following particular requirements:
Students majoring in the Early Childhood Education Teacher Program must complete Education 40.1 and either 75.1 or 76.1 ;
Students majoring in the Elementary Education Teacher Program must complete Education 40 and either 75 or 76;
Students majoring in the Elementary Bilingual Education Teacher Program must complete Education 40.2 and either 75.2 or 76.2.
A. One of the following combinations: Education 14, 24; 75 or 75.1 or 75.2 ; or Education 16; 76 or 76.1 or 76.2.
B.Liberal Arts and Sciences/Education Strands
1)Social Sciences and Education Strand:
a. Education 34.
b. Education 36 and one social science course chosen from the following: Africana Studies 41, Anthropology 37.5, Political Science 23, Psychology 4, Puerto Rican Studies 32.5, Sociology 26.4. 2) Humanities and Education Strand:
a. Education 37 and one humanities course chosen from the following: Art 62.10, Classics 13, English 6, Film 9, Judaic Studies 10, Philosophy 9, Speech 14.5, Television and Radio 10, Theater 60.
b. Education 40 or 40.1 or 40.2 and Education 43.
3)Science/Mathematics and Education Strand:
a. General Science 9.1 or 9.2 or 9.3.
b. Mathematics 1.95 or a mathematics course numbered 3 or higher and a passing score on a Mathematics Department proficiency examination.
c. Education 38 and General Science 10.
d. Education 44 and Mathematics 1.97.
e. Education 45 and General Science 20.
C.Liberal Arts and Sciences Concentration:

Twelve to 18 credits in intermediate and advanced courses in a liberal arts and sciences discipline. Specific requirements apply for each discipline. Students should consult separate listings for the following departments and should also consult with a faculty adviser in the Office of Student Advisement and Services in the School of Education:

Africana Studies; Anthropology and Archaeology; Art; Classics (including Latin); Computer and Information Science; English; Film; Geology; Health and Nutrition Sciences; History; Judaic Studies (including Hebrew); Mathematics; Modern Languages and Literatures (including Chinese, French, German, Italian, Russian, Spanish); Music; Philosophy; Political Science; Psychology; Puerto Rican and Latino Studies; Sociology; Speech Communication Arts and Sciences; Theater.
Courses used to satisfy the program requirements listed under B above may not also be used to satisfy requirements for a liberal arts and sciences concentration.
Each education course must be completed with a grade of C or higher.

## Secondary education: grades 7 through 12 and kindergarten through grade 12 (See appropriate department for HEGIS code)

Total credits required for B.A. degree: 120
This program includes a major in another department of the college. Completion of this program as part of a major in English, one of the social sciences, mathematics, one of the sciences, or a Language Other Than English qualifies students for New York State provisional teacher certification for grades 7 through 12. Completion of this program as
part of a major in art, health and nutrition sciences, music, physical education, or speech qualifies students for New York State provisional teacher certification for kindergarten through grade 12. Completion of this program as part of a major in speech and hearing handicapped qualifies students for New York State provisional certification in that area (no grade designation). In addition to this section, students should consult the listing for their major department.

Students must complete parts 1 and 2.

1. School of Education courses ( 21 credits)

This three-term sequence may be started in the lower-junior term or upper-junior term.
Education 16, 34, 62.01 or 62.02 or 62.03 or $62.13,63.3,69$.
One of the following courses: Education 65.01-65.17.
2. A major in a department of the college

Students must complete an appropriate major in another department of the college. The academic areas from which a major may be chosen are stated above.

## Courses

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

Early childhood education, elementary education,
elementary bilingual education, special education
16 The Art, Philosophy, and Culture of Teaching
2 hours lecture, 2 hours studio, 60 hours; 3 credits
Study of teaching linking the philosophical and historical foundations of education to the teaching arts.
Relation of significant educational movements, philosophies, and teaching practices to students' educational experiences. Opportunities for developing teaching strategies connecting theory and practice.
Prerequisite: English 1.

## 24 Studio II: The Culture and Politics of Teaching

2 hours; 2 credits
Continuation of Studio I with a shift in focus to social, institutional, and cultural frameworks for teaching.
(Not open to students who are enrolled in or have completed Education 16, 48.1, 48.21, 48.22, 58.1, 58.11, or 58.12.)
Prerequisite: Education 36.
Prerequisite or corequisite: Education 40 or 40.1 or 40.2 or 40.3 ; and Education 43.

## 34 Urban Children and Adolescents: Development and Education

3 hours; 3 credits
Relationships between basic developmental processes of children and adolescents and their educational experiences in schools and communities. Impact of culture, ethnicity, race, gender, and social class upon biological and psychological processes. Emphasis on children in urban, multicultural schools, at all levels from kindergarten through high school. Field trips to the Early Childhood Center, schools, and other sites. (Not open to students who are enrolled in or have completed Education 34.3, 48.1, 48.21, 48.22, 58.1, 58.11, 58.12, or 60.1.)

Prerequisite or corequisite: Education 14 or 16.

## 36 Education and Society: Teaching the Social Sciences

2 hours recitation, 2 hours supervised field placement; 3 credits
This course extends the study of the social sciences and urban education to the study of social studies in urban schools. The social science contributions to the social studies curriculum and the history of urban schooling provide foundations for studies of the politics of education and of social studies texts, curriculum, and methods. Field work in school classrooms. This course is linked with a corequisite social science course through the use of thematic material, large group symposia, and faculty collaboration. (Not open to students who are enrolled in or have completed Education 48.5 or 58.5.)
Prerequisite: Education 14 or 16; and Education 34 or 34.3.
Corequisite: one of the following: Africana Studies 41, Anthropology 37.5, Political Science 23, Psychology 4, Puerto Rican Studies 32.5, Sociology 26.4. A student who receives a failing grade in Education 36 and a grade of $C$ or higher in the corequisite social science course may with departmental permission repeat Education 36 without a corequisite requirement.

## 37 Education and Literacy: An Interdisciplinary Approach to the Language Arts

3 hours; 3 credits
Framework for integrating the humanities with the related teaching arts. Processes of communication, forms of literacy, and the role of narrative in the construction of meaning. Psycholinguistic and sociolinguistic factors in literacy;narrative structures in children's oral language and in children's literature. (Not open to students who are enrolled in or have completed Education 48.3, 58.2, or 58.4.)
Prerequisite or corequisite: Education 36.
Corequisite: one of the following: Art 62.10, Classics 13, English 6, Film 9, Judaic Studies 10, Philosophy 9, Speech 14.5, Television and Radio 10, Theater 60. A student who receives a failing grade in Education 37 and a grade of $C$ or higher in the corequisite humanities course may with department permission repeat Education 37 without a corequisite requirement.

## 38 Education and Science/Mathematics

2 hours; 2 credits
Integrates study of the sciences, mathematics, computer science, and education. Analysis of the processes of scientific investigation that students experience in General Science 10 and development of the ability to make effective use of these experiences in teaching the sciences, mathematics, and computer utilization in grades prekindergarten-6.
Prerequisite: Education 34 or 34.3; Mathematics 1.95; Core Studies 5; Core Studies 7.1, 7.2, 8.1, and 8.2, or their equivalents; at least three credits of science selected from the following courses: Biology 3, 4; Chemistry $0.5,1,2,5$; Geology 0.1, 0.5, 1, 2, 2.1, 3, 4, 9; Physics $0.11,0.12,0.3,0.4,1,2$.
Corequisite: General Science 10. A student who receives a failing grade in Education 38 and a grade of $C$ or higher in General Science 10 may with departmental permission repeat Education 38 without repeating General Science 10.

## 40, 40.1, 40.2, 40.3 Integrated Methodologies for the Communication Arts

2 hours recitation, 2 hours supervised field placement; 3 credits
An integrated language approach to teaching the communication arts. Structures and processes of language; appropriate instructional strategies. Supervised field experiences. (Not open to students who are enrolled in or have completed Education 48.3, 58.2, or 58.4.)

## a. 40 Elementary Education

(Not open to students who are enrolled in or have completed Education 40.1, 40.2, or 40.3.)

## b.40.1 Early Childhood Education

Nature and basis of communication arts instruction for very young children; curriculum development strategies for emerging literacy. (Not open to students who are enrolled in or have completed Education 40, 40.2 , or 40.3.)

## c.40.2 Bilingual Education

Nature and basis of instruction in the communication arts
for children in bilingual programs; appropriate curriculum modifications to meet the needs of such children.
(Not open to students who are enrolled in or have completed Education 40, 40.1, or 40.3.)

## d.40.3 Special Education

Nature and basis of language difficulties found in children with special educational needs; diagnostic processes
and prescriptive teaching. (Not open to students who
are enrolled in or have completed Education 40, 40.1,
or 40.2.)
Prerequisite: Education 37.
Corequisite: Education 43.

## 43 Teaching the Creative Arts

2 hours recitation, 2 hours supervised field experience; 3 credits
Analysis and application of theories of learning to the teaching of the visual arts, music, dance, and drama. Strategies for developing creative skills, aesthetic sensitivity, appreciation for artistic expression. Role and value of the arts in individual and social development in a society of varied cultures. Conditions and techniques that foster and deepen children's creativity and thinking skills. Work with materials; guided field trips and supervised field experience. (Not open to students who are enrolled in or have completed Education 48.4 or 58.7.)
Prerequisite: Education 37.
Corequisite: Education 40 or 40.1 or 40.2 or 40.3 .

## 44 Teaching Mathematics

2 hours laboratory, 2 hours supervised field experience; 2 credits
Study of children's learning of mathematics, appropriate pedagogy, school settings for learning mathematics, and mathematics curriculum. Taught in coordination with Mathematics 1.97. (Not open to students who are enrolled in or have completed Education 48.6 or 58.3.)

## a. Early Childhood Education section:

emphasis on topics relevant to teaching children from prekindergarten to grade 3.

## b. Iementary, Bilingual, and Special Education section:

emphasis on topics relevant to teaching children from kindergarten to grade 6.
Prerequisite: Education 38, General Science 10, and Mathematics 1.95.
Corequisite: Mathematics 1.97.

## 45 Teaching Science

1 hour recitation, 2 hours supervised field placement; 2 credits Methods of teaching basic science concepts and processes to children. Focus on promoting scientific curiosity and developing the language and skills needed for elementary science explorations. Taught in coordination with General Science 20. (Not open to students who are enrolled in or have completed Education 48.7 or 58.6.)

## a.Early Childhood Education section:

emphasis on topics relevant to teaching children from prekindergarten to grade 3.

## b.Elementary, Bilingual, and Special Education section:

emphasis on topics relevant to teaching children from kindergarten to grade 6.
Prerequisite: Education 38 and General Science 10.
Corequisite: General Science 20.

## 75, 75.1, 75.2, 75.3 Seminar and Comprehensive

## Student Teaching

2 hours recitation; weekly supervised teaching, five mornings and two afternoons (total of 250 hours); 8 credits
Student teaching. Application of the principles of teaching to all aspects of the curriculum, including communication arts, in the early childhood or elementary school classroom; long- and short-term planning; development of an integrated approach to teaching. Readings and discussions of significant issues related to classroom teaching and professional development. (Not open to students who are enrolled in or have completed one of the following: Education 48, 48.81, 48.82, 58.8, 58.81, 58.82.)

## a. 75 Elementary Education

Seminar and supervised teaching in elementary school; kindergarten to grade 6. (Not open to students who are enrolled in or have completed Education 75.1, 75.2, 75.3.)

## b.75.1 Early Childhood Education

Seminar and supervised teaching in early childhood classes; prekindergarten to grade 3. (Not open to students who are enrolled in or have completed Education 75, 75.2, 75.3.)

## c.75.2 Bilingual Education

Seminar and supervised teaching in elementary and bilingual education classes; kindergarten to grade 6.
(Not open to students who are enrolled in or have completed Education 75, 75.1, 75.3.)

## d.75.3 Special Education

Seminar and supervised teaching in elementary and special education classes; kindergarten to grade 6. (Not open to students who are enrolled in or have completed Education 75, 75.1, 75.2.)
Prerequisite: Education 24, 40 or 40.1 or 40.2 or $40.3,44$, and 45.

## 76, 76.1, 76.2 Seminar and Comprehensive

## Student Teaching

3 hours recitation; weekly supervised teaching, five mornings and two afternoons (total of 250 hours); 9 credits
Student teaching. Application of the principles of teaching to
all aspects of the curriculum, including communication arts, in the early childhood or elementary school classroom; long- and short-term planning; development of an integrated approach to teaching. Readings and discussions on significant issues related to classroom teaching and professional development. Focus on urban schools and processes of school change.
(Not open to students who are enrolled in or have completed any of the following: Education 48.8, 48.81, 48.82, 58.8, 58.81, 58.82, 75, 75.1, 75.2, 75.3.)

## a. 76 Elementary Education

Seminar and supervised teaching in elementary school, kindergarten to grade 6. (Not open to students who are enrolled in or have completed Education 76.1, 76.2.)

## b.76.1 Early Childhood Education

Seminar and supervised teaching in early childhood classes, prekindergarten to grade 3. (Not open to students who are enrolled in or have completed Education 76, 76.2.)

## c.76.2 Bilingual Education

Seminar and supervised teaching in elementary and bilingual education classes, kindergarten to grade 6. (Not open to students who are enrolled in or have completed Education 76, 76.1.)
Prerequisite: Education 16, 44, and 45.

## Secondary education

### 60.1 Children and Youth in Schools in an Urban Environment

2 hours recitation, 4 hours laboratory; 4 credits
Problem-solving approach to study of reciprocal action between children, adolescents, and an urban environment. Experience-centered program to (1) develop understanding of urban children from birth to maturity, emphasis on adolescents of secondary school age; (2) evolve self-awareness and awareness of group processes; (3) analyze psychological, historical, philosophical, and sociological components of society that influence learning and organizational patterns in urban schools; (4) explore cognitive and affective aspects of learning with individuals and small groups. Work-study experiences include laboratory work on campus and in schools; supervised participation in learning activities with adolescents from diverse environments. (Not open to students who have completed any of the following: Education 48.1, 58.1, 59.1.)

### 60.2 Principles of Teaching Students with Special Needs

1 hour recitation, 4 hours laboratory; 3 credits
Understanding urban children with special needs from birth to maturity. Emphasis on special needs of adolescents of secondary school age. Self-awareness and awareness of group processes. Cognitive and affective aspects of learning with individuals and small groups who have special needs. Flexibility of response to the needs of special-needs children. Work-study experiences include laboratory work on campus and in schools, community organizations, clinics, and youth centers. Supervised participation in learning activities with special-needs adolescents from diverse environments.

### 62.01 Curriculum and Teaching in the Middle School: English and the Humanities

2 hours; 2 credits
Teaching methods and curriculum for middle schools. Focus on various literacies, specifically on the teaching of literature, languages, and speech. Topics include teaching strategies, assessment, lesson plans, creating inclusive and aesthetically rich classrooms, curriculum development, and teacher-student relationships.
Prerequisite: Education 16 and 34.

### 62.02 Curriculum and Teaching in the Middle School: Social Science and Humanities

2 hours; 2 credits
Methods and materials for teaching social studies and humanities. National standards and implications for secondary education. National and regional curriculum models and approaches to teaching in light of differing standards and curricula. Interdisciplinary and multicultural perspectives; teaching literacy across the curriculum. Framework for specific methodological issues in preparation for student teaching.
Prerequisite: Education 16 and 34.

### 62.03 Curriculum and Teaching in the Middle School: Mathematics and Science

 2 hours; 2 creditsContemporary issues of curriculum standards and teaching methods with emphasis on grades $6-9$. Specific strategies for classroom organization, lesson development, teaching, and assessment. Literacy as related to teaching mathematics and science. Using calculators and computers in teaching.
Prerequisite: Education 16 and 34.

### 62.13 Physical Education and the School Curriculum

2 hours; 2 credits
Relationship of physical education to the school curriculum, including its role in teaching literacy and quantitative skills.
Prerequisite: Education 16 and 34.

### 63.2 Teaching Reading in Secondary School: Application by Subject Area

2 hours recitation, 2 hours laboratory; 3 credits
Principles of teaching reading to adolescents. Teaching reading to increase students' capacity for analytical thinking. Supervised laboratory experience in application of techniques in a subject area. Subject areas: Education 63.1, English; Education 63.2, social studies. Students may take this course in only one subject area.

### 63.3 Methods and Teaching Practice in Middle Schools

1 hour seminar, 4 hours laboratory; 3 credits
Curricula and methodologies for teaching various subjects in middle schools. Emphasis on the needs of middle school students and on the interdisciplinary aspects of the curriculum. Laboratory consists of supervised practical teaching and other field experiences in the middle (7 through 9) grades.
Prerequisite: Education 34.
Prerequisite or corequisite: Education 62.01, 62.02, 62.03, or 62.13.

## 64 Reading and Writing in Secondary School:

Principles and Practices
2 hours recitation, 4 hours laboratory; 4 credits
Class and supervised practical experience in the principles of diagnosing, instructing, and assessing reading and writing needs. Development, utilization, and evaluation of materials related to specific reading and writing needs of children and youth. Specific emphasis on individualized approaches.
Prerequisite: English 1.2 or English 1 and 2.

### 64.1 Language Literacy in Secondary Education

3 hours; 3 credits
Current theory and methods of teaching the use of written language in all subject areas of the curriculum from grades 7 to 12 . Includes issues of dialect diversity, differences between written and spoken language, teaching students of diverse cultural and language backgrounds and with special needs. (Not open to students who are enrolled in or have completed Education 64.)
Prerequisite: Education 34.

### 65.01-65.17 Seminar in Secondary Education,

 Student Teaching4 hours recitation, 6 hours laboratory; 7 credits
Objectives, variations in methodology and curriculum construction, evaluation, and role of materials and resources applied to teaching in secondary schools; selection of supervised instructional experiences structured to evolve professional awareness; development of teaching styles and skills to enable preadolescents and adolescents to succeed; consideration of reading disabilities and remedial treatment in relation to specific subject areas. Students spend a minimum of two hours each day in the schools. Daily supervised student teaching in high school (10 through 12) grades. Observing; developing; and studying curriculum in light of teaching experience and observations. (Not open to students who have completed Education 35 or 61.01-61.16 or 62.01-62.16.)
65.01English.
65.02Social studies.
65.03Mathematics.
65.04Science.
65.11Romance languages.
65.12Music.
65.13Physical education.
65.14ASpeech.
65.14BSpeech and hearing handicapped in elementary and secondary schools.
65.16Health science.
65.17Art in elementary and secondary schools.

Prerequisite: Education 63.3 and approval of the chairperson of the major department.
Prerequisite or corequisite: Education 69.

### 66.21-66.37 Curriculum Methods of Teaching Students with Special Needs

2 hours recitation, 2 hours laboratory; 3 credits
Objectives, variations in methodology and curriculum construction, evaluation, and role of materials and resources applied to teaching special-needs preadolescents and adolescents in secondary schools. Making subject matter understandable to students with a wide range of disabilities. Mastering, improvising, and adapting techniques for special-needs students. Motivation and evaluation for special-needs students.
66.21English.
66.22Social studies.
66.23Mathematics.
66.24Science.
66.31Romance languages.
66.32Music.
66.33Physical education.
66.34ASpeech.
66.34BSpeech and hearing handicapped in elementary and secondary schools.
66.36Health science.
66.37Art in elementary and secondary schools.

Prerequisite or corequisite: Education 60.1 and 60.2.

### 67.01-67.17 Methods of Teaching in the

## Secondary Schools

3 hours; 3 credits
Planning for instruction, teaching techniques, curriculum evaluation and assessment, and special issues in one of the subjects specified below.
67.01English.
67.02Social studies.
67.03Mathematics.
67.04Science.
67.11 Romance languages.
67.12 Music (K-12)
67.13Physical education ( $\mathrm{K}-12$ ).
67.14ASpeech (K-12).
67.14BSpeech and hearing handicapped ( $\mathrm{K}-12$ ).
67.16Health science.
67.17Art (K-12).

Prerequisite: Education 60.1 or its equivalent and a baccalaureate degree. Open only to students who are currently teaching or who have obtained written permission of the secondary education division coordinator.

## 69 Integrative and Multidisciplinary

## Teaching and Learning

3 hours; 3 credits
Principles for integrating multidisciplinary and multicultural perspectives in the secondary curriculum. Relating skills and knowledge across the curriculum through connecting themes, issues, and activities. Innovative and alternative approaches to teaching.
Prerequisite: Education 34.

## Elective courses

## 9 Parent as Educator

3 hours; 3 credits
Parenting as an educative process; needs of parents and children; effect of parental attitudes and cultural influences on the child's development and learning. The home and family as an educational environment; roles of parents in preschool and school settings. (This course cannot be credited towards any education sequence or taken for credit by an education major.)

## 18 Philosophy of Education

3 hours, 3 credits.
Aims of education; philosophers of education; application of philosophical work to educational problems; philosophical analysis of concepts of knowledge, play, and intelligence; moral, aesthetic, and political education. (Not open to education majors or students who are enrolled in or have completed Philosophy 18.)

Prerequisite: one course in philosophy.

### 37.1 Teaching in Nonacademic Situations

3 hours lecture, 2 hours laboratory; 4 credits
Principles of education for students preparing to work in nonacademic situations. Laboratory work to develop ability to observe and analyze behavior. Credit for this course is not applicable to any education sequence. (Not open to candidates for teacher certification.)

### 54.3 Teaching Mathematics and Science in the Elementary School: Theory and Application

 3 hours; 3 creditsTheoretical bases and methodological techniques. Resources and evaluation appropriate to teaching mathematics and science in the elementary school. New mathematics and science curricula and materials; application to students' classroom situation; coordination with standard curricula.
Prerequisite: matriculation for the bachelor of science in education degree or graduation from college and a current teaching position; and Education 58.1 or its equivalent.

### 54.5 Reading Instruction in the Elementary School

## 3 hours; 3 credits

Principles and practices in teaching reading with particular attention to the needs of the beginning teacher; appraisal of reading status; grouping for instruction; teaching reading skills; evaluating reading progress; adapting instruction to fit specific needs; individualizing instruction. (Not open to students who have completed Education 54.1.)
Prerequisite: Education 58.1 or its equivalent.

### 54.6 Language Arts Instruction in the Elementary School

3 hours; 3 credits
Theoretical and methodological approaches and techniques appropriate to developing and teaching an integrated language arts program in elementary schools. Resources and evaluation of research pertinent to teaching oral and written communication.
Prerequisite: matriculation for the bachelor of science in education degree or graduation from college and a current teaching position; and Education 58.1 or its equivalent.

### 68.1 Microcomputers in Education

2 hours lecture, 2 hours laboratory; 3 credits
Introduction to the use of the microcomputer as an educational tool. Computer literacy. Programming in LOGO and BASIC. Computers and the school curriculum. Comparison of computing languages used in the schools. Implementation of computer instruction in the classroom. Examination and evaluation of computer peripherals and software. This course is the same as Computer and Information Science 5.1.
(Not open to students who have completed Computer and Information Science 68 or Education 68.)
Prerequisite: Core 5 or its equivalent, or permission of the chairperson of the Department of Computer and Information Science; and Education 48.1 or 58.1 or 60.1, or permission of the division coordinator.

## 70 Elementary Principles of Educational Counseling and Vocational Development

3 hours; 3 credits
Introductory constructs basic to educational counseling and vocational development. Interrelationships between these constructs. Case illustrations of their applicability to individual learners and in heterogeneous environmental conditions. (Not open to students majoring in education.)
Prerequisite: Education 60.1 or Psychology 2.
70.1 Introduction to the Educational Content and Process of the Interview

3 hours; 3 credits
Elementary principles of the content and process of interviewing related to educational counseling, career education, and vocational development. Emphasis on initial interview content and techniques for use with individual learners and under heterogeneous environmental conditions. (Not open to students majoring in education.)
Prerequisite or corequisite: Education 70.

## Educational Services

Department office: 2208 Boylan Hall
Telephone: 951-5738, 951-5739
Chairperson: Martha Bell
Deputy Chairperson: Wendy Hall Maloney
Coordinators: Wendy Hall Maloney, Reading
Jean Marquis, SGS and Writing
Professors: Bell, Francis, Kelly;
Associate Professors: Maloney, Obler, Suarez;
Assistant Professor: Marquis;
Lecturers: Bushman, Herrera, Karanja, Walters, Watson.
The Department of Educational Services (DES) provides academic support and counseling for students in SEEK (Search for Education, Elevation, and Knowledge). Department programs and services are described in the chapter "Academic Services" in this Bulletin.

## Workshops

The Schedule of Classes published each term lists workshops offered.


#### Abstract

Counseling 0.3 Counseling Workshop

2 hours; no credit Introduction and orientation to college and school policies and procedures. Special emphasis on developing clear understanding regarding the curriculum requirements. Students are instructed in the use of the library's resources, in development of study techniques, and in selection of a major. Placement must be approved by the Department of Educational Services.

\subsection*{0.4 Career Workshop}

2 hours; no credit Designed to introduce the student to the world of work, educational and career planning, sources of occupational and training information, and techniques of assessing the student's own vocational interests, abilities, and values. Students will study thoroughly at least four occupations relevant to their interests and complete an educational plan that is consistent with college requirements and their standard goals. Placement must be approved by the Department of Educational Services.


## English

Department office: 2308 Boylan Hall
Telephone: 951-5195
Chairperson: Ellen Tremper
Deputy Chairperson, CLAS: Valden Madsen
Deputy Chairperson, SGS: Nancy B. Black
Deputy Chairperson, ESL: Elaine Brooks
Deputy Chairperson, Division of Graduate Studies: Nancy Black
Professors: Beckson, Belton, Black, Boyle, Browne, Brownstein, Bruffee, Buncombe, DeLuca, de Weever, Elsky, Fairey, Fox, Galin, Gerber, Hirsch, Jervis, Livingston, Mancini, Monaghan, Natov, Perluck, Reeves, Schaeffer, Tremper, Viscusi, Zlotnick;
Associate Professors: Agoos, Asekoff, Brinton, Brooks, Farley, Gonsalves, Harrison, Madsen, Marks, Melani, Moser, Patkowski, Pearse, Roy, Streiter, Xiques;
Assistant Professors: Acosta, Lutzkanova-Vassileva;
Lecturers: Camargo, Goldman, Katzer, Kehl, Luisi, Paolella, Zanderer.

## Core curriculum

The Department of English participates in the college's core curriculum through Core Studies 6.

## English-as-a-Second-Language Program

The Department of English conducts the English-as-a-Second- Language Program.

## B.A. degree program in English HEGIS code 1501

Department requirements (39 credits)
I. English 51 and 52 (6 credits)

English 51-52 constitutes, for students enrolled in Department of English B.A. degree programs, a substitution for Core Studies 6. Students who have already taken Core Studies 6, and transfer students who are admitted with a Core Studies 6 exemption, are required to take either English 51 or 52 . English majors are encouraged to complete at least one of the two courses, or be enrolled in one or the other, before continuing in other electives.
II. Fields of Study (15 credits)

One course from each of five of the following seven Fields; at least two of the courses must be chosen from Fields 1 through 3:
1.Middle Ages: English 24.4, 30.1, 30.2; Comparative Literature 21.
2. Renaissance: English 30.3, 30.4, 30.5, 30.7, 31.1; Comparative Literature 23.
3.Eighteenth century: English 31.3, 31.4, 31.5; Comparative Literature 24.
4.Nineteenth century and Romanticism: English 40.1, 40.3, 40.4, 40.7, 62.11; Comparative Literature 14.2, 26.
5.American literature and culture: English 18.17, 25.3, 25.4, 61, 62.11, 62.21, 62.31, 62.41, 63.1, 63.2, 64.2, 64.3, 64.4, 67; Comparative Literature 38.1, 38.3.
6.Modernism: English 41.2, 41.3, 50.12, 62.31, 64.3; Comparative Literature 13.1, 14.3, 16.3, 29, 38.1.
7.Postmodernism and contemporary discourses: English 6, 41.4, 50.12, 50.13, 50.3, 50.4, 50.41, 62.41; Comparative Literature 14.4, 16.4.
III. Field Concentration ( 6 credits)

Two additional courses in one of the five Fields of Study chosen in II.
IV. Electives (12 credits)

Four additional courses, one of which may be in an allied discipline (Africana Studies, American Studies, Art, Classics, History, Modern Languages and Literatures, Music, Philosophy, Puerto Rican and Latino Studies, Speech Communication Arts and Sciences, or any other with permission of the chairperson).

## Requirements for an optional minor in English

A program of 12 credits of advanced electives in the English Department with a grade of $C$ or higher in each course. It is recommended that students meet with a department counselor to plan a coherent program. Students might choose a sequence of courses constituting a general survey of English and/or American literature; a genre; (e.g., fiction, poetry, drama); a period (e.g., medieval, romantic, modern); creative writing, expository writing, journalism; or linguistics.
B.F.A. degree program in creative writing HEGIS code 1507

Program requirements (42 credits)
I. English 51 and 52 ( 6 credits)

English 51-52 constitutes, for students enrolled in Department of English B.A. degree programs, a substitution for Core Studies 6. Students who have already taken Core Studies 6, and transfer students who are admitted with a Core Studies 6 exemption, are required to take either English 51 or 52. Creative writing majors are encouraged to complete at least one of the two courses, or be enrolled in one or the other, before continuing in other electives.
II. Creative writing courses ( 15 credits)
a) English 11.1 .
b) One of the following sequences:

1) English 15.1, 15.2.
2) English 16.1, 16.2.
3) English 17.1, 17.2.
c) Two additional creative writing courses in the English Department.
III. Fields of Study (12 credits)

One course from each of four of the following seven Fields; at least one course must be chosen from Fields 1 through 3:

1. Middle Ages: English 24.4, 30.1, 30.2; Comparative Literature 21.
2. Renaissance: English 30.3, 30.4, 30.5, 30.7, 31.1; Comparative Literature 23.
3. Eighteenth century: English 31.3, 31.4, 31.5; Comparative Literature 24.
4. Nineteenth century and Romanticism: English 40.1, 40.3, 40.4, 40.7, 62.11; Comparative Literature 14.2, 26.
5. American literature and culture: English 18.17, 25.3, 25.4, 61, 62.11, 62.21, 62.31, 62.41, 63.1, 63.2, 64.2, 64.3, 64.4, 67; Comparative Literature 38.1, 38.3.
6. Modernism: English 41.2, 41.3, 50.12, 62.31, 64.3; Comparative Literature 13.1, 14.3, 16.3, 29, 38.1.
7. Postmodernism and contemporary discourses: English 6, 41.4, 50.12, 50.13, 50.3, 50.4, 50.41, 62.41; Comparative Literature 14.4, 16.4.
IV. Additional course requirements ( 9 credits)

Nine additional credits in advanced English Department courses. Related courses offered by other departments may be substituted with the permission of the English Department chairperson.

## B.A. degree program in comparative literature HEGIS code 1503

Program requirements ( 33 credits)
I. (6 credits) English 51 and 52.

English 51-52 constitutes, for students enrolled in Department of English B.A. degree programs, a substitution for Core Studies 6. Students who have already taken Core Studies 6, and transfer students who are admitted with a Core Studies 6 exemption, are required to take either English 51 or 52. Comparative literature majors are encouraged to complete at least one of the two courses, or be enrolled in one or the other, before continuing in other electives.
II. ( 9 credits) Three of the following: Comparative Literature 21, 23, 24, 26, 29.
III. (9 credits) A total of three of the following courses chosen from at least two genres:

The novel: Comparative Literature 14.2, 14.3, 14.4.
Drama: Comparative Literature 16.3, 16.4.
Other genres: Comparative Literature 13.1, 18.1, 18.2, 18.3, 18.4, 19.1, 19.5, 43.
IV. (3 credits) One of the following: Comparative Literature 31.1, 32.2, 36.1, 38.1, 38.3, 42.1, 50.1, 50.12, 50.13.
V. (6 credits) At least six credits in literature courses numbered higher than 4 in a classical or modern language.
Students who have successfully completed the Communication 10.4 and Humanities 10.4 seminars of the Special Baccalaureate Degree Program for Adults or Comparative Literature 11 or the approved equivalents for the latter automatically have the prerequisites for any advanced course in comparative literature.

## Requirements for an optional minor in comparative literature

At least 12 credits in advanced electives in the Comparative Literature Program with a grade of C or higher. Comparative literature minors should consult with the director for recommendations.

## Comparative Literature Program recommendations

Students should continue foreign language study beyond the requirement.
Students should begin the required language study as early as possible, since they use their knowledge of foreign languages in advanced courses in the program.
Students should consult the director in planning individual programs of concentration.
For prospective graduate students, study of or proficiency in a second foreign language through course 2, or the equivalent, is recommended.
The Comparative Literature Program offers graduate courses for students in other fields. For information, students should consult the director. A Graduate Bulletin may be obtained in the Office of Admissions.
B.A. degree program in journalism HEGIS code 0602
Program requirements (42-45 credits)
I.(6 credits) English 51 and 52.

English 51-52 constitutes, for students enrolled in Department of English B.A. degree programs, a substitution for Core Studies 6. Students who have already taken Core Studies 6, and transfer students who are admitted with a Core Studies 6 exemption, are required to take either English 51 or 52 . Journalism majors are encouraged to complete at least one of the two courses, or be enrolled in one or the other, before continuing in other electives.
II.(21 credits) All of the following: English 18.11, 18.13, 18.14, 18.16, 18.17, 18.18.
III.(3-6 credits) English 18.12 or 18.15 or 19.1, or the Summer Broadcast News Institute: Television and Radio 29.
IV.(12 credits) Twelve credits, approved by the director of the Journalism Program, in any department. No journalism courses may be used to satisfy this requirement.
Students should note that the prerequisite of English 18.11
is English 1 with a grade of $B$ or higher; or English 2, 2.7, 5, or 14.

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Requirement for an optional minor in journalism
Requirements (12 credits)
English 18.11
Nine credits chosen from the following: English 18.12, 18.13, 18.14, 18.16, 18.17, 18.18, 19.1. (For
students minoring in journalism, the prerequisite of }18.18\mathrm{ will be only 18.11.)
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B.A. degree program for English teacher (7-12) HEGIS code 1501-01
The student-teaching sequence of courses in secondary school English education is described in the "Education" section in this Bulletin.

English concentration for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher (K-6); special education teacher.

The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs and who elect a concentration in English must complete at least 18 credits of advanced electives in the English Department with a grade of C or higher in each course. It is recommended that students take courses from among the following areas: literature for young people, British literature, American literature, comparative literature, and linguistics. With the approval of the department, students may offer six credits taken in related fields. Students must meet with a department counselor to plan a coherent program.

## Department recommendations

Students should consult the deputy chairperson for help in planning a course of study.

## Recommendations for prospective graduate students

Graduate programs in English require a broad background in English and American literature. Prospective graduate students should take a number of courses in English literature of the period before 1800. Prospective graduate students should develop reading knowledge of French or German through at least course 4.

## Division of Graduate Studies

The English Department offers the following graduate degree programs: master of arts in English, master of fine arts in creative writing, and master of arts, English teacher (7-12). Some courses may be creditable toward the CUNY doctoral degree. For information, students should consult the department's deputy for graduate studies. A Graduate Bulletin may be obtained in the Office of Admissions.

## Writing Center

Help may be obtained in prewriting, outlining, mechanics of writing, proofreading, revising, or developing a format for any paper. Students may also receive help with such specific tasks as writing essays, research papers, résumés, or laboratory reports. Further information may be obtained at the center, 1310 Boylan Hall, or by calling 951-5821.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 33 credits in advanced courses for majors in this department.
§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
$\dagger$ No more than three courses in English marked ( $\dagger$ ) may be counted toward the bachelor of arts degree in English. No more than eight of these courses may be counted toward the bachelor of arts degree. \#Courses marked (\#) are open only to students enrolled in the B.F.A. degree program.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## *1 English Composition I

3 hours and conference; 3 credits
Workshop in expository writing: strategies of, and practice in, analytical reading and writing about texts. Fundamentals of grammar and syntax. Frequent assignments in writing summaries, analyses, comparisons of texts, and such other expository forms as narration, description, and argumentation. Emphasis on writing as a process: invention, revision, editing. (Not open to students who have completed English 1.2 or 1.7.) Prerequisite: placement in the course on the basis of the CUNY Writing Assessment Test or the Brooklyn College Transfer Students Writing Test.

## *1.5 Approaches to Learning a Modern Language

3 hours; 3 credits
Analysis of the process of second-language acquisition for the adult language learner and of the relationship between language learning and cultural awareness. Development of practical self-monitoring and self-evaluating strategies to promote successful language acquisition and cultural competence. For students studying or planning to study a modern language, including English at the college level. This course is the same as Modern Languages and Literatures *1.5.
Prerequisite: permission of the chairperson of the Department of English.

## *1.7 English Composition

2 hours recitation, 4 hours lecture, conference, and independent work§; 6 credits Intensive study of the fundamentals of punctuation and grammar. Drill and practice in writing based on experience and readings of essays and stories. Introduction to expository development and the functions of rhetoric. Introduction to research. Themes and conferences. (Not open to students who are enrolled in or have completed Core Studies 1.5, 4.5, or 6.5 with a grade of $C$ or higher. Not open to students who are enrolled in or have completed English 1 or 1.2 or 2.)
Prerequisite: enrollment in the Small College Program.

## *2 English Composition II: Writing in the Disciplines

3 hours and conference; 3 credits
Expository writing as practiced in particular major fields of study. Critical and analytical essays based on readings in one of the basic academic disciplines. Includes one term paper with scholarly apparatus.
Prerequisite: a) English 1 or placement in the course on the basis of the CUNY Writing Assessment Test or the Brooklyn College Transfer Students Writing Test and b) completion of 48 credits and completion, or current enrollment in, one course above entry level in a student's field of interest; or completion of one such course with a grade of $B$ or better; or permission of the chairperson.
Note: The English 2 requirement may also be satisfied by the completion of approved writing courses in other departments.

## *2.7 Introduction to Literature

1 hour recitation, 4 hours lecture, conference, and independent work§; 5 credits
English and American fiction, drama, and poetry. Continued emphasis on writing clear expository prose. At least four papers. (Not open to students who are enrolled in or have completed Core Studies 1.5, 4.5, or 6.5 with a grade of C or higher. Not open to students who are enrolled in or have completed English 2 or 2.4 or 3.4 or 4.4.)

Prerequisite: English 1.7.

## $\dagger 5$ Advanced Exposition and Peer Tutoring

2 hours lecture, 3 hours tutoring; 3 credits
Intensive study of and practice in writing the principal rhetorical forms. Training in principles of peer tutoring and three hours of tutoring writing in the Learning Center or other appropriate setting. (Not open to students who have completed English 1.12 or 12.)
Prerequisite: A grade of A in English 1 or 1.2 or 1.7 and permission of the chairperson.

## *7 Mini-Course in Special Topics

1 hour; 1 credit each term
Lectures and discussions on special topics. Fifteen scheduled hours including a final examination. Course description will be available in the English Department office and in the Schedule of Classes. Students may take this course for credit three times but may not repeat topics.

## 51 Overview of Literary Study I: Representative Selections of World Literature from the Middle Ages to the Late Eighteenth Century <br> 3 hours; 3 credits <br> Studies in the literature and culture of the Middle Ages, the Renaissance, and the eighteenth century. Part I of a two-course general survey and overview with three principal focuses: 1) the major literary and intellectual movements of world literature, in historical perspective, 2) the close reading of texts in the several genres, and 3 ) literature as viewed through the various lenses of contemporary theory and critical discourses. <br> Prerequisite: English 1

## 52 Overview of Literary Study II: Representative Selections of World Literature from the Nineteenth Century to Postmodernism

3 hours; 3 credits
Studies in literature and culture from nineteenth-century Romanticism to the modernist and postmodernist movements. Part II of a two-course general survey and overview with three principal focuses: 1) the major literary and intellectual movements of world literature, in historical perspective, 2) the close reading of texts in the several genres, and 3) literature as viewed through the various lenses of contemporary theory and critical discourses.
Prerequisite: English 1

## Creative writing

Students may not register for more than two creative writing courses in one term without permission of the chairperson.

## $\dagger$ 11.1 Introduction to Creative Writing

1 hour recitation and conference, 2 hours lecture; 3 credits
Workshop in writing stories, poems, and short plays.
Prerequisite: English 1 or 1.2 or 1.7.

## $\dagger 14$ Writing Prose Nonfiction

1 hour recitation and conference, 2 hours lecture; 3 credits
Workshop in writing personal essays, biography, and criticism.
Prerequisite: English 1 or 1.2 or 1.7.

## $\dagger$ 15.1 Writing Fiction I

1 hour recitation and conference, 2 hours lecture; 3 credits
Workshop in writing stories. Techniques of narrative. (Not open to students who have completed English
15.)

Prerequisite: English 11.1.

## $\dagger 15.2$ Writing Fiction II

1 hour recitation and conference, 2 hours lecture; 3 credits
Continuation of English 15.1. (Not open to students who have completed English 86.)
Prerequisite: English 15 or 15.1.

## $\dagger$ 16.1 Writing Poetry I

1 hour recitation and conference, 2 hours lecture; 3 credits
Workshop in writing poetry. Experiments in form and language. (Not open to students who have completed English 16.)
Prerequisite: English 11.1.
$\dagger 16.2$ Writing Poetry II
1 hour recitation and conference, 2 hours lecture; 3 credits
Continuation of English 16.1. (Not open to students who have completed English 86.)
Prerequisite: English 16 or 16.1.

## $\dagger$ 17.1 Writing Plays I

1 hour recitation and conference, 2 hours lecture; 3 credits
Workshop in writing plays. Dramatic construction and characterization. (Not open to students who have
completed English 17.)
Prerequisite: English 11.1.

## $\dagger$ 17.2 Writing Plays II

1 hour recitation and conference, 2 hours lecture; 3 credits
Continuation of English 17.1. (Not open to students who have completed English 86.)
Prerequisite: English 17 or 17.1.

## $\dagger$ 17.15 Writing for Musical Theater

1 hour recitation and conference, 2 hours lecture; 3 credits
Workshop in writing the book and lyrics for a one-act musical comedy or for serious musical theater. No knowledge of music is necessary.
Prerequisite: English 11.1.

## $\dagger 20$ Theater Workshop

4 hours; 3 credits
Writing and production of original scripts. Theater problems formulated, analyzed, and tested on stage.
Unified study of writing, acting, and directing. Offered jointly by the Department of English and the
Department of Theater. This course is the same as Theater 36. (Not open to students who have completed Speech and Theater 36.)
Prerequisite: English 17 or 17.1; and Theater 35.1 or Speech and Theater 35.1.

## $\dagger$ 23.5 Criticism and Reviewing

1 hour recitation and conference, 2 hours lecture; 3 credits
Writing criticism and reviews of books, plays, movies, concerts, art shows, and dance recitals for various publications.
Prerequisite: English 2, 2.7, 5, or 14.

## $\dagger$ 23.6 Writing for Children and Young Adults

1 hour recitation and conference, 2 hours lecture; 3 credits
Writing poems, stories, informational books, and biographies for children and young adults. Students' work is the basis of class discussion.
Prerequisite: English 2, 2.7, 5, 11.1, or 14.

## $\dagger 72$ Advanced Tutorial in Writing

Minimum of 9 hours conference and independent work§; 3 credits
Writing a substantial piece of prose or poetry such as a short novel, play, or group of short stories, poems, or articles. (Not open to students who have completed English 19.21 or 86 or 86.1.)
Prerequisite: English 15.2 or 16.2 or 17.2.

## Journalism

$\dagger$ 18.11 News Writing: An Introduction to Journalism
1 hour recitation and conference, 2 hours lecture; 3 credits
Technique of general news gathering and writing basic types of news stories; examination of the issues and problems confronted by reporters in their work.
Prerequisite: English 1 with a grade of B or higher; or English 2, 2.7, 5, or 14.

## $\dagger$ 18.12 Editing

1 hour recitation and conference, 2 hours lecture; 3 credits
Technique of handling copy, proofreading, assessing news values. Headline writing and layout.
Prerequisite: English 1 with a grade of B or higher; or English 2, 2.7, 5, or 14.

## $\dagger 18.13$ Feature Writing

1 hour recitation and conference, 2 hours lecture; 3 credits
Sources for feature articles. Technique of writing basic types of news features and editorials.
Prerequisite: English 18.11.
$\dagger 18.14$ Reporting
1 hour recitation and conference, 2 hours lecture; 3 credits
Techniques of reporting a story in depth and organizing a large amount of material into a newspaper series or magazine story.
Prerequisite: English 18.11.

## $\dagger 18.15$ Journalism Internship

9 hours field work, 1 hour conference; 3 credits
The internship requires working one day each week for a newspaper or wire service in the New York metropolitan area. Weekly conference. Written work based on the internship experience. (Not open to students who have completed or are enrolled in English 66.)
Prerequisite: English 18.11; and two of the following: 18.12, 18.13, 18.14, 18.16; and permission of the director of the journalism program received in the term preceding registration.
$\dagger$ 18.16 Advanced News Writing
3 hours; 3 credits
Classroom drills, outside assignments, lectures, and field trips to expand organizational and writing skills.
Prerequisite: English 18.11.

## $\dagger$ 18.17 The Press in America

3 hours; 3 credits
Lectures and readings in the history of journalism from Colonial times to the present.
Prerequisite: English 1 or 1.2 or 1.7.

## $\dagger$ 18.18 News Laboratory

2 hours lecture, 8 hours laboratory; 6 credits
Students act as reporters, rewrite persons, and feature writers covering a day in the life of New York alongside members of the working press. Students' stories are examined in class and compared with those produced by dailies and wire services.
Prerequisite: English 18.11 and two other journalism courses.

## $\dagger 19.1$ Science Writing

1 hour recitation and conference, 2 hours lecture; 3 credits
Technique of reporting and interpreting scientific information for the general public.
Prerequisite: English 2 or 2.7; and one science course or permission of the chairperson.

## The English language

### 24.3 History of the English Language

3 hours; 3 credits
Origins of the English language and its development to the present.
Prerequisite: English 1 or 1.2 or 1.7.

### 24.4 Old English

3 hours; 3 credits
Introduction to Old English language and literature. Readings from prose and poetry.
Prerequisite: English 1 or 1.2 or 1.7.

### 24.6 Applied English Linguistics

2 hours lecture, 1 hour conference, 3 hours tutoring; 3 credits Introduction to the nature of language learning, language analysis, and language assessment presented through the examination of the teaching and learning of English as a second language. The linguistic, psychological, and pedagogical parameters of human language learning; source materials and approaches for investigating language learning processes. Students are required to tutor ESL students three hours per week. (Not open to students who completed English 59 CV in spring, 1995.)
Prerequisite: a grade of $A$ in English 1 or 1.2 or 1.7.

### 24.7 Practical English Grammar

3 hours; 3 credits
Essentials of the structure and nature of the English language. A systematic study of English grammar: the elements and processes of the sound system, the system of grammatical markers, the syntax and the semantic systems of English. (Not open to students who have completed English 24.1 and/or 24.2.) Prerequisite: English 1 or 1.2 or 1.7.

### 24.8 Sociolinguistics

## 3 hours; 3 credits

The study of language as it is used by various social groups. Language and gender, language and culture, language and thought, Creole languages, Black English, linguistic change. This course is the same as Anthropology and Archaeology 18 and Sociology 30.1.
Prerequisite: English 1, 1.2 or 1.7, and one of the following: Anthropology 2.3, Linguistics 1, Sociology 5 or 7 ; or permission of the chairperson.

### 24.9 Introduction to Semiology

3 hours; 3 credits
The study of semiology as a branch of linguistics. Its influence on the analysis of language, culture, and text. The nature of structures and systems of signs in relationship to literature and culture.
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

## English literature

### 30.1 Medieval English Literature

3 hours; 3 credits
Epic, chronicle, and romance. The Arthurian tradition. Development of allegorical writing. The lyric. (Not open to students who have completed English 26.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 30.2 Chaucer

3 hours; 3 credits
The Canterbury Tales and such earlier works as The House of Fame and Troilus and Criseyde. Their relation to the language, literary background, and life of the author. (Not open to students who have completed English 31.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 30.3 Poetry and Prose of the Sixteenth Century:

The Early Renaissance
3 hours; 3 credits
English poetry from Wyatt through Shakespeare's sonnets. Edmund Spenser. English prose from Thomas More through Richard Hooker. (Not open to students who have completed English 35.1.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 30.4 Poetry and Prose of the Seventeenth Century

3 hours; 3 credits
English poetry from Donne through Marvell. Prose from Francis Bacon through Thomas Hobbes. (Not open to students who have completed English 35.1.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 30.5 Shakespeare I

3 hours; 3 credits
Major Shakespearean plays selected from the chronicles, comedies, and tragedies. Intensive reading. (Not open to students who have completed English 32.1.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 30.6 Shakespeare II

3 hours; 3 credits
Topics in Shakespeare in the plays and nondramatic writings.
Prerequisite: English 30.5.

### 30.7 English Drama from the Beginnings to 1642, Exclusive of Shakespeare

3 hours; 3 credits
Mystery plays, the revenge tragedy, pastoral comedy, comedy of humors, and the development of blank verse. Such writers as Lyly, Dekker, Marlowe, Jonson, Webster, Beaumont and Fletcher, and Middleton. (Not open to students who have completed English 34.3.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 31.1 Milton

3 hours; 3 credits
Major poetry and prose in the light of the literary background and life of the poet. Intensive readings from Paradise Lost. (Not open to students who have completed English 37.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 31.3 English Literature of the Age of Reason

3 hours; 3 credits
Major neoclassical and preromantic literature. Poetry and prose of such writers as Dryden, Pope, Swift, Johnson, Addison and Steele, Burke, and Gray. (Not open to students who have completed English 28.) Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 31.4 English Drama of the Restoration and the

Eighteenth Century
3 hours; 3 credits
Comedy of manners and the heroic tragedy; beginnings of bourgeois drama. Plays of such writers as
Dryden, Congreve, Wycherley, Farquhar, Goldsmith, and Sheridan.
Prerequisite: one of the following: 1 or 1.2 or 1.7.

### 31.5 The Eighteenth-Century Novel

3 hours; 3 credits
Development of prose fiction as the main vehicle for portraying the middle class and its values. Such writers as Richardson, Defoe, Fielding, Sterne, and Austen.
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 40.1 Chief Romantic Poets

3 hours; 3 credits
Growth of romanticism in the poetry of Blake, Wordsworth, Coleridge, Byron, Shelley, and Keats. (Not open to students who have completed English 29.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 40.3 Chief Victorian Poets

3 hours; 3 credits
Poetry of Browning, Tennyson, Arnold, and Hopkins studied in detail. Supplementary reading from such poets as the Rossettis, Swinburne, Morris, and Clough. (Not open to students who have completed English 29.)

Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 40.4 Major English Novels of the Nineteenth Century

3 hours; 3 credits
Artistic development and growth of the novel as social criticism. Such writers as Dickens, Thackeray, the Brontës, and George Eliot. (Not open to students who have completed English 52.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 40.6 British Literature in Transition from 1885 to 1914

3 hours; 3 credits
Significant developments in the novel, poetry, and drama between the Victorian period and the modern period. Work of such writers as George Moore, Wilde, Shaw, Wells, Hardy, Yeats, and Kipling and of such groups as the Aesthetes, Decadents, Activists, Symbolists, and Imagists.
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 40.7 Romantic and Victorian Prose

3 hours; 3 credits
Readings in the nineteenth-century essay. Selections from the works of such writers as Wordsworth, Coleridge, Keats, Lamb, Hazlitt, De Quincey, Macaulay, Carlyle, Mill, Newman, Ruskin, Darwin, M. Arnold, Pater, and Morris. (Not open to students who have completed English 40.2 or 40.5.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 41.2 Modern British Fiction to 1950

3 hours; 3 credits
Development of prose fiction as a vehicle for the examination of self and society. Such writers as Joyce, Woolf, Conrad, Huxley, Lawrence, and Forster. (Not open to students who have completed English 73.2.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 41.3 Modern British Poetry

3 hours; 3 credits
Poetry of such writers as Yeats, Graves, Auden, Lawrence, and Dylan Thomas. (Not open to students who have completed English 74.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 41.4 Contemporary British Writing from 1950 to the Present

3 hours; 3 credits
Plays, novels, and poems of such writers as Beckett, Pinter, Osborne, Behan, Lessing, Anthony Powell, Murdoch, Durrell, Spark, Ted Hughes, Charles Tomlinson, Thom Gunn, and Thomas Kinsella.
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 41.5 Irish Literature and Culture

3 hours lecture, 6 supervised field hours; 6 credits
Intensive summer course in Irish literature and culture: two weeks in Brooklyn and three weeks in Ireland.
Yeats, Joyce, Synge, O'Casey, and others. Historical, political, and cultural backgrounds. Irish nationalism, Gaelic Ireland, literary Dublin. Travel to sites of historical and literary significance. Travel fee required.
Prerequisite: one of the following: English 1 or 1.2 or 1.7, or Special Baccalaureate Humanities 10.3.

## Special studies and approaches

## 6 Literature and Cultural Diversity

3 hours; 3 credits
Analysis of differing uses and evaluation of literature. Focus on standard texts (short stories, plays, novels, and poems) as well as representative works which emerge from the family and home communities of the students and/or different cultures and historical periods.
Prerequisite: Core Studies 1 and 6.

### 25.2 British Folklore

3 hours; 3 credits
Influence on literature of legends, tales, and other folk narratives of England, Scotland, Ireland, and Wales. Such folk beliefs as witchcraft, fairy lore, alchemy, divination. Ballads, ballad singing, poetry. Folk drama and mummers' plays. Folksongs of the British Isles.
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 25.3 American Folklore

3 hours; 3 credits
Myths, legends, tales, proverbs, riddles, and songs of American folk groups. Ethnic, regional, and occupational folklore. European backgrounds. Use of folklore by such American writers as Irving, Hawthorne, and Melville. Independent work in collecting folklore.
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 25.4 New York City Folklore

3 hours; 3 credits
Folklore of the streets and neighborhoods of New York City. The urban environment as a region generating its own folklore and traditions. Customs, language, and symbols of urban life, past and present. Introduction to problems of fieldwork and methods of collecting urban folklore. This course is the same as American Studies 61.
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 31.2 The Bible as Literature

3 hours; 3 credits
Representative Biblical selections evaluated by literary criteria. Origin and development of the English Bible as a literary classic. (Not open to students who have completed English 42.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 41.1 Modern Drama to 1950

3 hours; 3 credits
Modern British and American drama. Continental influences. (Not open to students who have completed English 72.1.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 50.1 Theory of Literature

3 hours; 3 credits
Theories of aesthetics and criticism. Major ideas of the nature and value of literature. Emphasis on significant developments in twentieth-century literary criticism. This course is the same as Comparative Literature 50.1.
Prerequisite: one of the following: English 1 or 1.2 or 1.7 and at least one advanced English elective.

### 50.12 Contemporary Literary Criticism and Theory

3 hours; 3 credits
Major approaches to literature since 1960. Topics may include semiotics, structuralism, post-structuralism, deconstruction, narratology, new historicism, feminist theory, psychoanalytic criticism, Marxism, and social constructionism. This course is the same as Comparative Literature 50.12.
Prerequisite: one of the following: English 2 or 2.7 or 50.1.

### 50.13 Introduction to Postcolonial Literature and Theory

## 3 hours; 3 credits

Study of literary works and theoretical paradigms relating to the culture of European imperialism and its aftermath. Emphasis on the diversity of works from many parts of the formerly colonized world to introduce the global significance of postcolonialism. Topics incude: race and representation, Orientalism and the production of knowledge, Empire and exoticism, gender and nationalism, and multiculturalism and diasporic identities. This course is the same as Africana Studies 28.5 and Comparative Literature 50.13.
Prerequisite: English 1.

### 50.2 Comedy

3 hours; 3 credits
The comic mode in dramatic and nondramatic forms of literature. Aesthetic, philosophical, and psychological theories of comedy. This course is the same as Comparative Literature 18.3. (Not open to students who have completed English 58.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 50.3 Literature and Psychology

## 3 hours; 3 credits

Relationship of literature to psychological theories in specific readings. Freudian, Jungian, and/or other psychological techniques applied, compared, and evaluated as tools of literary criticism. This course is the same as Comparative Literature 45.
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 50.4 Women and Literature

3 hours; 3 credits
Sexual roles and the sources of sexual conflict in English and American literature. Problems of sensibility, style, and audience. Function of literary images of women.
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 50.41 Contemporary U.S. Women Writers: <br> Diverse Cultural Perspectives

3 hours; 3 credits
Literature of selected contemporary Native American, African-American, Latina, Asian-American, and other women writers, analyzed from the perspective of feminist literary theories. A comparative course focusing on the literature of two or more groups. This course is the same as Women's Studies 33. (Not open to students who completed Women's Studies 58 or English 50.4 in fall, 1993, or spring, 1994.)
Prerequisite: one of the following: Women's Studies 10.8, Core Studies 6, English 1.

### 50.5 Tragedy

3 hours; 3 credits
The tragic mode in dramatic and nondramatic forms of literature. Aesthetic, philosophical, and psychological theories of tragedy. This course is the same as Comparative Literature 18.2.
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 50.6 The Literature of Fantasy

## 3 hours; 3 credits

Fantasy and its many modes, including the gothic tale, the literary fairy tale, the animal tale, surrealism and the absurd, time and space travel, and futuristic fiction. This course is the same as Comparative Literature 19.1.

Prerequisite: English 1 or 1.2 or 1.7.

### 50.7 From Epic Tradition to Epic Vision

3 hours; 3 credits
Western literature illustrating developments in the epic genre from the Middle Ages to the present.
Adjustment of the epic tradition to differing cultural values through a continual process of translation, imitation, adaptation, and transformation of epic form and content which has lead to expressions of the modern "epic vision." This course is the same as Comparative Literature 18.1. (Not open to students who have completed Comparative Literature 55.)
Prerequisite: English 1 or 1.2 or 1.7.

### 50.8 Moral Themes in World Literature

3 hours; 3 credits
An exploration of such moral themes as justice, freedom, merit, responsibility, commitment, friendship, selfknowledge, poverty, and the environment in representative works of British, European, American, Latin American, African, and Asian Literature, from societal and existential perspectives. This course is the same as Comparative Literature 44.
Prerequisite: English 1 or 1.2 or 1.7.

### 50.9 Romance

3 hours; 3 credits
An examination of romance as a literary genre: the historical development of its conventions, narrative formulas, and characteristic themes; its relationships with and contributions to other forms of literature. This course is the same as Comparative Literature 18.4. (Not open to students who completed English 59 or Comparative Literature 40.2 in spring, 1991, or spring, 1993.)
Prerequisite: English 1 or 1.2 or 1.7.

## 59 Special Topics in Literature

3 hours; 3 credits each term
Themes in the literature of different periods or in the work of several authors. Topics vary from term to term.
Topic is selected by the instructor. Course description may be obtained in the department office before registration. Students may take this course for credit twice, but may not repeat topics.
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

## 65 Literature for Young People

3 hours; 3 credits
Literature appropriate for students in elementary and secondary schools. Fundamentals of literature and basic reading of interest to young people. (Not open to students who have completed English 56 or 57.)
Prerequisite: English 1 or 1.2 or 1.7.

## 66 Internship

7 hours field work, 1 hour conference; 3 credits
Students work seven hours a week in editing, technical writing, and report writing, or in allied fields under supervision. Final report based on the internship experience. (Not open to students who are enrolled in or have completed English 18.15.)
Prerequisite: 15 credits in advanced English electives and permission of the chairperson.

## 67 The Immigrant Experience in Literature, Film, and Photography

3 hours; 3 credits
The experience of immigrant groups as recorded in autobiography, folklore, and fiction. Becoming an American as recorded in photographs and film. Exploring relationships between text and image. This course is the same as American Studies 67. (Not open to students who have completed American Studies 70.) Prerequisite: one of the following: English 1 or 1.2 or 1.7.

## American literature

## 61 Private Lives: American Autobiography

3 hours; 3 credits
Autobiography and its special importance to the process of defining the self in America. Examination of the theme of the New World and the "new" man and the "new" woman. The relation between private identity and national character as revealed in the autobiographical writings of immigrants, workers, and plainfolk. This course is the same as American Studies 63.
Prerequisite: English 1 or 1.2 or 1.7.

### 62.11 American Renaissance

3 hours; 3 credits
The achievement of Emerson, Hawthorne, Melville, Poe, Thoreau, and Whitman; some attention to the Puritan heritage. (Not open to students who have completed two of the following courses: English 60.2, 60.3, and 60.7.)

Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 62.21 American Realism and Naturalism

3 hours; 3 credits
The passage of American literature into the twentieth century with such poets and fiction writers as James, Dickinson, Twain, Crane, Chopin, Wharton, Dreiser, and Frost. (Not open to students who have completed two of the following courses: English 60.2, 60.3, and 60.4.)
Prerequisite: English 1 or 1.2 or 1.7.

### 62.31 American Modernism

3 hours; 3 credits
Artistic exploration and experiment, as in the fiction of Stein, Fitzgerald, Hemingway, Faulkner, and Wright, and in the poetry of Pound, W.C. Williams, Eliot, Moore, and Stevens. (Not open to students who have completed both English 60.4 and 60.5.)
Prerequisite: English 1 or 1.2 or 1.7.

### 62.41 Contemporary American Writing

3 hours; 3 credits
Novels, stories, poems, and plays from World War II to the present; such writers as Salinger, Mailer, Ellison, Morrison, Lowell, Plath, Ginsberg, Tennessee Williams; and a sampling of recent work. (Not open to students who have completed English 60.6.)
Prerequisite: English 1 or 1.2 or 1.7.

### 63.1 Brooklyn in Literature

## 3 hours; 3 credits

Selected fiction, drama, and poetry set in various Brooklyn neighborhoods, with emphasis on setting, historical background, and such themes as the assimilation of immigrants and urban alienation. (Not open to students who have completed the same topic in English 59 in either spring, 1983, or spring, 1984.) Prerequisite: English 1 or 1.2 or 1.7.

### 63.2 Introduction to Italian American Literature

3 hours; 3 credits
The struggle and development of a distinctive Italian American tradition in literature. Discussion of language, class, assimilation, gender, literary form, and the search for a usable past.
Prerequisite: English 1.

### 64.2 African American Literature to 1930

3 hours; 3 credits
Literature from the colonial period through the Harlem Renaissance. Slave narratives, rhetoric of abolition, formal and vernacular aesthetics. Such writers as Phyllis Wheatley, David Walker, Frederick Douglass, Harriet Jacobs, Booker T. Washington, Paul L. Dunbar, Charles W. Chesnutt, James Weldon Johnson, W.E.B. Du Bois, Countee Cullen, Jean Toomer, Claude McKay, Sterling Brown, Zora Neale Hurston, Langston Hughes. This course is the same as Africana Studies 24.1. (Not open to students who have completed Africana Studies 24.)
Prerequisite: English 1 or 1.2 or 1.7; or Core Studies 1.

### 64.3 Modern African American Literature

3 hours; 3 credits
Literature from 1930 to the present. Naturalism and protest, the Black Aesthetic, women's literature. Such writers as Richard Wright, Ralph Ellison, Gwendolyn Brooks, Robert Hayden, James Baldwin, Amiri Baraka, Audre Lorde, Alice Walker, Toni Morrison. This course is the same as Africana Studies 24.2.
Prerequisite: English 1 or 1.2 or 1.7; or Core Studies 1.

### 64.4 Black Women's Fiction

3 hours; 3 credits
Identity of the modern Black woman novelist as seen in the works and lives of African-American women novelists. Some cross-cultural comparisons with African and Caribbean women novelists. Readings of selected essays in Black feminist criticism. A research paper is required. This course is the same as Africana Studies 27.
Prerequisite: one of the following: Africana Studies 24, 24.1, 24.2, 44.6; English 1 or 1.2 or 1.7; Core Studies 1.

## Seminars

## 70 Seminar in British Literature

3 hours; 3 credits
Advanced study of an author, genre, theme, or movement in British literature. Topic is selected by the instructor. Course description may be obtained in the department office before registration. (Not open to students who have completed English 90 or 91 or 92 .)
Prerequisite: English 2 or 2.7 and 12 credits in advanced English Department courses, including one course in the period to be studied in English 70, or permission of the chairperson.

## 71 Seminar in American Literature

3 hours; 3 credits
Advanced study of an author, genre, theme, or movement in American literature. Topic is selected by the instructor. Course description may be obtained in the department office before registration. (Not open to students who have completed English 93 or 94, or who completed Comparative Literature 40.2 in spring, 1990.)

Prerequisite: English 2 or 2.7 and 12 credits in advanced English Department courses, including one course in the period to be studied in English 71, or permission of the chairperson.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for courses described below. Students may not register for more than six credits in honors courses in the department in one term.

## 83 Independent Research

Minimum of 9 hours conference and independent work§; 3 credits
Independent research in a major writer or group of writers or special problem supervised by a faculty member. Approved topic. Periodic conferences. Research paper.
Prerequisite: English 2 or 2.7 and an average grade of $B$ or higher in a program, approved by the chairperson, of advanced English Department courses and permission of the instructor and the chairperson.

### 84.7 Interdepartmental Humanities Seminar

3 hours; 3 credits
A significant recurrent theme in Western literature and philosophy. Course description may be obtained in the department office before registration. Reports and term paper. Offered jointly by the Departments of English, Classics, and Philosophy. This course is the same as Classics 84.7, Comparative Literature 84.7, Philosophy 84.7.
Prerequisite: English 2 or 2.7 and a grade of B or higher in six credits in advanced courses in the major field and permission of the instructor(s) and the chairperson.

## 88 Independent Study

Minimum of 9 hours conference and independent work§; 3 credits
Independent study in a major writer, group of writers, or special field supervised by a faculty member.
Approved reading. Periodic conferences. Final examination.
Prerequisite: English 2 or 2.7 and an average of B or higher in a program, approved by the chairperson, of advanced English Department courses and permission of the instructor and the chairperson.

## 89.1, 89.2 Senior Thesis I, II

Minimum of 6 hours conference and independent work§;
2 credits each
Individual study and research under supervision of a faculty member. Students in English 89.1 will select a topic and prepare a research prospectus, outline, and bibliography. Students in English 89.2 will conduct the research and write the final paper.
Prerequisite for English 89.1: English 2 or 2.7 and senior standing, an average of $B$ or higher in advanced English Department electives in a program approved by the department chairperson, and permission of the instructor and department chairperson.
Prerequisite for 89.2: English 89.1 and permission of the instructor and department chairperson.

## Comparative literature

## Genre courses

### 13.1 Modern Short Story and Novella

## 3 hours; 3 credits

Comparative study of the shorter forms of prose fiction. Reading and discussion of such works as Gogol's The Overcoat, Dostoevski's Notes from the Underground, Flaubert's A Simple Heart, Mann's Death in Venice, and Kafka's The Metamorphosis. (Not open to students who have completed Comparative Literature 5 or 13.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 14.2 European Novel of the Nineteenth Century

## 3 hours; 3 credits

Representative works of such authors as Stendhal, Balzac, Flaubert, Zola; Manzoni; Dostoevski, Tolstoi. (Not open to students who have completed Comparative Literature 41.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 14.3 Modern European Novel

## 3 hours; 3 credits

European novel from 1900 to 1935. Representative works of such authors as Proust, Gide; Thomas Mann, Kafka, Hesse; Unamuno. (Not open to students who have completed Comparative Literature 51.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 14.4 Contemporary European Novel

3 hours; 3 credits
European prose fiction from 1935 to the present. Representative works of such authors as Sartre, Camus,
Robbe-Grillet; Beckett; Moravia; Grass; Solzhenitsyn. (Not open to students who have completed Comparative Literature 52.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 16.3 Modern European Drama

## 3 hours; 3 credits

Development of the drama from 1870 to 1935. Ibsen to the post-World War I period. Plays by such authors as Ibsen, Strindberg; Hauptmann, Schnitzler, Hofmannsthal, Wedekind, Kaiser, Brecht; Maeterlinck, Claudel, Cocteau; Chekhov, Gorky; Pirandello; Lorca. (Not open to students who have completed Comparative Literature 70.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 16.4 Contemporary European Drama

## 3 hours; 3 credits

Development of the drama from 1935 to the present. Plays by such authors as Brecht, Durrenmatt, Weiss; Anouilh, Sartre, Camus, Genet, Ghelderode, Beckett, Ionesco, Arrabal; Betti; Lagerkvist; Mrozek. Contemporary theater theory and practice in the work of such writers as Brecht, Artaud, and Grotowski and by such groups as the Living Theater. (Not open to students who have completed Comparative Literature 71.)

Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 18.1 From Epic Tradition to Epic Vision

## 3 hours; 3 credits

Western literature illustrating developments in the epic genre from the Middle Ages to the present.
Adjustment of the epic tradition to differing cultural values through a continual process of translation, imitation, adaptation, and transformation of epic form and content which has led to expressions of the modern "epic vision." This course is the same as English 50.7. (Not open to students who have completed Comparative Literature 55.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 18.2 Tragedy

3 hours; 3 credits
The tragic mode in dramatic and nondramatic forms of literature. Aesthetic, philosophical, and psychological theories of tragedy. This course is the same as English 50.5. (Not open to students who have completed Comparative Literature 56.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 18.3 Comedy

3 hours; 3 credits
The comic mode in dramatic and nondramatic forms of literature. Aesthetic, philosophical, and psychological theories of comedy. This course is the same as English 50.2. (Not open to students who have completed English 58.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 18.4 Romance

3 hours; 3 credits
An examination of romance as a literary genre: the historical development of its conventions, narrative formulas, and characteristic themes; its relationships with and contributions to other forms of literature. This course is the same as English 50.9. (Not open to students who completed English 59 or Comparative Literature 40.2 in spring, 1991, or spring, 1993.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 19.1 The Literature of Fantasy

3 hours; 3 credits
Fantasy and its many modes, including the gothic tale, the literary fairy tale, the animal tale, surrealism and the absurd, time and space travel, and futuristic fiction. This course is the same as English 50.6.
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 19.5 Folk Literature and Fairy Tale

3 hours; 3 credits
Themes, patterns, and structures of folk literature in literate societies of Europe and Asia from the Middle Ages to the present. Literary application of folklore and legendry. Such narrative forms as the fairy tale, the fable, and fabliaux.
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

## Period courses

## 21 Medieval Literature

3 hours; 3 credits
Readings from (a) medieval epic:The Song of Roland, The Cid, the Nibelungenlied and (b) Arthurian literature: the Welsh Mabinogion, Geoffrey's History of the Kings of Britain, the narratives of Chrétien de Troyes and Marie de France, Gottfried's Tristan, and Wolfram's Parzival. Summary accounts of the literary histories of Iceland, Ireland, Wales, and Provence.
Prerequisite or corequisite: Engish 1 or 1.2 or 1.7.

## 23 Literature of the Renaissance

3 hours; 3 credits
Such topics as the beginnings of humanism; Petrarch and Boccaccio, Florentine Platonism; the High
Renaissance: Machiavelli, Ariosto, Tasso; the northern Renaissance: Erasmus, Rabelais, Ronsard and The Pléiade, Montaigne. (Not open to students who have completed Comparative Literature 25.)
Prerequisite or corequisite: English 1 or 1.2 or 1.7.

## 24 Baroque and Classicism

3 hours; 3 credits
Survey of the main currents of European literature in the seventeenth and eighteenth centuries. (Not open to students who have completed Comparative Literature 31.)
Prerequisite or corequisite: English 1 or 1.2 or 1.7.

## 26 European Romanticism

3 hours; 3 credits
Origins, development, and characteristics of the Romantic movement. Seminal ideas of the German Romantik. Readings from such authors as Novalis, Kleist, Hoffmann; Pushkin, Gogol; Leopardi;
Chateaubriand, Hugo, Musset. (Not open to students who have completed Comparative Literature 35.)
Prerequisite or corequisite: English 1 or 1.2 or 1.7.

## 29 Modernist Movements in Twentieth-Century Literature

3 hours; 3 credits
Importance of such movements as Expressionism, Surrealism, and Futurism in shaping twentieth-century literature. Emphasis on the wider aesthetic, critical, and ideological backgrounds. (Not open to students who have completed Comparative Literature 45.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

Asian, African, Middle Eastern, and
Latin American literatures
31.1 East Asian Literature

3 hours, 3 credits
Survey of Chinese and Japanese literature. Chou dynasty songs, T'ang poetry, Ming novels, and the literary revolution; the Man'yoshu, The Tale of Genji, Shinkokinshu, haiku and waka of the Tokugawa period; such modern authors as Mishima and Kawabata. Korean sijo poetry may be included. (Not open to students who have completed Comparative Literature 14.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7, or Core Studies 9.

### 32.2 African Literature

## 3 hours; 3 credits

Survey of twentieth-century fiction, drama, poetry of sub- Sahara Africa. Works by such authors as Achebe, Ekwensi, Emecheta, Ngugi, Oyono, Laye, Dadie, Clark, Sembene, Senghor, Soyinka. This course is the same as Africana Studies 24.8. (Not open to students who have completed Comparative Literature 15 or 15.2.)

### 36.1 Indian Literature

## 3 hours; 3 credits

Representative works in the context of Buddhism and Hinduism. Readings from the Vedas, epics, the Bhagavad Gita, Dhammapada, classical drama, Panchatantra, Bhakti poetry, and Tagore and other modern authors. (Not open to students who have completed Comparative Literature 75.)
Prerequisite: one of the following: English 21 or 1.2 or 1.7, or Core Studies 9.

### 38.1 New Literature of Latin America

3 hours; 3 credits
The new Latin American literature from its origins to independence and maturity. Such twentieth-century writers as Carpentier, Fuentes, Garcia Márquez, Guimaraes Rosa, and Paz. Impact abroad of the new masters of Latin American literature: Neruda's on North American poetry, Borges's on the New Criticism, Cortázar's on the cinema. (Not open to students who have completed Comparative Literature 60.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7, or Core Studies 9.

### 38.3 Caribbean Literature

## 3 hours; 3 credits

Black culture and writing in the Caribbean. Reflections on alienation and independence. Literary liberation movements, Negrism, Indigenism, and Negritude as first emancipations from a European cultural vision. Writers from the English-, French-, and Spanish-speaking countries will be examined. All readings will be in English. This course is the same as Africana Studies 29 and Puerto Rican and Latino Studies 38. (Not open to students who have completed Puerto Rican and Latino Studies 54.)

## Interdisciplinary and thematic studies

40.2 Special Topics

3 hours; 3 credits each term
Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take this course for credit twice, but may not repeat topics. (Not open to students who have completed Comparative Literature 48 for credit twice.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7, or permission of the chairperson.

### 42.1 Myths and Legends

3 hours; 3 credits
Origin and development of myths and legends, focusing on cosmic creation, human archetypes, and values from several cultures. An interdisciplinary perspective on these narratives, including interpretations from psychology, anthropology, and literature. Formal design and story elements, cross-cultural connections, and presence of these myths and legends in works of world literature. (Not open to students who have completed Comparative Literature 6 or 77 or 77.1.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

## 43 Autobiography and Self-Revelation

3 hours; 3 credits
An interdisciplinary study of self-portraiture. Memoirs, confessions, journals, diaries, fictional autobiographies, autobiographical fiction; photography; painting; and film. Development of psychological insight and self-awareness in these forms. (Not open to students who have completed Comparative Literature 19.3.)
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

## 44 Moral Themes in World Literature

3 hours; 3 credits
An exploration of such moral themes as justice, freedom, merit, responsibility, commitment, friendship, selfknowledge, poverty, and the environment in representative works of British, European, American, Latin American, African, and Asian literature, from societal and existential perspectives. This course is the same as English 50.8.
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

## 45 Literature and Psychology

3 hours; 3 credits
Relationship of literature to psychological theories in specific readings. Freudian, Jungian, and/or other psychological techniques applied, compared, and evaluated as tools of literary criticism. This course is the same as English 50.3.
Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 50.1 Theory of Literature

3 hours; 3 credits
Theories of aesthetics and criticism. Major ideas of the nature and value of literature. Emphasis on significant developments in twentieth-century literary criticism. This course is the same as English 50.1. Prerequisite: one of the following: English 1 or 1.2 or 1.7.

### 50.12 Contemporary Literary Criticism and Theory

## 3 hours; 3 credits

Major approaches to literature since 1960. Topics may include semiotics, structuralism, post-structuralism, deconstruction, narratology, new historicism, feminist theory, psychoanalytic criticism, Marxism, and social constructionism. This course is the same as English 50.12
Prerequisite: one of the following: English 2, 2.4, 2.7, 3.4, 4.4, 10.3.

### 50.13 Introduction to Postcolonial Literature and Theory

3 hours; 3 credits
Study of literary works and theoretical paradigms relating to the culture of European imperialism and its aftermath. Emphasis on the diversity of works from many parts of the formerly colonized world to introduce the global significance of postcolonialisim. Topics include: race and representation, Orientalism and the production of knowledge, Empire and exoticism, gender and nationalism, and multiculturalism and diasporic identities. This course is the same as Africana Studies 28.5 and English 50.13.
Prerequisite: English 1.

## 54 Translation Workshop: Theory and Practice

3 hours lecture, 2 hours laboratory; 4 credits
Professional training in the art of literary translation into English; study of translation theory and workshop experience in the analysis and practice of translation. This course is the same as Spanish 54 and French 54.

Prerequisite: An advanced grammar course in a modern foreign language equivalent to course level 11.1 and a screening interview.

## 83 Independent Research

Minimum of 9 hours independent work§; 3 credits
Independent research supervised by a faculty member. Approved topic. Periodic conferences. Report or term paper or written final examination.
Prerequisite: English 2 or 2.7 and an average grade of B or higher in a program, approved by a department counselor, of advanced comparative literature courses and permission of the chairperson.

## 84 Seminar

3 hours; 3 credits
An author, period of literature, literary movement affecting two or more countries or cultures, or a literary problem of international scope. Report or term paper.
Prerequisite: English 2 or 2.7 and an average grade of B or higher in a program, approved by a department counselor, of advanced comparative literature courses and permission of the chairperson.

### 84.7 Interdepartmental Humanities Seminar

3 hours; 3 credits
A significant recurrent theme in Western literature and philosophy. Course description may be obtained in the department office before registration. Reports and term paper. Offered jointly by the Departments of Classics, English, and Philosophy. This course is the same as Classics 84.7, English 84.7, Philosophy 84.7. Prerequisite: English 2 or 2.7 and a grade of $B$ or higher in six credits in advanced courses in the major field and permission of the instructors and the chairperson.
The following course is inactive and will be offered only if there is sufficient demand:

## 63 Methods of Comparative Criticism

## English-as-a-Second-Language Program (ESL)

## ESL 0.03 Reading Workshop

2 hours; no credit
Working with tutors in the ESL laboratory facilities to develop reading skills such as determining the main idea, identifying major details, writing summaries, answering essay questions, and reacting critically to texts. (Not open to students who have passed the CUNY Reading Assessment Test at the Brooklyn College level.)
Prerequisite: Open only to ESL students who have passed the CWAT but not the CRAT.
ESL 0.04 Writing Workshop

2 hours; no credit
Working with tutors in the ESL laboratory facilities to develop the ability to write well-organized, welldeveloped essays with college-level content, organization, and grammar. (Not open to students who have passed the CUNY Writing Assessment Test.)
Prerequisite: a grade of NC in ESL 15.2.

## ESL 0.1 Summer Institute Workshop: Integrated Reading and Writing

3 hours per day for 20 days; no credit
Integrated reading and writing workshop for ESL students. Emphasis on rapid acquisition of fluency in reading and writing at the college level in coordination with the theme of a linked course. Summer semester.
Prerequisite: placement by Assessment Test scores and permission.

## ESL 1.4 Developmental Reading

6 hours; 1 credits
Practice and refinement of vocabulary and comprehension strategies used for understanding standard written English. Emphasis on organizational patterns, academic vocabulary, and study skills.
Prerequisite: permission of an ESL counselor or the chairperson.

## ESL 11 Integrated Reading, Writing, and Speech: Level I

9 hours recitation, 1 hour laboratory; no credit
Basic reading, speaking, listening, and writing for beginning level ESL students. Emphasis on rapid acquisition of fluency in speaking, reading, and writing at the college level. (Not open to students who have passed ESL 0.11.)
Prerequisite: assignment on the basis of CUNY Assessment Test scores and permission.

## ESL 12 Integrated Reading, Writing, and Speech: Level II

9 hours recitation, 1 hour laboratory; 1 credit
Increasing students' abilities in reading, writing, speaking, and listening at the low intermediate level of ESL through integrating these skills. (Not open to students who have passed ESL 0.12.)
Prerequisite: assignment on the basis of CUNY Assessment Test scores and permission.

## ESL 14 Integrated Reading and Writing: Level III

7 hours recitation, 1 hour laboratory; 2 credits
Increasing students' abilities in reading and writing at the high intermediate level of ESL through integrating these skills. (Not open to students who have received credit for ESL 1.00.)
Prerequisite: assignment on the basis of CUNY Assessment Test scores and permission.

## ESL 14.1 Writing: Level III

4 hours recitation, 1 hour laboratory; 2 credits
Designed to increase the writing abilities, at the high intermediate level of ESL, of students who have passed the CUNY Reading Assessment Test at the Brooklyn College level. (Not open to students who have received credit for ESL 1.00.)
Prerequisite: assignment on the basis of CUNY Assessment Test scores and permission.

## ESL 14.2 Writing Workshop: Level III

3 hours recitation, 3 hours tutorial; 2 credits
For students who have taken ESL 14 or 14.1 and have not passed to the high level of writing. This course assesses and addresses the needs of students at the individual level. (Not open to students who have received credit for ESL 1.00 or 14 or 14.1.)
Prerequisite: a grade of NC in ESL 14.1.

## ESL 15 Integrated Reading and Writing: Level IV

6 hours recitation, 1 hour laboratory; 3 credits
Increasing students' abilities in reading and writing at the advanced level of ESL through integrating these skills. (Not open to students who have received credit for ESL 1.01 or 15.1 or 15.2.)
Prerequisite: assignment on the basis of CUNY Assessment Test scores and permission.

## ESL 15.1 Writing: Level IV

4 hours recitation, 1 hour laboratory; 2 credits
Increasing students' abilities in writing at the advanced level of ESL. (Not open to students who have received credit for ESL 1.02 or 15.2.)
Prerequisite: assignment on the basis of CUNY Assessment Test scores and permission.

## ESL 15.2 Writing Workshop: Level IV

4 hours; 2 credits
For students who have taken ESL 15 or 15.1 and have failed to pass the CUNY Writing Assessment Test. This course assesses and addresses the needs of students at the individual level. (Not open to students who have received credit for ESL 1.02 or 15 or 15.1.)
Prerequisite: a grade of NC in ESL 1.02 or 15 or 15.1 and permission.

## ESL 17.1 Advanced Reading for ESL Students

## 3 hours; 1 credit

Advanced reading for ESL students who have reached a minimal competence in writing but need additional work in reading English. Emphasis on the comprehension and analysis of texts relevant to the humanities, sciences, and social sciences. Focus on the development of vocabulary, study skills, and critical thinking. Prerequisite: one of the following courses: ESL 12, 14, 14.1, 15, 15.1, 15.2; a placement score of $4 / 4$ or higher on the CWAT and below a passing score on the CRAT; and permission from the program.

## Oral communication

## ESL 1.5 Oral Communication I

3 hours; 1 credit
Special attention to developing basic skills in interpersonal communication, critical and analytic thinking, and speaking fluency in preparation for speech and listening requirements of regular college courses. Prerequisite: permission of an ESL counselor.

## ESL 1.6 Oral Communication II

3 hours; 1 credit
Continued emphasis on developing basic skills in interpersonal communication, critical and analytic thinking and speaking fluency in preparation for regular college courses; intensive drill and practice in the basics of standard English grammar and diction; introductory library work in researching and organizing information for oral presentation.
Prerequisite: permission of an ESL counselor.

## Environmental Studies Program

An interdisciplinary major
Program office: 141 Ingersoll Hall Extension
Telephone: 951-4159
Director: Micha Tomkiewicz, Physics Department
Faculty: from the departments of the college.
B.A. degree program in environmental studies

HEGIS code 4999
Program requirements (5911/42-73 credits)
Students must complete all of the following, A through F:
A. 1.All of the following courses:

Environmental Studies 1.
Computer and Information Science 1.5.
Mathematics 2.9; or Mathematics 2.91 and 2.92.
2. One of the following statistics courses:

Economics 30.2.
Health and Nutrition Sciences 60.
Mathematics 1.5.
Physical Education 75.
Political Science 57.
Psychology 40.1.
Sociology 19.1.
(Note that Health and Nutrition Sciences 60, Physical Education 75, and Sociology 19.1 have advanced prerequisites. Students not explicitly meeting these prerequisites who feel that they may be prepared for the particular course should consult the department chairperson.)
B. 1.One of the following science sequences:

Biology 3 and 4.
Chemistry 1, or 1.1 and 1.2; and Chemistry 2.
Geology 1 and 2.2.
Physics 1, or 1.1 and 1.2; and Physics 2.
2. Two of the following courses, chosen from discipline(s) other than that chosen in B.1. above:

Biology 3, 4.
Chemistry 1, 1.1 and 1.2 (count as one choice), 2, 5.
Geology 1, 2.2.
Health and Nutrition Sciences 24.
Physics 1, 1.1 and 1.2 (count as one choice), 2.
C. At least 9 credits chosen from the following advanced science courses (note that some of these courses have prerequisites):
Biology 15, 52, 52.1.
Chemistry 41, 42, 51, 52.
Geology $17.21,18,19.1,20,22,23.1,32.5,53$.
Health and Nutrition Sciences 20, 22.71 (the same course as Physical Education and Exercise Science 22.71), 40, 40.5.

Physical Education and Exercise Science 22.71 (the same course as Health and Nutrition Sciences 22.71).
D. Economics 20.1.
E. Environmental Studies 75.
F. Students must complete either Option 1 or Option 2 below.

Option 1: Concentration in Environmental Studies

1. All of the following courses:

Philosophy 6.
Political Science 1.51.
Sociology 28.
2. Nine credits from the following advanced humanities and social science courses:

Classics 30.
Economics 60.2, 75.5.
Philosophy 15.1.
Political Science 75.1.
(Studies in) Religion 15.
Option 2: Concentration in Environmental Management

1. Business 50.1 and 50.2.
2. Nine credits from the following: Business 50.4, 50.7, 50.8, 50.9, 76.4; Economics 60.2; Philosophy 15.1.

## Program recommendations

Other advanced electives and special topics courses relevant to environmental studies may be substituted with the permission of the program director. The list of available courses may be obtained each semester in the program office.
Environmental studies majors should complete Environmental Studies 1 as early in their careers as possible. The following courses are also recommended for majors in environmental studies: Computer and Information Science 5.2 and Health and Nutrition Sciences 8.

## Requirements for a minor in environmental studies

A minimum of 12 credits as specified below, each completed with grade of C - or higher, plus any prerequisite of the courses, including Environmental Studies 1:
Environmental Studies 75.
Philosophy 15.1.
Sociology 28.
One of the following:
Geology 22.
Health and Nutrition Sciences 24.

## Courses

*Courses marked (*) are not counted toward the advanced courses required for the major or the 12 credits of advanced electives required for the minor.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## *1 Introduction to Environmental Studies

3 hours; 3 credits
Lectures and discussions of selected topics concerning the natural environment. Introduction to scientific and policy tools used to evaluate environmental and natural resource use. Case studies addressing global, transnational, regional, and local environmental issues.

## 75 Research Methods in Environmental Studies

2 hours lecture and 2 hours independent work§
and conference per week; 3 credits
Seminar and independent study in recent and current topics in environmental studies with focus on research methodology. Seminars by invited speakers; student seminars and discussions moderated by instructor. Selected individual research projects by students; research report and position paper required. Prerequisite: Environmental Studies 1, junior or senior standing, major or minor in environmental studies, and permission of the director of the Environmental Studies Program.

## Film

Department office: 0314 Plaza Building
Telephone: 951-5664, 951-5665, 951-5057
Chairperson: Lindley P. Hanlon
Deputy Chairperson, CLAS: Virginia Brooks
Production Head: Virginia Brooks
Film Studies Head: Elisabeth Weis
Professors: Brooks, Hanlon, Hirsch, Weis;
Assistant Professors: Danto, Gurskis, Hornsby, Massood, Tutak.
The Film Department offers a major in film with concentrations in film studies, film production, film producing, screenwriting, and film marketing. The department also offers a certificate program in film production.

## B.A. degree program in film HEGIS code 1010

## Department requirements

A.Film studies (33 credits)

All of the following: Film 1, 2, 15, 16, 30.
Two of the following plus any prerequisite of the courses: Film 20, 26, 28, 29.
Four additional advanced film studies courses numbered 12 or higher plus any prerequisite of the courses.
Film 40.1 is recommended for film studies majors and may be counted toward fulfillment of this requirement.
B.Film production ( 33 credits)

All of the following: Film 1, 40.1, 40.2, 43 or $68.1,47,55.1,64,66$.
Three additional film studies courses plus any prerequisite of the courses.
C.Film producing (42 credits)

All of the following: Film 1, 16, 32, 40.1, 40.2, 43, 47, 56.1, 56.2, 64, 66.
Three additional advanced film studies or film production courses numbered 12 or higher plus any prerequisite of the courses. At least one of the courses must be in film studies.
D.Screenwriting (33 credits)

All of the following: Film 1, 2, 15, 16, 40.1, 61, 62, 70.
One of the following: Film 63.1 or 63.2 or 63.3 .
Two additional advanced film studies or film production courses numbered 12 or higher plus any prerequisite of the courses. One course may be substituted from the following choices: English 15.1 or 17.12 , Television and Radio 16 or 36.1 or 36.2 or 50 , Theater 2 or 60 . Screenwriting students will be encouraged to select additional electives outside the department from the courses above as well as related writing courses across the curriculum.
E.Film marketing (33 credits)

All of the following: Film 1, 16, 28, 29, 32.
Two additional courses from the film studies area.
Business 50.1, 50.2, and 50.7.
One of the following: Business 50.9 or 80.1 or 80.4 or Television and Radio 19.
Students must complete each of the required courses for all concentrations with a grade of C or higher.

## Certificate program in film production

HEGIS code 5008
Admission requirements
Those students who do not have a baccalaureate degree must have received a high school diploma or the equivalent for admission to this program and must successfully complete the CUNY Basic Skills Assessment Tests.

Program requirements (30 credits)
Students must complete a program of 30 credits, including both A) and B):
A.All of the following: Film 1, 2, 20, 40.1, 40.2, 43 or 68.1, 64, 66.
B.Two of the following: Film 48, 50.1, 55.1, 57, 61.

Students must complete each required course with a grade of $C$ or higher. Students who have received transfer credits from other colleges must complete a minimum of 24 credits in the Department of Film at Brooklyn College.
The Department of Film will permit certificate students, on request, to enroll in some prerequisite courses as corequisites.
Students who desire full-time enrollment status in the certificate program must have a plan of study approved by the chairperson of the Department of Film before registering for classes.

Film concentration for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher (K-6); special education teacher.

The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs and who elect a concentration in film must complete all of the following courses with a grade of $C$ or higher: Film 1 or $9,2,15,16,20,40.1$.

## Requirements for a minor in film

A program of 12 credits of advanced electives in film, with a grade of $C$ or higher in each course. The department recommends that students confer with a departmental adviser to plan a useful sequence of courses.

## Requirements for a minor in film (for television and radio majors)

A major in television and radio; Film 1; and a program of 12 credits of advanced electives in film, each completed with a grade of $C$ or higher.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 18 credits in advanced courses for majors in this department. §Independent work means not less than three additional hours each week of conference, research, independent reading, and writing assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## Film studies

*1 Language of Film I
4 hours; 3 credits
Introduction to films, filmmakers, and the vocabulary of filmmaking. The creation of movies from script to screen. Relation between form and content. Gender, genre, ethnic, and cultural approaches. Analyses and screenings of works by Hitchcock, Welles, and contemporary directors.

## 2 Language of Film II

4 hours; 3 credits
Close analysis of selected films. Detailed examinations of films of contrasting styles; the range of analytic approaches applicable to a given film.
Prerequisite: Film 1.

## *9 Introduction to Film

3 hours; 3 credits
Introduction to the formal language of film. Theoretical perspectives on the nature of film, visual perception, narrative structure, and the artist-audience interaction. Film as a tool in the teaching/learning process. (Not open to students who have completed Film 1.)
Prerequisite: Core Studies 1 and 6.

## 12 Literature and Film

4 hours; 3 credits
Investigation of significant films derived from literature through comparison of genres. Defining film as an art form in its relation to a particular literary source. Screening of such works as Ford's The Grapes of Wrath, Welles's The Trial, Bresson's Diary of a Country Priest, Visconti's The Stranger, Lean's Great Expectations, Truffaut's Shoot the Piano Player, Olivier's Henry V, and Kurosawa's Throne of Blood.
Prerequisite or corequisite: Film 1 or permission of the chairperson.

## 15 History of Film I

4 hours; 3 credits
Survey of motion pictures from 1895 to 1941. Development of film as an art form and distinctive medium of communication. Relationship of film to other arts and to social and political climates in which cinematic forms and techniques evolved.
Prerequisite or corequisite: Film 1 or permission of the chairperson.

## 16 History of Film II

4 hours; 3 credits
Motion pictures from 1941 to the present. International nature of cinematic development. Screening of films that illustrate major theories of cinema. Discussion of outstanding directors and critical reactions to their work.
Prerequisite or corequisite: Film 1 or permission of the chairperson.

## 17 Cultural Perspectives in Film

4 hours; 3 credits
Analysis of cultural and theoretical issues in a cross-section of thematically linked historical and contemporary films. Topics may include specific investigations into such issues as censorship, gender, race, ethnicity, and/or sexuality in film.
Prerequisite: Film 1.

## 18 Current Cinema and Criticism

4 hours; 3 credits
Intensive analysis of contemporary films; study of major trends in contemporary film criticism. Students will be expected to attend assigned screenings at archives, festivals, and theaters.
Prerequisite: Film 1 or permission of the chairperson.

## 20 The Nonfiction Film

4 hours; 3 credits
Introduction and overview of the development of a documentary tradition in international filmmaking. Lectures, screenings, and discussions will be geared toward analyzing nonfiction film as a medium of observation, education, persuasion, activism, and aesthetic expression.
Prerequisite: Film 1 or permission of the chairperson.

### 21.2 Italian Literature and Italian Cinema

3 hours; 3 credits
The relationship between Italian literary works and the films they inspired. Course description available in department office prior to registration. This course is the same as Italian 30.50. Taught in Italian. (Not open to students who have completed Italian 21.)
Prerequisite: Film 1 and Italian 17.50 or permission of the chairperson of the Modern Languages and Literatures Department.

## 22 Women in Film

4 hours; 3 credits
The various images of women in film from the beginning to the present. Readings and discussions of myths, fears, and fantasies that have led to the production of such images. The star system and its relationship to women performers. Screenings include films made by and about women.
Prerequisite: Film 1 or permission of the chairperson.

### 23.1 Master Class: Film Artists

4 hours; 3 credits
Lectures by professionals in such areas of filmmaking as cinematography, editing, directing, art directing, casting, sound, music, screenwriting, special effects, opticals, lighting, costuming.
Prerequisite: Film 1 or permission of the chairperson.

### 23.2 Master Class: Film Producers

4 hours; 3 credits
Lectures by professionals in areas of film production and preproduction including producing, scheduling, budgeting, financing, marketing, advertising, and distribution.
Prerequisite: Film 1 or permission of the chairperson.

## 24 American Film Comedy

4 hours; 3 credits
Consideration of the masterworks of a number of major silent and sound film comedians and filmmakers. Lectures and class discussions consider such matters as the serious intent of comedy; the connections between comic form and content; the creation and repetition of the personae of major comedians; erotic, aggressive, and infantile dimensions of the comic sensibility.
Prerequisite: Film 1 or permission of the chairperson.

## 25 Experimental, Underground, and Avant-garde Films

4 hours; 3 credits
Examination of experiments in film technique, form, and content. Examples for screening drawn from significant works outside the commercial film industry.
Prerequisite: Film 1 and one additional film studies course.

## 26 The Director's Cinema

4 hours; 3 credits
Intensive analysis of the style and themes of one major director (such as Bergman, Fellini, or Hitchcock) or of two directors (such as Renoir and Lang or Eisenstein and Lee). Students may take this course for credit three times, but may not repeat topics.
Prerequisite: Film 1 or permission of the chairperson.

## 27 Film Technology and Aesthetics

4 hours; 3 credits
Analysis of a specific film technology and its impact on film form.
Prerequisite: Film 1.

## 28 National Cinema

4 hours; 3 credits
Survey of a major cinema reflecting the intellectual and artistic traditions of a nation such as India,
Australia, or Japan. Students may take this course for credit three times, but may not repeat area studied.
Prerequisite: Film 1 or permission of the chairperson.

## 29 Film Genres

4 hours; 3 credits
Studies in genre types and techniques. Narrative structure, theory, popular appeal of archetypal patterns, character stereotypes. Each term focuses on either an individual genre (westerns, science fiction, crime) or on genre as a popular film form and method of analysis. Students may take this course for credit three times, but may not repeat topics.
Prerequisite: Film 1 or permission of the chairperson.

## 30 Film Theory, Aesthetics, and Criticism

4 hours; 3 credits
Theoretical writings of Eisenstein, Pudovkin, Kracauer, Arnheim, Bazin, Lacan, Metz, Mulvey, Cavell, and others. Their application in cinema. Writing workshop for students interested in contemporary film criticism, supplemented by historical survey of film criticism in newspapers, magazines, and film journals. Course aims at film scholarship rather than journalistic reviewing.
Prerequisite: Film 1 or permission of the chairperson.

## 31 Global Cinema

4 hours; 3 credits
Survey of a major cinema tradition that transcends national borders. Topics selected according to regional, political, social, and/or cultural traditions shared by people across the globe. Topics include African cinema, postcolonical cinema, and the cultural exchange between Hollywood and different national cinemas.
Students may take this course for credit two times, but may not repeat area.
Prerequisite: Film 1.

### 60.1 Special Topics in Film

4 hours; 3 credits
Social or aesthetic approaches to film study. Course description may be obtained in the department office before registration. Students may take this course for credit three times, but may not repeat topics.
Prerequisite: Film 1 or permission of the chairperson.

## 83.1, 83.2, 83.3 Independent Research I, II, III

Minimum of 9 hours independent work§ and conference or class meetings per week; 3 credits
Research or fieldwork in an aspect of film supervised by a faculty member. (Not open to students who have completed Film 83.)
Prerequisite: completion of 15 credits of advanced Film Department courses and approval of a specific research project by the supervising faculty member and permission of the chairperson.
Prerequisite: for Film 83.2: Film 83.1.
Prerequisite: for Film 83.3: Film 83.2.
See also 85.1, 85.2, 85.3, 85.4, which are listed with film production courses.

## 88.1, 88.2 Seminars in Genres

2 hours lecture, 2 hours screening; 3 credits each term
Such limited and concentrated genre areas as Japanese film, Russian film, silent film, American film of the 1930s and 1940s, western, thriller, and comedy. Critical analysis and historical development.
Prerequisite: completion of a program, approved by the chairperson, of advanced Film Department courses.

## 89.1, 89.2, 89.3 Seminars in Directors

2 hours lecture, 2 hours screening; 3 credits each term
The style and vision of important film directors. Such courses as the following are offered, the subject chosen by the instructor: New Wave French film (Godard, Truffaut, Resnais, Rivette, Chabrol, and Rohmer); Italian neo-realism (Rossellini, De Sica, Visconti, and Fellini); cinema of Dreyer and Bergman; cinema of John Ford; cinema of D.W. Griffith; cinema of Jean Renoir; cinema of Buñuel and Bresson; cinema of Godard and Antonioni. Emphasis on the director's controlling vision of a film. Prerequisite: completion of a program, approved by the chairperson, of advanced Film Department courses. Film production

## 32 The Business of Film

4 hours; 3 credits
The study of film as a commercial enterprise, from Hollywood studios to New York independents, from the international marketplace to ancillary markets like cable and home video.
Prerequisite: Film 1.

### 40.1 Film Production I

4 hours; 3 credits
Introduction to fundamentals of film production through demonstrations, lectures, and hands-on use of motion picture cameras, lenses, filters, lighting equipment, film stocks, and sound recording equipment. Individual and group film projects, which are evaluated and criticized.
Prerequisite or corequisite: Film 1 or permission of the chairperson.

### 40.2 Film Production II

4 hours; 3 credits
Team writing, shooting, editing, and group criticism. Each student works as director, editor, writer, and cinematographer on sequences of 16 mm film. Concept, research, writing, cinematography, editing, and sound. Discussion of problems encountered.
Prerequisite: Film 40.1.

## 43 Film Directing Workshop I

4 hours; 3 credits
Theoretical analysis and practical laboratory application of directing. Students direct and act in prepared scenes. Critique and analysis of the exercises. (Not open to students who have completed Film 68 or 68.1.) Prerequisite: Film 40.1 or permission of the chairperson.

## 44 Film Directing Workshop II

4 hours; 3 credits
Continuation of Film 43. Theoretical analysis and practical application of directing. Students direct and act in prepared scenes. Critique and analysis of scenes. (Not open to students who have completed Film 68.2.) Prerequisite: Film 43 or 68 or 68.1 or permission of the chairperson.

## 47 Sound Design

4 hours; 3 credits
Introduction to the relationship between picture and sound. The complex interactions between dialogue, music, and effects will be explored, as well as the aesthetic possibilities of sound and the basic skills to design and combine various sound sources. The major focus will be the development of an individualized sound design for a student's 16 mm film project. (Not open to students who have completed Film 47.1.) Prerequisite: Film 40.1 or permission of the chairperson.

## 48 Location Sound

2 hours lecture, 2 hours laboratory; 3 credits
The fundamentals of sync sound recording. Acoustics, microphones, studio and location recording of dialogue, music, and effects. Hands-on use of professional recording equipment including: Nagra 4.2, Time Code Nagras, Smart Slates, DAT, radio microphones, and mixers. Assessment of dramatic and documentary scenes from an audio perspective.
Prerequisite: Film 40.1.

## 49 Community Portraits: Documentary Production

4 hours; 3 credits
Introduction to the fundamentals of documentary production. The course will guide students through the basic three stages of a documentary project: research and development, production, and postproduction. Students will work with digital video and nonlinear editing systems. This course is the same as Television and Radio 27.2. (Not open to students who have completed Film 49.1.)
Prerequisite: Film 40.1 or Television and Radio 27.1 or permission of the chairperson.

### 50.1 Advanced Cinematography I

2 hours lecture, 2 hours laboratory; 3 credits
Lectures, demonstrations, and workshops in equipment and materials used to film motion pictures.
Operation and characteristics of cameras, lenses, accessory camera equipment, film emulsions, lighting,
and laboratory processing. (Not open to students who have completed Film 50.)
Prerequisite: Film 40.2.

### 50.2 Advanced Cinematography II

2 hours lecture, 2 hours laboratory; 3 credits
Application of skills and information acquired in Advanced Cinematography I in a series of practical workshop exercises under a variety of camera equipment, film emulsion, and lighting conditions. Exercises may include shooting on film for television broadcast, shooting to playback, producing commercials, public service announcements, or music videos.
Prerequisite: Film 50.1.

### 55.1 Film Editing I

2 hours lecture, 2 hours laboratory; 3 credits
Montage and first principles in the art of film editing: time, rhythm, visual and aural relationships. Expressive aspects of the editing process. Interconnection of concept, script, photography, and directing as related to editing. Emphasis on formal instruction in theories, techniques, and equipment use. (Not open to students who have completed Film 55.)
Prerequisite: Film 40.1.

### 56.1 Film Producing

4 hours; 3 credits
The process of producing a film from acquisition of the property through distribution. Topics include: selling an idea; working with screenwriters; assembling financing; selecting primary personnel; casting; the production process; and the postproduction process. Hands-on work in breaking down a script, creating a budget, establishing a shooting schedule, preparing production strip boards and call sheets, negotiating deals, and working (or not) with unions.
Prerequisites: Film 40.2 and 43 or permission of the chairperson.

### 56.2 Alternate Producing

## 4 hours; 3 credits

An intensive workshop in producing noncommercial or nontheatrical films. Types of projects covered include no-budget films, community documentaries, training films, and educational videos. Particular attention is paid to fiscal, aesthetic, and audience considerations in producing specialized films.
Prerequisite: Film 56.1 or permission of the chairperson.

## 57 Animation I

2 hours lecture, 2 hours laboratory; 3 credits
Principles of animation and techniques of working with the animation stand. Students screen films in various media and prepare weekly exercises in super-8mm using sand and gravel, clay, cutouts, and pixilation, paint-on-film, and cel-animation techniques.
Prerequisite: Film 40.1 and Art 25 or permission of the chairperson.

## 58 Animation II

2 hours lecture, 2 hours laboratory; 3 credits
Advanced animation course. Use of the 16 mm stand,
cel-animation, slide and photo animation, rotoscoping, titles, and tinting live footage. Intensive production workshop combines individual exercises and team projects. Each student functions in several production capacities: director, cameraman, animator, designer, in-betweener, inker, opaquer, background artist, and checker.
Prerequisite: Film 57

## 61 Screenwriting I

4 hours; 3 credits
Application of film writing techniques to various media open to the film writer: narrative feature, narrative short, documentary, animated film, and industrial film. Writer's role as a reporter and researcher. Creative aspects in finding concept, theme, and style for the film; relation of the spoken word to image and music.
(Not open to students who have completed Film 60.)
Prerequisite: Film 1 and 40.1, or permission of the chairperson.

## 62 Screenwriting II

4 hours; 3 credits
Advanced workshop in writing screenplays. Each student will complete a feature-length script.
Prerequisite: Film 61 and permission of the chairperson.

### 63.1 Advanced Screenwriting: Adaptation

## 4 hours; 3 credits

Workshop in adapting stories, novels, and plays to screen format. Students' work is the basis of class discussion. Successful screen adaptations will be screened, read, and discussed.
Prerequisite: Film 61 or permission of the chairperson.

### 63.2 Advanced Screenwriting: Writing the Genre Film

4 hours; 3 credits
Workshop in techniques and approaches to writing genre films.
Prerequisite: Film 62 or permission of the chairperson.

### 63.3 Advanced Screenwriting: Writing the Low Budget Film

4 hours; 3 credits
Workshop in techniques and approaches to writing feature-length films for the independent cinema.
Prerequisite: Film 62 or permission of the chairperson.

## 64 Advanced 16mm Film Production

4 hours; 3 credits
Preparation and shooting of required final film in 16 mm including synchronized sound, with the choice of working in narrative fiction or documentary mode. Consideration of preproduction requirements, research, script breakdown, budgets, schedules, and actual production logistics leading to completion of principal photography on selected projects. (Not open to students who are enrolled in or have completed both Film 40.3 and 45.)

Prerequisite: Film 40.2, 43, 47, 55.1; approval by the production faculty of the completed 16 mm sound Qualifying Film.

## 65 Music for Film

## 4 hours; 3 credits

Practical and theoretical considerations in composing music for films. Course is taught by a practicing film composer from the Conservatory of Music.
Prerequisite: permission of the director of the Conservatory of Music.

## 66 Film Editing II

2 hours lecture, 2 hours laboratory; 3 credits
Montage and first principles in the art of film editing: time, rhythm, visual and aural relationships. Expressive aspects of the editing process. Interconnection of concept, script, photography, and directing as related to editing. Emphasis on individual practical work, completion of film begun in the production class, Film 64. (Not open to students who have completed Film 55.2.)
Prerequisite: Film 55.1 and 64, or permission of the chairperson.

## 67 Computer-controlled Non-linear Film Editing

4 hours; 3 credits
Theoretical and practical principles for AVID, a computer-controlled, non-linear editing system in postproduction with sync sound film material.
Prerequisite: Film 66 or permission of the chairperson.

## 70 Senior Screenwriting Practicum

4 hours; 3 credits
Intensive workshop for film majors concentrating in screenwriting.
Prerequisite: Film 63.1, 63.2, or 63.3, senior status, or permission of the chairperson.

## 83.1, 83.2, 83.3 Independent Research I, II, III

Minimum of 9 hours independent work§ and conference or class meetings per week; 3 credits Research or fieldwork in an aspect of film supervised by a faculty member. Participation in the preproduction, production, and postproduction of an independent film project. (Not open to students who have completed Film 83.)
Prerequisite: completion of 15 credits of advanced Film Department courses and approval of a specific research project by the supervising faculty member and permission
of the chairperson.
Prerequisite: for Film 83.2: Film 83.1.
Prerequisite: for Film 83.3: Film 83.2.
85.1, 85.2, 85.3, 85.4 Intensive Film Workshop I, II, III, IV

9 hours fieldwork plus conferences; 3 credits
Intensive workshop for students engaged as interns or apprentices in a museum film study center; at a distribution, marketing, or production office; or on a professional production.
Prerequisite: 15 credits of advanced Film Department courses and permission of the chairperson.
The following course is inactive and will be offered only if there is sufficient demand:

### 21.1 French Literature and Cinema

## General Science

General science courses are taught by faculty members in the Departments of Biology, Chemistry, Computer and Information Science, Geology, Mathematics, and Physics.

## Courses

### 9.1 Geophysics

2 hours lecture, 1 hour recitation, 2 hours laboratory; 4 credits
Materials and structure of the earth; physical properties and states of matter, their dependence on temperature and pressure; internal structure of the earth and methods of studying it; landscape of the earth; other bodies of the solar system.
Prerequisite: Core Studies 7.1, 7.2, 8.1, and 8.2.
Prerequisite or corequisite: Mathematics 1.95 and Core Studies 5.

### 9.2 Light and Visual Perception

2 hours lecture, 1 hour recitation, 2 hours laboratory; 4 credits
An inquiry- and laboratory-based study of the nature of light; refraction and reflection; geometrical optics; wave properties of light; optical properties of human and animal visual systems.
Prerequisite: Core Studies 7.1, 7.2, 8.1, and 8.2, or an approved substitute as listed in the Bulletin.
Prerequisite or corequisite: Mathematics 1.95 and Core Studies 5.

### 9.3 Chemistry and Biology in Everyday Life

2 hours lecture, 1 hour recitation, 2 hours laboratory; 4 credits
Design, execution, and analysis of experiments leading to understanding of chemistry and biology in everyday life; relation to more general scientific principles; examination of some societal aspects of science. Prerequisite: Core Studies 7.1, 7.2, 8.1, and 8.2, or an approved substitute as listed in the Bulletin.
Prerequisite or corequisite: Mathematics 1.95 and Core Studies 5.

### 9.4 Studies in Paleobiology

2 hours lecture, 1 hour recitation, 2 hours laboratory; 4 credits
An inquiry- and lab-based study of important aspects of evolutionary paleontology and the history of life as illustrated by the fossil record. Adaptation, size scaling, evolutionary processes, and paleoecology. One required field trip to study modern beach environments and to collect fossils.
Prerequisite: Core Studies 5, 7.1, 7.2, 8.1, and 8.2.
10 Multidisciplinary Topics in the Natural, Mathematical, and Computer Sciences
3 hours; 3 credits
Two to four modules, each consisting of topics of contemporary interest in the areas of biology, chemistry, computer science, geology, mathematics, and physics. Focus on understanding the process of acquiring knowledge by means of observation, analysis of data, formulation and testing of conclusions. Specific modules for each section will be announced prior to registration.
Prerequisite: Core Studies 5; Mathematics 1.95; Core Studies 7.1, 7.2, 8.1, and 8.2, or their equivalents; at least three credits of science selected from the following courses: Biology 3, 4; Chemistry $0.5,1,2,5$; Geology 0.1, 0.5, 1, 2, 2.1, 3, 4, 9; Physics 0.11, 0.12, 0.3, 0.4, 1, 2.
Corequisite: Education 38. A student who receives a failing grade in General Science 10 and a grade of C or higher in Education 38 may with departmental permission repeat General Science 10 without repeating Education 38.

## 20 Natural Science in Early Childhood and Elementary Education

1 hour lecture, 2 hours laboratory; 2 credits
Science activities, demonstrations, and experiments useful in early childhood and elementary education. Taught in coordination with Education 45. (Not open to students who are enrolled in or have completed Education 48.7 or 58.6 .)
Prerequisite: General Science 10 and Education 38.
Corequisite: Education 45.

## Geology

Department office: 3131 Ingersoll Hall
Telephone: 951-5416
Chairperson: Nehru E. Cherukupalli
Deputy Chairperson, CLAS: E. Lynn Savage
Deputy Chairperson, Division of Graduate Studies: David E. Seidemann
Professors: Chamberlain, Cherukupalli, Friedman, Leveson, Savage, Seidemann;
Associate Professor: Aja;
Assistant Professor: Powell.
The Department of Geology offers two programs, one leading to a bachelor of science degree, and one leading to a bachelor of arts degree. The B.S. degree program is intended for students who plan to study geology on the graduate level or to pursue professional careers in the field of geology. B.S. students must choose one of two areas of concentration: (1) geology; or (2) environmental geology. The former focuses on preparation in classical geology; the latter focuses on applied and environmental aspects of geology. The B.A. degree program is for students interested in a broad background in the earth sciences. Depending on their objectives, students should complete the requirements of one of the degree programs described below. For students interested in teaching, the department offers, in conjunction with the School of Education, bachelor of arts and bachelor of science degree programs for earth science teachers, grades 7 through 12.

## Core curriculum

The Department of Geology participates in the college's core curriculum through Core Studies 8.2.

## Selecting a Program of Study

Students who anticipate majoring in geology should consult with a departmental adviser during their first year in the department in order to plan their programs. This is particularly important in choosing between the geology and the environmental geology concentrations in the B.S. degree program.

[^1]B.A. degree program in geology

HEGIS code 1914
Department requirements (35-36 credits)
All of the following:
a) Geology 1 .
b) Geology 2.2.
c) Eighteen credits in geology courses numbered 10 or above.
d) Chemistry 1 or its equivalent.
e)Mathematics 3.3, or Computer and Information Science 1.10 or 1.20 or 1.5 .

All required geology courses numbered 10 or higher must be completed with a grade of C - or higher in each course.

## Recommendation for prospective graduate students

Students who plan graduate study in general geology should select advanced electives pertinent to their planned course of study, and should, if possible, include in their B.S. program elective courses in the following subjects: petrology, geomorphology, paleontology, sedimentology, stratigraphy, and geochemistry. All B.S. students planning graduate study, regardless of the concentration track selected, should also develop reading competence through course 2 in at least one foreign language chosen from French, German, and Russian.
B.A. and B.S. degree programs for earth science
teacher (7-12) HEGIS code 1917-01
The student-teaching sequence of courses in secondary school science education is described in the "Education" section in this Bulletin.

Concentration in geology for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher ( $\mathrm{K}-6$ ); special education teacher.

The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs may elect a concentration in geology. Concentration in geology:
Both a) and b), with a grade of C or higher in each course:
a) Geology 1.
b) At least 12 additional credits in geology courses numbered from 10 through 70 .

## Requirements for a minor in geology

A program of 12 credits of advanced electives in geology, each completed with a grade of C- or higher at Brooklyn College.

## Division of Graduate Studies

The Geology Department offers a master of arts degree program in geology and a master of arts degree program in applied geology. The department also offers courses creditable toward the CUNY doctoral degree program in earth and environmental studies. For information, students should consult the department's deputy for graduate studies. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 18 credits in advanced courses for majors in this department. §Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.

Field trips or similar extra-classroom activity may be required in any course.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## Workshops

No credit
Voluntary sessions for students enrolled in Core 8.2 and Geology 1 who need additional assistance.
Emphasis on solution of problems encountered in the courses.

## *0.1 Introductory Environmental Geology

## 3 hours; 3 credits

Environmental aspects of atmosphere, hydrosphere, and lithosphere; living earth ecosystem; geological pollution of the atmosphere and hydrosphere and its implications; geological hazards, hostile environments, and their control; and environmental planning and management.

## *0.5 Introductory Oceanography

3 hours; 3 credits
Introduction to the sciences of the sea. Unity of the marine sciences and their importance to human society. Relationships between oceanography and biology, chemistry, geology, and physics. (Not open to students who have completed Geology 44.)

## *1 General Geology I

3 hours lecture, 3 hours laboratory; $411 / 42$ credits
Earth origin, crustal development (lithosphere, hydrosphere, atmosphere), vulcanism, and plutonism; evolution and equilibrium of the continental masses and ocean basins; mountain building; geologic time. Laboratory work includes study of minerals, rocks, topographic and geologic maps, and field trips.

## *2.1 Dinosaurs Past and Present

2 hours lecture, 2 hours laboratory during alternate weeks; $211 / 42$ credits Introduction to the geology, evolution, anatomy, lifestyle, history, and origin of dinosaurs. Laboratory work on various aspects of fossils; dinosaur paleogeography and evolution; trip to the American Museum of Natural History.

## *2.2 General Geology II

3 hours lecture, 3 hours laboratory; $411 / 42$ credits
Historical geology; principles and concepts of geologic time, sedimentation, and stratigraphy; origin of life; plate tectonics; organic evolution; regional geology of North America. Laboratory work includes the study of evolution, paleoecology, paleogeography, regional geology of North America. Laboratory work includes one or more field trips.
Prerequisite: Geology 1.

## *4 Geology and the Urban Environment

3 hours; 3 credits
Relationship between local geology and problems of urban environment; fluvial and coastal processes; ground water geology and surface water hydrology; geologic and oceanographic aspects of water pollution; earthquakes and other natural earth disasters; remote sensing of the environment. Field trips.

## *5.1 Principles of Physical Geography

## 3 hours; 3 credits

Study of selected phases of earth sciences: shape and motion of the earth; earth-sun relationships; time; weather and climate; latitude and longitude; map projections; development of major landforms; soils; genesis of mineral fuels and mineral deposits. Lectures, demonstrations, and problem exercises. (Not open to students who are enrolled in or have completed Geology 1 or 7 or Integrated Science 3.2.)

## *9 Evolution of Man

3 hours; 3 credits
Theories and evidence of evolution. Evolution of vertebrates with emphasis on those directly in the human lineage. Extinct and living primates. Origin, evolution, and distribution of Man. History and composition of modern races.

## 12 Field Mapping

120 hours supervised field and laboratory work; 4 credits
Approximately three to four weeks of supervised field and laboratory work in the Folded Appalachians or another region. Field preparation of geologic maps and sections by means of the Brunton compass; topographic base maps and aerial photographs of the region selected. Required final report including maps, sections, description of physiography, stratigraphy, and structure. Expenses approximately $\$ 500$. (Not open to students who are enrolled in or have completed Geology 12.1.) Summer session.
Prerequisite: Geology 2.2 or permission of the instructor.

### 13.53 Igneous and Metamorphic Petrology

2 hours lecture, 4 hours laboratory; 4 credits
Occurrence, classification, evolution, and origin of igneous and metamorphic rocks; plate tectonic associations; phase diagrams and their use in petrogenesis; origin, evolution, and emplacement of magmas; metamorphic belts; laboratory work includes petrographic study of rock in thin section, hand specimen, and in the field. Laboratory work includes one or more field trips. (Not open to students who have completed Geology 13.5.)
Prerequisite: Geology 17.01 or equivalent.

## *14.1 Geology of New York City and Environs

1 hour lecture, 4 hours laboratory/fieldwork; 3 credits
Principles of unravelling the geologic record; geologic history of the area; rock formations, structures, glaciation, and other related features; laboratory study of rocks and structures; environmental considerations. This course includes field trips, which will be scheduled on weekends. (Not open to students who have taken Geology 3.)

## *14.2 The History of Life

3 hours; 3 credits
The history of life on earth demonstrated by fossils; origin and evolution of early life forms; the oxygen revolution; the rise of animals and diversification of life; origins of vertebrates; life on land; dinosaurs and the reptile zenith; origin and diversification of mammals; primates and human ancestry; mass extinction and the future.

## *14.3 Geology of the National Parks

## 3 hours; 3 credits

Geologic history, processes, and features of National Parks and wilderness areas in the United States; the role of park lands in modern society; parks as preserves and natural geologic laboratories.

### 17.01 Mineralogy

2 hours lecture, 4 hours laboratory; 4 credits
Crystallographic, chemical, and physical properties of minerals with emphasis on crystal structure.
Introduction to recognition of minerals using transmitted light and X-ray diffraction analysis. Laboratory work includes one or more field trips. (Not open to students who have completed Geology 17.)
Prerequisite: Geology 1 or equivalent.
Prerequisite or corequisite: Chemistry 1.

### 17.11 Optical Mineralogy

1 hour lecture, 4 hours laboratory; 4 credits
Theory of polarizing microscope techniques; practical approach to the recognition of rock-forming minerals in thin sections and grain mounts using transmitted polarizing microscope techniques; characterization of natural and synthetic fibers; introduction to phase contrast microscopy, spindle stage, and universal stage techniques. (Not open to students who have completed Geology 17.1.)
Prerequisite or corequisite: Geology 17.01 or equivalent.

### 17.21 Economic Geology and Energy Resources

3 hours lecture; 3 credits
Earth's mineral and energy resources; their occurrence, associations, genesis, recovery, and use. (Not
open to students who have completed Geology 17.2 or 21.)
Prerequisite: Geology 1.

## 18 Medical Geology

3 hours; 3 credits
Geological considerations in health hazards caused by materials of natural origin, including pollutants and radioactive substances in the solid, liquid, and gaseous realms. (Not open to students who completed Geology 70.1 during the spring, 1983 term.)
Prerequisite: Geology 1; or permission of the chairperson.

### 19.1 Geologic Aspects of Waste Disposal

2 hours lecture, 2 hours laboratory; 3 credits
Environmental effects of waste disposal; geological characterization of nonhazardous and hazardous waste; ground water regime and leaching problems; geological criteria for hazardous and nonhazardous disposal site selection. Sampling and evaluation of geological data; case history studies; monitoring, remediation, clean-up procedures; and environmental regulations. Prerequisite: Geology 1.

## 20 Geological Aspects of Conservation

3 hours; 3 credits
Methods of control and conservation of renewable resources: soils, groundwaters, and surface waters; and nonrenewable resources; ore deposits, petroleum, coal, and related natural resources. Natural resource planning and management: policy, inventory and development, environmental impact statements. Land-use planning: purpose, carrying capacity, and methodology.
Prerequisite: Geology 1 or 4 or 5.1.

## 22 Geological Problems and Opportunities in Urban Areas

2 hours lecture, 2 hours laboratory; 3 credits
Geologic aspects of environmental problems and opportunities of urban areas: water supply, waste disposal, construction materials, foundations, ground stability, stream floods, and coastal processes. Geology and urban and regional planning. Geology and the origin, evolution, and future of cities. Laboratory work includes the construction and use of observational and judgmental maps.
Prerequisite: Geology 1; or permission of the chairperson.

### 23.1 Hydrogeology of Water Resources

2 hours lecture, 2 hours laboratory and fieldwork; 3 credits
The global hydrologic cycle and its interrelations with climates, soils, and vegetation. Physical properties of surface and groundwater flow. Hydrologic analysis of surface water and groundwater resource management, groundwater geology. Major waste resource quantity and quality issues in the United States. Numerical calculations and problems will be emphasized. Discussion of case studies that describe different types of hydrologic systems and the development and management of groundwater resources. Supervised fieldwork in determining the extent of groundwater contamination.
(Not open to students who have completed Geology 70.1 in spring, 1988.)
Prerequisite: Geology 1.

### 25.1 Geomorphology

2 hours lecture, 2 hours laboratory; 3 credits
Descriptive and analytical study of landforms and landscape evolution. Use of topographic maps and stereo aerial photographs. (Not open to students who have completed Geology 25.)
Prerequisite: Geology 1; or permission of the chairperson.

### 31.1 Invertebrate Paleontology

2 hours lecture, 2 hours laboratory; 3 credits
Paleobiology, paleoecology, classification, and biostratigraphy of fossil invertebrates. Laboratory work in collection, identification, and preparation techniques. Includes one or more field trips. (Not open to students who have completed Geology 31 or 39.3.)
Prerequisite: Geology 2.2; or Biology 3 and Core Studies 8.2; or permission of the chairperson.

## 32 Introduction to Geochemistry

3 hours; 3 credits
Survey of geochemistry including; chemical and isotopic abundances; geochemistry of rocks and natural waters; introduction to thermodynamics, crystal chemistry, and organic geochemistry. (Not open to students who are enrolled in or have completed Chemistry 77 or Geology 77.)
Prerequisite or corequisite: Geology 1 or Core Studies 7.1; or permission of the chairperson.

### 32.5 Environmental Geochemistry

2 hours lecture, 2 hours laboratory; 3 credits
Low-temperature geochemistry and applications to environmental problems; biogeochemical cycling; evaluation of geochemical reservoirs and trace element movement in natural systems. Laboratory exercises in geochemical sample collection of waters, soils, sediments, and related media; field measurements; maintenance of sample integrity; sample preparation and instrumental analysis; map preparation; environmental impact statements and reports.
Prerequisite: Geology 1.
Prerequisite or corequisite: Chemistry 1 or 1.2.

### 33.1 History of Geology

3 hours; 3 credits
Study of changing ideas about the earth; emphasis on religious and sociological influences. Problems considered include: how earth study became scientific; the role of "fantastic" theories of the earth; the discovery of time; the nature of change; the meaning of fossils; the construction of modern geologic beliefs. Evaluation of different histories of geology.
Prerequisite: Geology 2.2 or permission of the chairperson.

### 36.11 Sedimentology and Sedimentary Petrology

2 hours lecture, 2 hours laboratory; 3 credits
Sediments and sedimentary rocks, their conditions of formation, basis of classifications; methods of mechanical, chemical, mineralogic, graphic, and statistical analysis, including binocular and petrographic microscopy; application of paleodirectional structures. Laboratory work includes one or more field trips. (Not open to students who have completed Geology 36.1 or 37.1.)
Prerequisite or corequisite: Geology 1 or equivalent.

### 38.1 Earth Science: Planetology-The Earth Perspective

2 hours lecture, 2 hours laboratory; 3 credits
The solar system; planetary bodies: sizes, composition, interior; meteorites; Sun-Earth-Moon relations; planetary environments; surface processes; heat balance and climates; earth's climatic and environmental features.
Prerequisite: Geology 1.

### 39.11 General Stratigraphy

2 hours lecture, 2 hours laboratory; 3 credits
Development and history of the stratigraphic column and geologic time scales; principles of stratigraphy; stratigraphic nomenclature; sequences, correlation, and regional geologic maps and graphic representation. Laboratory work includes one or more field trips. (Not open to students who have completed Geology 39, 39.1, or 39.2.)
Prerequisite: Geology 2.2 or equivalent.

### 41.1 Structural Geology

2 hours lecture, 2 hours laboratory; 3 credits
Mechanical properties of rocks; rock deformation; folds; faults; joints; igneous, sedimentary, and metamorphic structures; diapirs and salt domes. Laboratory work includes structural maps and cross sections, stereographic projections and one or more field trips involving use of the Brunton compass.
(Not open to students who have completed Geology 41.)
Prerequisite: Geology 1.
Prerequisite or corequisite: Geology 2.2 or permission of the chairperson.

## 53 Environmental Aspects of Soils Geology

2 hours lecture, 2 hours laboratory; 3 credits
Definition, mineralogical and organic content, varieties, classification, and environmental aspects of soils. Factors affecting soil formation; soil erosion; soil ecology; soil genesis. Influence on ground water. Soil geography, surveys, and land use. Environmental impacts of soils. Field trips to soil laboratories in the New York metropolitan area.
Prerequisite: Geology 2.2.

### 70.1 Special Topics in Geology

3 hours; 3 credits
A special topic in geology not covered in the regular curriculum. Topics vary and reflect the interest of students and faculty. Subject matter is announced before registration. This course is intended primarily for students choosing Option 1 for the B.S. degree. Topics include geochemistry, geophysics/tectonophysics, mineralogy/petrology, paleobiology/stratigraphy, sedimentology, geomorphology, and oceanography. A student may take this course and Geology 70.2 at most three times in total, but may not repeat topics. Prerequisite: at least nine credits of advanced electives as established by the instructor and permission of the chairperson.

### 70.2 Special Topics in Environmental Geology

3 hours; 3 credits
A special topic in environmental geology not covered in the regular curriculum. Topics vary and reflect the interest of students and faculty. Subject matter is announced before registration. This course is intended primarily for students choosing Option 2 for the B.S. degree. Topics include environmental geochemistry, hydrogeology, medical geology, environmental geology, environmental policy, and other related environmental subjects. A student may take this course and Geology 70.1 at most three times in total, but may not repeat topics.
Prerequisite: at least nine credits of advanced electives as established by the instructor and permission of the chairperson.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for courses described below. Students may not register for more than six credits in honors courses in the department in one term.

## 83.1, 83.2, 83.3 Independent Research I, II, III

Minimum of 9 hours conference and independent work§; 3 credits each term
Independent research supervised by a faculty member. Weekly conference. Thesis or report.
Prerequisite of 83.1: completion of an approved program of advanced Geology Department courses and permission of the instructor and the chairperson.
Prerequisite of 83.2: Geology 83.1 and permission of the instructor and the chairperson.
Prerequisite of 83.3: Geology 83.2 and permission of the instructor and the chairperson.
84.1, 84.2, 84.3 Seminar I, II, III

Minimum of 9 hours conference and independent work§; 3 credits each term
Group study of some fundamental geological problem. Thesis or examination.
Prerequisite: completion of an approved program of advanced Geology Department courses and permission of the chairperson.

The following courses are inactive and will be offered only if there is sufficient demand:
38 Planetology
43 General Geophysics
44.5 General Oceanography

45 Oceanographic Laboratory Techniques

## Health and Nutrition Sciences

Department office: 4123 Ingersoll Hall
Telephone: 951-5026, 951-5027
Chairperson: Erika Friedmann
Deputy Chairperson, CLAS and SGS: Craig P. Bell
Deputy Chairperson, Division of Graduate Studies, Health: Jerrold Mirotznik
Deputy Chairperson, Division of Graduate Studies, Nutrition: Kathleen V. Axen
Professors: Axen, Bell, Friedmann, Greene, Jacobson, Levin, Meagher, Mirotznik, Oppenheimer; Associate Professors: Antoniello, Greenberg, Sirota;
Assistant Professors: Hauck-Lawson, Koizumi, Luisi, Schnoll;
Instructor: Tomita;
AP4 Program Director. Roseanne Schnoll.
B.A. degree program in health and nutrition sciences

HEGIS code 1299
Department requirements (5111/42-5411/42 credits)
Health and Nutrition Sciences 6.1.
All of the following: Health and Nutrition Sciences 20, 21, 22.71, 22.72, 24, 25.1 or 29, 26, 60, and one fieldwork course chosen from 56, 58.1 or 58.2.
A minimum of 12 credits in Health and Nutrition Sciences courses numbered in the 30s and/or 40 s.
A minimum of 6 credits from the following courses: Health and Nutrition Sciences 50, 50.5, 55, 56.5,57, $60.1,68$, and courses numbered in the 70 s.
Biology 4 and Chemistry 1 or 5.

## Department recommendation

Prospective health and nutrition sciences majors should consult a department counselor before choosing a program of study leading to a B.A. degree.

## B.S. degree program in health and nutrition sciences HEGIS code 1299

Department requirements (63-77 credits)
Health and Nutrition Sciences 6.1, 22.71, 60.
Biology 1 and 2; or 3 and 4.
Biology 52 and 52.1.
A college-wide minimum of 24 credits in advanced courses in one department must be completed at Brooklyn College with a grade of C or higher in each course.
In addition, all students must complete the requirements in one concentration: health science or foods and nutrition.

## Concentration in health science

Chemistry 1 and 2; or 5 and 50.
All of the following: Health and Nutrition Sciences 20, 21, 22.72, 24, 25.1 or 29, 26.
A fieldwork course chosen from Health and Nutrition Sciences 56, 58.1, 58.2.
A minimum of 12 credits in health and nutrition sciences courses numbered in the 30 s and/or 40 s .
A minimum of 6 credits from the following: Health and Nutrition Sciences 50, 50.5, 55, 56.5, 57, $60.1,68$, and courses numbered in the 70s.

## Concentration in foods and nutrition

Students who complete this concentration will meet the requirements for Plan V of the American Dietetic Association (ADA). Plan V is a term used by the American Dietetic Association to describe the program fulfilling the academic component of membership in the society, as well as the eligibility requirements for the registration examination.
Chemistry 1 and 2 , or 5 ; and 50.
All of the following: Health and Nutrition Sciences 29, 41.1, 41.2, 47, 51, 52 or $63,53.1,54.1,54.6,54.7$, and 73 .

## Recommendation

Because ADA requirements are subject to change, students who wish to become members of the ADA or registered dietitians should consult with an ADA counselor in the department to determine minimum academic requirements of Plan V.
Prospective health and nutrition sciences majors should consult a department counselor before choosing a program of study leading to a B.S. degree.

## B.A. degree program for health teacher (K-12)

HEGIS code 0837
The Department of Health and Nutrition Sciences offers a B.A. degree program leading to provisional certification as health teacher, grades $\mathrm{K}-12$. This program entails a major in the B.A. degree program in health and nutrition sciences, as described above, and a sequence of courses in secondary school education, including student teaching in health and nutrition sciences, as described in the "Education" section in this Bulletin.
To register for Education 65.16 (Seminar in Secondary Education, Student Teaching; Health and Nutrition Sciences), students must complete Education 60.1 with a grade of $C$ or higher and the following courses in the Department of Health and Nutrition Sciences: Health and Nutrition Sciences 20 or 40; 21, 22.71, 22.72, $32 ; 14$ or $40.5 ; 35$ or $55 ; 37,38,39$, and 60 . A department index of 3.00 or higher and a scholastic index of 2.50 or higher are required.

Health and nutrition sciences concentration for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher ( $\mathrm{K}-6$ ); elementary bilingual education teacher (K-6); special education teacher.
The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs and who elect a concentration in health and nutrition sciences must complete all of the following courses with a grade of $C$ or higher: Health and Nutrition Sciences 12 or 39; and at least 12 credits selected from among: health and nutrition sciences courses numbered in the 20 s, 30 s, and 40 s, and Health and Nutrition Sciences 55, 56, 57, 58.1 .

## Requirements for a minor in health and nutrition sciences

A minimum of 12 credits in at least four courses of advanced electives in health and nutrition sciences, each completed with a grade of $C$ or higher. Courses numbered below 20 may not be used; at least one course must be in the 20s sequence.

## Division of Graduate Studies

The Health and Nutrition Sciences Department offers the following graduate programs: master of arts in community health; master of public health in community health; master of science in nutrition; master of science in computer science and health science (cosponsored with the Computer and Information Science Department); master of science in health and nutrition sciences: health teacher (K-12).
For information, students should consult the department's deputy for graduate studies. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 18 credits in advanced courses for majors in this department.
Courses marked $(\cdot)$ are applicable to the 60 -credit science and mathematics requirement for the B.S. degrees in biology, chemistry, computer and information science (including computational mathematics), geology, mathematics, physics, psychology, and the interdepartmental major in science.

The symbol $(\cdot)$ does not affect the requirements for the B.S. degree program in health and nutrition sciences.
§Independent work means not less than three additional hours each week of conference, research, reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## -*0.1 Special Topics

3 hours; 3 credits
Major health concerns of society and individuals. Topics vary and reflect interests of students and faculty. Course descriptions may be obtained in the department office before registration. No topic may be repeated.

## -*2 Death, Life, and Health

3 hours; 3 credits
Individual and societal attitudes concerning death and life. How attitudes about death influence the quality of life and health. Impact of bereavement on survival and health. Medical concerns in treatment of the terminally ill. Hospices. The living will. Organ transplantation. Impact of technology on the care of the dying.

## -*6.1 Personal and Community Health

3 hours; 3 credits
Basic health concepts. Personal responsibility for health maintenance and improvement for individuals, families, and communities.

## *8 Nutrition and World Hunger

3 hours; 3 credits
Principal elements of food production and distribution. Determinants of the adequacy of the world's food supply. Nutritional consequences of inadequate food supply.

## -*12 Contemporary Health Problems of Children and Youth

## 3 hours; 3 credits

Factors influencing health throughout the school years. Identification of basic issues. Alternative and conflicting approaches to solving health problems. The School of Education recommends that prospective teachers take Health and Nutrition Sciences 12 in conjunction with all education sequences (early, elementary, and secondary). (Not open to students majoring in health and nutrition sciences.)
Prerequisite: candidacy for New York State teacher certification.

## -*14 First Aid and Safety Education

4 hours; 3 credits
Theory and practice of cardiopulmonary resuscitation and first aid. Safety procedures in school and community. Incidence and prevention of accidental injuries. This course is the same as Physical Education 23. (Not open to students who have completed Physical Education 44.1, 44.2, or 45.)

## *16 The Child and the Family: Parenting Perspectives

3 hours; 3 credits
The development of the child within the family. Such topics as prenatal care, infant nutrition, children as consumers, child advocacy, the rights of children.
Prerequisite: Psychology 2.

## -20 Health and Human Ecology

## 3 hours; 3 credits

Ecological factors of health. Theories of adaptation to a changing environment. Technological advances and environmental reaction. Air, water, noise, and waste pollution. Needs and responsibilities of the individual as a user of the environment.
Prerequisite: Health and Nutrition Sciences 6.1.

## -21 Principles in Health Science

3 hours; 3 credits
Scientific and philosophical bases of health principles. Social conditions influencing health. Principles affecting health programs.
Prerequisite: Health and Nutrition Sciences 6.1.

## -22.71 Human Physiology

3 hours; 3 credits
Application of physiological concepts to health and life. The mechanism and control systems that allow for functional harmony. Systemic approach to the physiology of bone, muscle, nerve, special senses, circulation, respiration, digestion, metabolism, the endocrine glands, and reproduction. This course is the same as Physical Education 22.71. (Not open to students who are enrolled in or have completed Biology 6.1 or 6.2.)

Prerequisite: Biology 1 or 4, and 2 or 3.

## -22.72 Physiology Laboratory

1 hour lecture, 2 hours supervised laboratory and/or supervised fieldwork; 2 credits
Development of skill in the use of clinical and research apparatus and techniques. Students work with practical electrophysiological measures such as EEG and EKG. Application of material covered in Health and Nutrition Sciences 22.71. (Not open to students who are enrolled in or have completed Biology 6.1 or 6.2.)

Prerequisite or corequisite: Health and Nutrition Sciences 22.71.

## -24 Introduction to Epidemiology: Laboratory

3 hours recitation, 2 hours laboratory; 4 credits
International, national, and local issues in public health; demography; prevention and control of disease; health problems of disadvantaged and displaced people. Laboratory experiences in data analysis, disease surveillance, investigation of disease outbreaks, and causal analysis of chronic diseases.
Prerequisite: Health and Nutrition Sciences 6.1.

## -25.1 Fundamentals of Nutrition

3 hours; 3 credits
Fundamental principles of nutrition as they relate to optimum health of the individual and the family. Social, economic, and educational implications. Evaluation of various mass media relating to the field. This course does not satisfy the department requirement for students majoring in foods and nutrition. (Not open to students who are enrolled in or who have completed Health and Nutrition Sciences 29.)

## -26 Introductory Field Survey in Health Science

2 hours recitation, 2 hours supervised field service; 3 credits
Introductory examination of services provided in the health care delivery system. Introduction to the organization, administration, financing, delivery, and evaluation of services, and the experience of patients. Application and analysis of theory through site visits and examination of professional roles.
Prerequisite: Health and Nutrition Sciences 6.1.

## -29 Human Nutrition

4 hours; 4 credits
Utilization of food by the body. Nutrient requirements under varying conditions of growth, occupation, and climate. Energy metabolism and weight control. Calculation and computation of nutrient composition of selected foods, food groups, and diets.
Prerequisite: Biology 1 or 4 , and 2 or 3 .

## 31 Child Development

3 hours lecture, 3 hours laboratory; 4 credits
The child from birth through preadolescence. Emotional and social development. Environmental factors of particular importance in guiding growth. Participation in an approved community activity for a minimum of 30 hours for the term.
Prerequisite or corequisite: Psychology 2.

## -32 Physiology of Health and Disease

## 3 hours; 3 credits

Interdependence and function of body mechanisms in the daily processes of adapting to the stress of life. Prerequisite: Health and Nutrition Sciences 22.71 or Physical Education 22.71.

## 33 Current Concerns in Nutrition

3 hours; 3 credits
Principles of nutrition used to evaluate current issues and controversies. Topics include a basic overview of nutrition and nutrients, fad diets, cholesterol, sugar, megavitamins, nutrition labeling, food additives, health foods, nutrition and drug relationships, mass media and nutrition, and dietary fibers. (Not open to students concentrating in foods and nutrition or to students who have completed Health and Nutrition Sciences 4.) Prerequisite: Health and Nutrition Sciences 25.1 or 29.

## 34 Women and the Medical System:

## A Feminist Perspective

3 hours; 3 credits
Modern medical systems and women's places as medical workers and consumers of medical services. History of women healers and health workers. Influences of race, class, ethnicity, and sexual preference on illness and treatment of women. Politics of contraception, sterilization, abortion, and childbirth. Self-help care movement. This course is the same as Women's Studies 35.
Prerequisite: Health and Nutrition Sciences 6.1 or Women's Studies 10.7 or 10.8; or permission of the chairperson.

## - 35 Human Sexuality

3 hours; 3 credits
Development of awareness and understanding of one's sexuality. Differences in sexual expression. Relationship between sexuality and health. Effect of sterility, infertility, contraception, and abortion on the individual and on sexual responsibility.
Prerequisite: Health and Nutrition Sciences 6.1.

## -36 Family Influences on Child Health

## 3 hours; 3 credits

Parenthood, prenatal care; development and health of the child from birth to adolescence; school environment; physical handicaps.
Prerequisite: twelve credits in the department, including Health and Nutrition Sciences 6.1. A course in developmental psychology or child development is recommended.

## -37 Fundamentals of Health Counseling

3 hours; 3 credits
Role of the health counselor. Application of basic counseling skills to the solution of health problems.
Prerequisite: twelve credits in the department, including Health and Nutrition Sciences 6.1; or permission of the chairperson.

## - 38 Health Appraisal

3 hours; 3 credits
Health problems of children and adults. Theoretical basis for health appraisal and screening. Techniques of health appraisal and screening, recording, interpreting, and counseling about test results; cooperation with public health services; confidentiality and consent; follow-up. Duties and limitations of the health appraiser. Prerequisite: Health and Nutrition Sciences 6.1; and Health and Nutrition Sciences 22.71 or Physical Education 22.71.

## -39 Drugs and Society

3 hours; 3 credits
Exploration of drug use in our society and in earlier cultures. Nature and effects of various drugs. Psychological, sociological, and legal aspects of drug use abuse.
Prerequisite: Health and Nutrition Sciences 6.1.

## -40 Environmental Health

3 hours; 3 credits
Environmental factors affecting health; community sanitation; heating, lighting, ventilation; camp, resort, swimming pool, and restaurant sanitation. Local conditions.
Prerequisite: Health and Nutrition Sciences 6.1.

## -40.5 Occupational Safety and Health

3 hours; 3 credits
Occupational safety, health programs, and services; hazards and control procedures; reporting and investigating of industrial accidents; legislation, standards, rules, and compliance procedures in achieving safety for workers.
Prerequisite: Health and Nutrition Sciences 6.1.

### 41.1 Fundamentals of Food

3 hours; 3 credits
Nutritional, functional, and chemical components of food. Factors in food selection and methods of preparation. Discussion of cultural, economic, and ecologic factors in food production, preparation, and consumption. (Not open to students who have completed Health and Nutrition Sciences 41.)
Prerequisite or corequisite: Health and Nutrition Sciences 25.1 or 29.

### 41.2 Fundamentals of Food Laboratory

4 hours laboratory; 2 credits
Development of skill in food selection, handling, preparation, and equipment use. Exploration of cultural food resources and food production systems. Application of material covered in Health and Nutrition Sciences 41.1. (Not open to students who have completed Health and Nutrition Sciences 41.) Prerequisite or corequisite: Health and Nutrition Sciences 25.1 or 29; and Health and Nutrition Sciences 41.1.

### 42.5 Family Health and Relationships

3 hours; 3 credits
Family interaction, attitudes, and roles as they relate to major health problems and special needs of individuals throughout the family life cycle. Family health as it relates to and is influenced by other institutions in society.
Prerequisite: Health and Nutrition Sciences 6.1.

## 44 Contemporary Issues in Public Health and Health Care: Race, Class, and Gender

3 hours; 3 credits
Examination of the influence of race, class, and gender on health and medical care in the United States.
Prerequisite: Health and Nutrition Sciences 6.1.

## -46 Health Aspects of Maturity and Aging

3 hours; 3 credits
Development of awareness and understanding of the aging process. Health and health-related needs of the aging. Preventive, restorative, and rehabilitative services for the aged. Health education and long-term care for the disabled.
Prerequisite: twelve credits in the department, including Health and Nutrition Sciences 6.1.

## -47 Life Cycle Nutrition

3 hours; 3 credits
Basic nutrition concepts as they apply to the stages of the life cycle: pregnancy, infancy, childhood, adolescence, adulthood, and old age.
Prerequisite: Health and Nutrition Sciences 25.1 or 29.

## 50 Techniques of Community Health Education

3 hours; 3 credits
Identification and analysis of various techniques, media, approaches used in community health education.
Analysis of health education campaigns.
Prerequisite: fifteen credits in advanced courses in the department, including one fieldwork course.

## -50.5 Geriatric Nutrition

3 hours; 3 credits
Integration of basic nutritional concepts with current knowledge of the aging process. Healthy and diseased states as they relate to nutritional needs and consumer concerns.
Prerequisite: Health and Nutrition Sciences 25.1 or 29.

## 51 Institutional Food Service Management

3 hours lecture, 3 hours fieldwork; 4 credits
Planning, purchasing, storage, preparation, and distribution of food in varied institutional settings. Principles of safety and sanitation in food services. Classic management theory as applied to food service systems.
Supervised fieldwork component. (Not open to students who have completed both Health and Nutrition
Sciences 66.1 and Health and Nutrition Sciences 66.2. Students who have completed Health and Nutrition
Sciences 66.1 may take this course, but will receive only 2 credits.)
Prerequisite: Health and Nutrition Sciences 41; or 41.1 and 41.2.

### 51.1 Advanced Foods: Cultural Perspectives

2 hours lecture, 3 hours laboratory; 3 credits
Intensive study of the planning, preparation, and service of selected foods. Regional and national foods.
Consideration of food customs as they are influenced by historical, geographic, and other cultural factors.
Prerequisite: Health and Nutrition Sciences 41; or 41.1 and 41.2.

## 52 Introduction to Experimental Foods

1 hour lecture, 4 hours laboratory; 3 credits
Experimental techniques including factors affecting preparation of standard food products and comparative methods and materials.
Prerequisite: Health and Nutrition Sciences 41; or 41.1 and 41.2.
Prerequisite or corequisite: Chemistry 50 or 51.

## -53.1 Community Nutrition Education

3 hours lecture, 2 hours supervised fieldwork; 4 credits
Knowledge of education theories, health behaviors, human and group dynamics, and public policy in dietetics. Application of the principles of nutrition as they relate to the problems of different community groups at the local, national, and international level using nutritional assessment, program planning, education, and program evaluation techniques. Introduction to the public health approach to nutrition. Supervised field observations to study nutrition services in varied communities. (Not open to students who have completed Health and Nutrition Sciences 45 or 53.)
Prerequisite: Health and Nutrition Sciences 47.

## -54.1 Nutritional Chemistry

4 hours lecture; 4 credits
Biochemistry of carbohydrates, lipids, proteins, inorganic salts, enzymes, vitamins, hormones. Bioenergetics and oxidation reactions. Pathways of intermediary metabolism. (Not open to students who are enrolled in or have completed Health and Nutrition Sciences 54 or Chemistry 58.)
Prerequisite: Health and Nutrition Sciences 29 and Chemistry 50 or 51.

## -54.6 Medical Nutrition Therapy

4 hours; 4 credits
Pathophysiological basis for nutritional care in specific diseases; theoretical basis for therapeutic diets. (Not open to students who have completed Health and Nutrition Sciences 54.5.)
Prerequisite: Health and Nutrition Sciences 22.71, 29, and 47; or permission of the chairperson.
Corequisite: Health and Nutrition Sciences 54.7.

## -54.7 Applied Medical Nutrition

2 hours lecture, 2 hours supervised fieldwork; 3 credits
An introduction to the profession and practice of dietetics. Topics include: interpersonal communication skills; counseling theory and methods; screening for nutritional risk; nutritional assessment and evaluation; documentation methods; medical terminology; laboratory parameters; ethics of care; reimbursement issues; calculation of diets; enteral and parenteral nutrition; nutrient-nutrient and drug-nutrient interactions. Prerequisite: Health and Nutrition Sciences 22.71 and 47; or permission of the chairperson.
Corequisite: Health and Nutrition Sciences 54.6.

## -55 Sex Information and the Health Professional

3 hours; 3 credits
Developing an awareness of problems inherent in presentation of sex information. Dealing with the phenomena of responsible sexual behavior. Consideration of controversial issues as
they relate to the individual, the family, and to community organizations.
Prerequisite: fifteen credits in advanced courses in the department; and a grade of $C$ or higher in Health and Nutrition Sciences 35.

## 56 Health and the Hospitalized Child

2 hours recitation, 4 hours fieldwork; 4 credits
Physical, social, and emotional factors that affect hospitalized children and their families. Application of techniques and skills in dealing with children and health problems. Supervised fieldwork in a hospital setting.
Prerequisite: Health and Nutrition Sciences 36 and 37.

## -56.5 Child Growth and Health

3 hours; 3 credits
Physical growth and development of the child with emphasis on associations with health and applications to clinical and public health practice. Clinical and research methods of assessing growth and maturation from conception to adulthood. Hereditary and environmental influences; health influences and implications; behavioral and educational implications.
Prerequisite: Health and Nutrition Sciences 6.1 or 36; and Biology 2 or 3.
(The department recommends that students complete Psychology 20 prior to enrolling.)

## -57 Leadership in Health Action Groups

3 hours; 3 credits
Use of groups in influencing health behavior. Dynamics of effective health action groups. Group participation to demonstrate leadership skills, relationships, blocks to effective action. Learning to assess group needs. Capitalizing on individual personalities for change and growth. Ethics of teacher involvement. Prerequisite: Health and Nutrition Sciences 6.1; and completion of 6 credits in advanced courses in health and nutrition sciences.

## -58.1, 58.2 Community Health Service I, II

## 6 hours; 3 credits

Supervised fieldwork in a designated health service agency. Conferences with instructor. Report or term project. Either course may be taken alone or first. Students are encouraged to meet with instructor one term prior to registration to discuss and arrange placement.
Prerequisite: completion of 12 credits in advanced elective courses in health and nutrition sciences with a minimum grade of C , or permission of the chairperson.

## -60 Evaluation in Health Education

3 hours; 3 credits
Elementary statistical techniques applied to tests and measurements in health education. Design and evaluation of tests to measure health attitudes, knowledge, and behavior. Development and use of tests to augment the teaching of health. (Not open to students who are enrolled in or have completed Physical Education 75.)
Prerequisite: 12 credits in advanced health and nutrition sciences courses.

## -60.1 Program Planning and Community

## Health Education

3 hours; 3 credits
Introduction to concepts of program planning for health education in the community. Program development, implementation, and evaluation of currently functioning community health education programs.
Prerequisite: Health and Nutrition Sciences 20, 21, 24, and six credits chosen from courses in the department numbered in the 30 s and/or 40s.

## -63 Advanced Nutrition

3 hours; 3 credits
Biochemical and physiological functions of the nutrients. Metabolic interrelationships applied to the study of human nutrition. Nutrient requirements of individuals in various environments and stages of life. Nutritional status of individuals and population groups. Dietary, biochemical, and clinical methods of appraisal.
Programs for improvement of nutritional status.
Prerequisite: Health and Nutrition Sciences 54; or 54.1; or 54.6 and 54.7.

## -68 Organization, Administration, and Supervision of Health Services

3 hours; 3 credits
Increasing demands for health services; determinants of health policy making; utilization of health care resources; health expenditures in the total economy; structuring health care systems; quality controls of services.
Prerequisite: Health and Nutrition Sciences 21 or 26.

## Seminars

## -72.1 Seminar in Current Literature in Philosophy of Health

## 3 hours; 3 credits

Exploration of current literature in the philosophy of health as it relates to human development. Project or report.
Prerequisite: eighteen credits in advanced courses in the department and permission of the chairperson.

### 72.2 Seminar in Current Literature in the

## Science of Health

3 hours; 3 credits
Exploration of current literature in science related to health and human development. Project or report.
Prerequisite: eighteen credits in advanced courses in the department and permission of the chairperson.

## -73 Seminar in Recent Trends in Nutrition

3 hours; 3 credits
Critical survey of current literature in the field. Discussion of concepts of research methodology. Interpretation and application of research findings to the nutritional well-being of individuals and population groups.
Prerequisite: nine credits in advanced courses in nutrition, and Health and Nutrition Sciences 22.71 and 60.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for the courses described below. Students may not register for more than six credits in honors courses in the department in one term.
-83.1, 83.2, 83.3 Directed Research I, II, III
Minimum of 9 hours conference and independent work§;
3 credits
Structuring of research topic and completing research in any area within the field of health science:
designing, testing, and evaluating research data. Report on term project.
Prerequisite of 83.1: completion of an approved program of advanced health and nutrition sciences courses
and permission of the chairperson.
Prerequisite of 83.2: Health and Nutrition Sciences 83.1 and permission of the chairperson.
Prerequisite of 83.3: Health and Nutrition Sciences 83.2 and permission of the chairperson.

## -88.1 Independent Study in the Health and

Nutrition Sciences
6 hours conference and independent work§; 2 credits
Independent study in an area of health and nutrition sciences. Conferences. Report or project.
Prerequisite: junior or senior standing and permission of the chairperson.

## -88.2 Independent Study in the Health and Nutrition Sciences

9 hours conference and independent work§; 3 credits
Independent study in an area of health and nutrition sciences. Conferences. Report or project.
Prerequisite: junior or senior standing and permission of the chairperson.

## History

Department office: 524 Whitehead Hall
Telephone: 951-5303, 951-5304
Chairperson: Philip F. Gallagher
Deputy Chairperson, Administration and Counseling: Donald F. M. Gerardi
Director of Graduate Studies: Philip F. Gallagher
Professors: Anderson, Berger, Bridenthal, Burrows,
Fichtner, Gallagher, Gerardi, Gordon, Kimmich, King, Papayanis, Schaar;
Associate Professor: Johnson;
Assistant Professors: Back, SenGupta, Wills.

## Core curriculum

The Department of History participates in the college's core curriculum through Core Studies 4. It shares responsibility for Core Studies 9 with other departments.

## Department counseling

History Department counselors are available on a regular basis to all students for advice on majors, programs, and career opportunities. Prospective majors are urged to consult a department counselor as soon as possible to plan a balanced program.
B.A. degree program in history HEGIS code 2205
Department requirements (33 credits)
History 10. History 10 is a prerequisite of all history courses numbered in the $60 \mathrm{~s}, 70 \mathrm{~s}$, and 80 s with the exception of History 69.1, 69.2, 78.1, and 78.2.
Twenty-four credits in lower-division courses including at least three credits in each of the following groups:
a)Ancient, medieval, and early modern European history
b)Modern European history
c) Transnational and comparative history
d) United States history
e)Asian, Caribbean, Latin American, and Middle Eastern history.

Six credits in upper-division courses with a grade of $C$ or higher in each course. One of these courses must be a colloquium.
History majors fulfilling program requirements described in earlier Bulletins should validate their programs with a department counselor at the time they declare the major.
B.A. degree program for social studies teacher (7-12)

HEGIS code 2201.01
The student-teaching sequence of courses in secondary school social studies education is described in the "Education" section in this Bulletin.

History concentration for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher (K-6); special education teacher.

The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs and who elect a concentration in history must complete twelve credits of history courses with a grade of $C$ or higher as follows: six credits in United States history chosen from the following: History 13, 14, and the courses numbered from 41.1 through 44.1; three credits in non-Western electives chosen from the following: History 16, 17, 18, 30.1, 30.6 , and the courses numbered 50 through 58.9; any three additional credits chosen from history courses numbered 11 to 58.9.

## Requirements for a minor in history

A minimum of 12 credits in history, each completed with a grade of $C$ or higher. At least six of these credits must be completed at Brooklyn College. Students should meet with a History Department counselor to plan a program suited to their individual interests or career plans.

## Requirements for a minor in archival studies and community documentation

The minor in archival studies and community documentation is offered in conjunction with the Department of the Library.
Fifteen credits.
History 69.1 and 69.2.
One course from a department other than the student's major chosen from the following: Africana Studies 41, American Studies 61, Anthropology and Archaeology 2.21 or 37, Art 15.2, History 43.16, 44, or 44.1, Judaic Studies 48.5, Music 3, Political Science 25 or 38 or 75.2, Psychology 10, Puerto Rican and Latino Studies 32.5, Sociology 26.
History 78.1 and 78.2.

## Department honors

Honors in history are recommended by vote of the department faculty members.
To be considered for honors in history, a major must achieve a 3.5 index in history courses and complete at least 3 credits of honors work.
The History Department gives a number of awards to outstanding and deserving students every year. Details are available in the History Department office and from department counselors.

## Recommendation for prospective graduate students

History majors who intend to continue their studies at the graduate level should develop reading comprehension at Level 4 or above in at least one foreign language pertinent to their field. It is also strongly advised that prospective graduate students in history complete at least one seminar in addition to other requirements.

## Candidates for law, business, or journalism school

History students preparing for a career in law, business, or journalism should consult a department counselor about courses especially relevant to those fields.

## Division of graduate studies

The History Department offers a master of arts degree program in history. Some courses may be creditable toward the CUNY doctoral degree. For further information, students should consult the department chairperson or deputy chairperson for graduate studies. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

§Independent work means not less than three additional hours each week of conference, research, reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.

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

## 10 Introduction to the Study of History

3 hours; 3 credits
The nature, variety, and use of historical sources; the development of history as a profession; leading theories of history; recent trends and controversies in historical scholarship; basic techniques of critical reading, research, and historical writing; taking notes and preparing bibliographies. History 10 is a prerequisite of all history courses numbered in the $60 \mathrm{~s}, 70 \mathrm{~s}$, and 80 s with the exception of History 69.1, 69.2, 78.1, and 78.2.

Prerequisite: Core Studies 4.

## Lower-division courses

## Surveys

## 11 Civilization of Medieval Europe

3 hours; 3 credits
Society, culture, and politics in western Europe from late antiquity to the early Renaissance. Classical, Jewish, and Christian influences. The Germanic invasions. Rural environment and its economy, the revival of urban life, varieties of lordship and community, Gothic art and architecture. Extensive use of visual/computerized materials.
Prerequisite: Core Studies 4 or permission of the chairperson.

## 12 Europe from Renaissance to Revolution

3 hours; 3 credits
Aspects of European development from 1350 to 1800. Legacy of the Middle Ages. Economics, culture, politics, and religion in the Renaissance and Reformation. Overseas discovery and empires. Military technology. Economic and financial change and growth of the state by the eighteenth century. The Scientific Revolution and the Enlightenment. The French Revolution. (Not open to students who have completed History 1, 26.1, 26.2 or 26.3.)
Prerequisite: Core Studies 4 or permission of the chairperson.

## 13 America to 1877

3 hours; 3 credits
American history to 1877. Political and economic developments from the colonial origins of American institutions through the Revolutionary era and the periods dominated by Federalism, Jeffersonianism, and Jacksonianism. Consideration of the issues of the Civil War and the Reconstruction era. (Not open to students who have completed History 3.)
Prerequisite: Core Studies 4 or permission of the chairperson.

## 14 America since 1865

3 hours; 3 credits
American history from the Civil War to the present. The Reconstruction era, emergence of big business, populism, progressivism, imperialism, the new freedom, World War I, the 1920s, the New Deal, World War II, and the postwar decades. (Not open to students who have completed History 4.)
Prerequisite: Core Studies 4 or permission of the chairperson.

## 16 History of Chinese Civilization

3 hours; 3 credits
Development of Chinese civilization from antiquity to the present. Ancient philosophy; the emergence of the unitary state; imperial expansion under the Han and Tang dynasties; the Buddhist era and the development of Neo-Confucian thought. Foreign contacts in the age of Khubilai Khan. Splendors of the Ming and Qing empires. Nationalism, revolution, and the rise of Mao. China since the Deng reforms; the emerging global power.
Prerequisite: Core 4 or permission of the chairperson.

## 17 History of Japanese Civilization

3 hours; 3 credits
Japan from antiquity to the present. Early Shinto legends. Centralization on the Chinese model. Influence of Buddhism; the Tale of Genji and the emergence of a Japanese style. Problems of feudalism under the Kamakura and Ashikaga shogunates. Zen and culture. Tokugawa government and society. Modern nationalism, industrialization, and militarism. Japan since World War II.
Prerequisite: Core 4 or permission of the chairperson.

## 18 Latin America since the European Conquest

3 hours; 3 credits
Spanish and Portuguese empires in the Americas. The roots of dependency and the movements for political independence. Consolidation of national states in the nineteenth century.
The twentieth-century battle for socio-economic development. Topics include: urbanization; the environment; religion; the military; indigenous peoples; women; and neo-liberalism.
Prerequisite: Core 4 or permission of the chairperson.

## Ancient, medieval, and early modern European history

### 21.4 Ancient Greece

3 hours; 3 credits
Greek civilization from the Mycenaean age to the death of Alexander the Great. Development of artistic, literary, moral, and social values from Homer to Aristotle. Myth, science, and philosophy in the Greek vision of the cosmos. The city, the family, roles of women and children.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 21.5 Rome and the Mediterranean World

3 hours; 3 credits
Civilization of the Mediterranean world from the death of Alexander the Great to the fall of Rome in the West. Diffusion of Hellenistic art, literature, and thought and their appropriation by Rome. Roman society, women and family, war and politics from Republic to Empire. Roman civilization at its height. Interaction of Christian and classical values in late antiquity.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 21.6 Humanism and the Classical Tradition

3 hours; 3 credits
The career of humanism from the ancient world through the Enlightenment, including its origins in Greek and Roman antiquity and the development of the classical tradition from the Middle Ages to the eighteenth century in poetry and philosophy, treatises, letters, histories. Fusion of humanists' awareness of the classics with a Christian world view, leading to the expression of themes and problems fundamental to the development of a modern consciousness. This course is the same as Classics 19.1
Prerequisite: Core Studies 1 and 4, or permission of the department chairperson.

## 22 Christianity and the Church in Medieval Europe

3 hours; 3 credits
Life and spirituality of Christian communities and their impact on Western society from the third century through the Middle Ages. Martyrs, monks, relics, pilgrims, crusaders, mystics. Papacy and kingship, faith and reason, heresy and inquisition, art and architecture. Multi-disciplinary focus on historical, literary, and artistic records. (Not open to students who have completed History 22.1 or 22.2.)
Prerequisite: Core Studies 4 or permission of the chairperson.

### 23.3 Medieval Jewish History

3 hours; 3 credits
Medieval Jews and their interaction with the Christian and Muslim worlds. Crusades, blood libels, and expulsions; philosophers, Talmudists, and religious debaters; forced converts, moneylenders, and courtiers.
Prerequisite: Core Studies 4 or permission of the chairperson.

## 24 The Italian Renaissance

3 hours; 3 credits
Society, politics, and culture of the Italian Renaissance from 1300 to 1550. Topics include rural and urban life; courtly and civic culture; neighborhoods, guilds, and confraternities; women and children; education and the family; the papacy and the clergy, lay piety, heresy, and mysticism; war and diplomacy; medicine, law, and the universities; art and literature; humanism and its contribution to pedagogy, political and social theory, philosophy and religion, and the arts.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 24.1 Kings, Courts, and Society in Early Modern Europe

3 hours; 3 credits
The role of monarchs and their courts in the shaping of European politics and society from the fifteenth through seventeenth centuries. Theories of kingship, the education and self-image of royalty, and the means available for enhancing royal power, including artistic and literary patronage, court life, religious establishments, new military technology, and economic resources.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 24.2 The Scientific Revolution and the Enlightenment

3 hours; 3 credits
Development of scientific thought from the Renaissance to the eighteenth century. Isaac Newton's world system in its intellectual setting. Application of scientific standards in the criticism of religious, social, economic, and political institutions of the eighteenth century. Materialism and mechanism.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 24.5 England from the Wars of the Roses to the

Glorious Revolution
3 hours; 3 credits
Wars of the Roses; Henry VIII's diplomacy, marriages, and break with Rome; Elizabeth I; the Spanish armada; Elizabethan culture; Stuart succession; English civil war; execution of Charles I; Oliver Cromwell and the Puritan revolution; the Restoration; the "Glorious" Revolution of 1689. (Not open to students who have completed History 24.9 in fall, 1990.)
Prerequisite: Core Studies 4 or permission of the chairperson.

### 24.9 Special Topics in Ancient, Medieval, and Early Modern European History

3 hours; 3 credits
Topics vary from term to term. Course descriptions may be obtained in the department office before registration. Students may take this course for credit twice, but may not repeat topics.
Prerequisite: Core Studies 4 or permission of the chairperson.

## Modern European history

25.2 England from the Age of Revolution to the

## Welfare State

3 hours; 3 credits
Development of British civilization and institutions from the early eighteenth century to the present. Eighteenth century political stability and overseas expansion; the industrial revolution; the growth of empire; democracy, feminism, socialism, and unionism; the two world wars; decolonization.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 25.3 France from Napoleon to the Present

## 3 hours; 3 credits

Heritage of the Revolution and Napoleon. Changing meaning of Left and Right; their struggles. Revolutions, authoritarianism, republics in the nineteenth century. Impact of wars and industrialism in the twentieth century. Continuing political transformations.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 25.7 Russia from the Era of Reforms

3 hours; 3 credits
Reforms of the 1860s and 1870s. Industrialization and its effects in undermining the basis of the Russian social order. Russian Revolution of 1917. Economic, social, political development of Soviet Russia.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 25.8 Modern Germany: 1870 to the Present

3 hours; 3 credits
German history from national unification under Bismarck through political division after Hitler and reunification in 1989. Wilhelmine Empire, Weimar Republic, Nazi dictatorship. Germany's role in European affairs and in the origins of the two world wars. Reconstruction after 1945, divergent development of the two Germanies, politics of reunification. Germany and European Union.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 25.11 Modern Italy

3 hours; 3 credits
Major economic, social, political, and cultural events of Italian history from the Risorgimento to the present.
Emphasis on Italian cultural heritage and contributions. Eighteenth-century and nineteenth-century background to unification. Italy as a national state. Italy and the Great War, Fascism, and the new Italy.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 26.4 Age of the French Revolution and Its Aftermath

3 hours; 3 credits
The old regime in the 1780s. French revolutions of 1789 and 1792. Struggles and compromises between revolutionary and counterrevolutionary forces to 1815. The Restoration.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 26.6 The Ordeal of Europe, 1880-1945

3 hours; 3 credits
Europe from the rise of the new imperialism to the end of World War II. Second industrial revolution.
Cultural revolt and intellectual ferment. The two world wars and inter-war instability. Bolshevik revolution, Soviet Russia, and the origins of the Cold War. Nazism and Fascism.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 26.7 Europe Since 1945

3 hours; 3 credits
The history of Europe since the end of World War II, including the reconstruction of war-torn societies, the separate development of eastern and western European nations, the impact of the Cold War, the domestic effects of decolonization, the development of a European Union. International social issues, such as the rise of feminism, the new immigration, and changing class structures will be emphasized.
Prerequisite: Core Studies 4.

## 27 The Industrial Revolution

3 hours; 3 credits
Origins and development of industrialization in western Europe and the United States since 1750. Effects on the organization of work, social classes and social relations, business, women, family life, and the environment. Political implications and the role of government. Reflections in art and literature.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 27.7 Socialism, Anarchism, and Marxism in Europe, 1789 to the Present

3 hours; 3 credits
The ideas, leading figures, and movements of the Left. Emergence of the Left in the French Revolution, utopian socialism, Marxism, anarchism, revolutionary syndicalism, Fabian socialism, national Left parties, the Internationals, revisionism, communism, and contemporary socialism.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 27.8 Women in Modern Europe

3 hours; 3 credits
History of women in Europe from the Industrial and French Revolutions to the present. Change in and interaction of women's economic, social, and political roles, and relationship of these to contemporary concepts of women's nature.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 28.3 The Jews in Modern Europe

3 hours; 3 credits
From the shattering Messianic movement of 1666 to the establishment of the state of Israel. Impact on modern Jewish history of emancipation, the Enlightenment, anti-Semitism, Reform Judaism, assimilation, and Zionism.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 28.9 Special Topics in Modern European History

3 hours; 3 credits
Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take this course for credit twice, but may not repeat topics.
Prerequisite: Core Studies 4 or permission of the chairperson.

## Transnational and comparative history

### 30.1 Main Currents in Contemporary World History

3 hours; 3 credits
The history of the major world regions and their interrelationship since 1945. Breakdown of the wartime alliance; confrontation between the West and the Soviet system; the era of the cold war and peaceful coexistence. The end of colonial rule and the rise of new states in Asia and Africa. Historical context of modern revolutions and wars, and political and economic changes. (Not open to students who have completed History 20.)
Prerequisite: Core 4 or permission of the chairperson.

### 30.2 Jesus and the Christian Tradition

3 hours; 3 credits
A cultural history of Christianity from the first century to the present; quest for the historical Jesus; images of Jesus in major eras of world history in scripture, theology, literature, art, and music; the place of Christian culture in the history of world civilization. This course is the same as Studies in Religion 19. (Not open to students who have completed History 19.)
Prerequisite: Core Studies 4 or Studies in Religion 1.1, or permission of the chairperson and/or the director of the Program of Studies in Religion.

### 30.21 Pagans, Christians, and Jews

3 hours; 3 credits
Religious conflict in the Roman Empire. Relation of Judaism and Christianity to their pagan environment. This course is the same as Classics 37.
Prerequisite: Core Studies 1 or Core Studies 4 or Religion 1.1 or permission of the chairperson.

### 30.3 History of Feminism

## 3 hours; 3 credits

Definitions of feminism; feminists in the Renaissance and early modern Europe; feminist demands arising from the French Revolution; early radical feminism in the United States, France, and the Germanies; liberal and Marxist feminism; women's movements from the 1850s to World War I in the West; the development of women's movements outside of Europe and America; imperialism, feminism, and national independence; the "second wave": women's liberation movements since 1968.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 30.4 Childhood in the Western World

3 hours; 3 credits
Children's place in society and thought from antiquity to the present with emphasis on the preindustrial Western world. Child-rearing practices, childhood disease and mortality, the education of children, literary reflections of childhood experiences in relation to the history of society and culture of the family, and of women. (Not open to students who have completed History 24.7.)
Prerequisite: Core Studies 4 or permission of the chairperson.

### 30.5 The Modern City in the Western World

3 hours; 3 credits
An exploration of city development in the West, from the Enlightenment to the present, and its transformative effect on the lives and thought of urban dwellers. Topics include the impact of industrialization, the built environment, class and gender relations, population growth, and utopian projects, as well as perceptions of the city and the emergence of modern sensibilities and culture.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 30.6 Asia and the United States

3 hours; 3 credits
Analysis of the growing interconnectedness of major countries of Asia and the United States during the last two centuries. Comparisons of changing relations of China, Japan, India, and Vietnam with the U.S. including conflict-the Pacific War, the Cold War, the Korean War, and the Vietnam War-as well as cooperation. Development of the Asian-American community in the U.S. Extensive use of visual materials. (Not open to students who have completed History 53.8.)
Prerequisite: Core Studies 4 or permission of the chairperson.

## United States history

41.1 The Colonial World

3 hours; 3 credits
European empires and colonies in the Americas. Patterns of conflict and interaction with Amerindian societies. Slavery and the slave trade. Origins and development of the mainland English colonies to 1763.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 41.2 The Revolutionary Generation

3 hours; 3 credits
The era of the American Revolution and the early national period as observed through the lives of representative men and women. War, loyalism, and republicanism. The establishment of the Constitution and the emergence of political parties. Cultural and social life of the new nation.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 41.3 Racial and Sectional Crisis in the United States

3 hours; 3 credits
Development of the American republic, 1828 to 1880. Jacksonian democracy, slavery, abolition, sectional conflict. Civil War and Reconstruction and consequent changes in policies affecting race and gender.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 41.4 Emergence of Modern America

3 hours; 3 credits
From 1877 to 1920. Politics following the compromise of 1877. Problems of continental development in business, labor, and agriculture. Immigration, internal migration, and the growth of cities. Philanthropy. Overseas expansion and responsibilities. State and national reforms in the progressive era. World War I and its immediate consequences.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 41.6 Twentieth-Century America: 1914-1950

3 hours; 3 credits
United States history from the Wilson presidency through the U.S. entry into the Korean War and the onset of McCarthyism: consolidation of progressivism and the Wilson presidency; entry into World War I and the Wilsonian agenda; the rise of the corporatist state; the United States and the world of the 1920s; clashes of culture in interwar America; the Depression and the emergence of a Democratic majority; the importance of dissenters; Franklin Roosevelt and American reform; the battle over the role of the Supreme Court; the United States and World War II; postwar politics; nuclear weapons and the militarization of the Cold War. (Not open to students who have completed History 41.5.)
Prerequisite: Core Studies 4 or the permission of the chairperson.

### 41.7 Twentieth-Century America: 1950-present

3 hours; 3 credits
The Korean War and American society; nuclear weapons and U.S. foreign policy; McCarthyism and the culture of the Cold War; the presidency of Dwight Eisenhower; the emergence of the civil rights movement; liberalism and the dilemmas of the 1960s; Lyndon Johnson and the Great Society; the United States in Vietnam; the counterculture and student dissenting movements; 1968 and the collapse of the New Deal coalition; Richard Nixon and Watergate; environmentalism, feminism, and new social movements; the revitalization of American conservatism; the Reagan presidency; the intersection of law and politics; the United States after the Cold War.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 43.1 United States Foreign Relations since 1898

3 hours; 3 credits
The emergence of the United States as a major world power; the debate over imperialism; progressivism and U.S. foreign policy; Wilsonianism; the United States and the 1920s world; the Depression and American foreign policy; the debate over isolationism and presidential power; the United States and World War II; the onset of the Cold War; the militarization of the Cold War; nuclear weapons and U.S. foreign policy; Kennedy and Latin America; Vietnam and the collapse of the liberal consensus; Richard Nixon and détente; American foreign policy in an age of uncertainty; Ronald Reagan and the politics of anticommunism; beyond the Cold War. Special attention will be paid to the viewpoints presented by dissenters on both the right and the left.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 43.2 American Constitutional History

3 hours; 3 credits
Colonial origins of the ideas and forms of American constitutional development. Drafting and establishment of the Constitution. Study of its changing interpretation in the context of changing global political, economic, and social conditions of the nineteenth century and twentieth century, particularly concerning class, race, and gender. Evolving concepts of federalism and liberty.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 43.4 American Social History from Reconstruction

3 hours; 3 credits
Causes and effects of social changes including problems of Reconstruction, rise of big business, role of the courts, Jim Crow, immigration and migration, progressivism, prohibition, patriotism, personal liberties in time of war, major issues in the Great Depression and New Deal, affluent society, and increased social concerns.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 43.5 Afro-American History

3 hours; 3 credits
Origins and development of American thought on the role of Blacks in American history. Consideration of such topics as African heritage, Blacks in the plantation society, slavery and the American idea of equality, Black Reconstruction, rise of Jim Crow, the myth of white supremacy, and the nature and origins of the Black revolution. Colonial era to the present.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 43.6 American Economic History

3 hours; 3 credits
The nature and sources of American economic growth from the Colonial period to the present. The development of colonial economy; economic growth before the Civil War; industrialization of the American economy and the rise of big businesses, government, business, and labor, including the changing participation of women and minorities in the era of industrial maturity; the creation of a managed economy in the mid-twentieth century. (This course is the same as Economics 65.3.)
Prerequisite: Core Studies 4 or Economics 10.1 or permission of the chairperson.

### 43.7 Ideas That Made America, 1607-1865

3 hours; 3 credits
Major ideas shaping American society from the colonial age to the civil war. Puritanism, entrepreneurship, and the idea of success; republicanism; America vs. Europe; democracy; reform.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 43.8 American Thought from the Civil War

3 hours; 3 credits
American thought in the industrial age. The idea of America and Europe from 1865 to 1920. Reformist perception in the populist and progressive eras. Immigration and acculturation. Concepts of America in the New Era and in the New Deal. Changing perspectives of postwar and contemporary America.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 43.9 Special Topics in American History

3 hours; 3 credits
Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take this course for credit twice, but may not repeat topics.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 43.11 Religious Experience in America

3 hours; 3 credits
Development of the major American traditions of Protestantism, Catholicism, and Judaism. Puritanism and its legacy; the Great Awakening; Christianity, slavery and the Civil War; the religious experience of Black Americans. Interaction between religious thought and such other aspects of American culture as ethnicity, social change, sexual mores, intellectual life. This course is the same as American Studies 62.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 43.13 The American Frontier

3 hours; 3 credits
Development of the frontier from the seventeenth-century colonies to twentieth-century California; issues of land and water use; role of the federal government; the myth of the cowboy and the frontier image in national self-definition; Indian culture and Indian wars; the culture of La Raza in the southwest. This course is the same as American Studies 20.3. (Not open to students who have completed History 43.9 in spring, 1988.)

Prerequisite: Core Studies 4 or permission of the chairperson.

### 43.14 Daughters of the Promised Land: Women in American History

3 hours; 3 credits
The history of women in the United States, with emphasis on the last two centuries. Gender intersections with race, class, and ethnicity in the areas of work, personal relationships, and control over reproduction. Women in organizations of labor, religion, and politics, including the feminist movements. Changing images of women. (Not open to students who have completed History 43.9 topic: Daughters of the Promised Land: Women in American History.)
Prerequisite: Core Studies 4 or permission of the chairperson.

### 43.15 History of Conservatism in America

## 3 hours; 3 credits

Conservatism in the early republic and the Age of Jackson; antebellum Southern conservatism; impact of conservatism on American political, economic, and social life between the Gilded Age and World War I; social Darwinism, the conservative influence on overseas expansion and the military; the New Humanism, conservatism and the New Deal; conservatism and anticommunism at home and abroad; conservative issues and values since World War II.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 43.16 Immigration and Ethnicity in American History

## 3 hours; 3 credits

History of immigration to America from the first European settlers to the present. Old and new waves of immigrants; immigration and citizenship in the age of Revolution; the rise of nativism; immigration policy; assimilation, ethnic resilience, and cultural hegemony in immigrant communities; the impact of race on ethnic identities; culture, politics, work, and gender in immigrant communities; post-World War II immigrants, migrants, and refugees; America's newest immigrants.
Prerequisite: Core Studies 4 or permission of the chairperson.

## 44 The History of New York City

3 hours; 3 credits
New York City from its origins to the present. Amerindian inhabitants before the European invasion; Dutch and English imperial periods; the American Revolution; slavery; mercantilism and capitalism; immigration, ethnicity, and neighborhood; ruling and working classes; parks and recreation; housing and architecture; crime and violence; the fiscal crisis of the 1970s.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 44.1 Brooklyn History

3 hours; 3 credits
The history of Brooklyn with an emphasis on the period from Consolidation to the present. The Lenape and early settlers; culture and community in rural Brooklyn; preindustrial Brooklyn, New York's "first suburb," industrialization and work in the nineteenth century; the Consolidation and urban growth; the borough's icons: The Brooklyn Bridge, Coney Island, and the Brooklyn Dodgers; immigration, ethnic succession, and race relations; deindustrialization and the post-World War II economic, political, and cultural landscape. Students will explore various methodological tools for the study of local history and will use Brooklyn as their laboratory for examining its history and conducting research.
Prerequisite: Core Studies 4 or permission of the chairperson.

## African, Asian, Caribbean, Latin American, and Middle Eastern history

50 Ancient Jewish History
3 hours; 3 credits
Religious beliefs and political institutions from Saul and David until the destruction of the First Temple. Second Temple Israel under Persians, Greeks, and Romans. The Maccabean uprising, the authors of the Dead Sea Scrolls and other varieties of Judaism, the rise of Christianity, the revolts against Rome, and the victory of Rabbinic Judaism. (Not open to students who have completed History 21.7.)
Prerequisite: Core Studies 4 or permission of the chairperson.

### 51.4 The Western Hemisphere and Inter-American Relations

3 hours; 3 credits
U.S.-Latin American relations from the late eighteenth century to the present. U.S. economic and territorial expansion into Mexico and the Caribbean. Changing U.S. policies in the hemisphere, including: Dollar Diplomacy, the Good Neighbor Policy, the Alliance for Progress, and the Reagan-Bush doctrine. Focuses particularly upon the period since World War II.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 51.5 The History of Caribbean Societies from the European Conquest to the End of Slavery

3 hours; 3 credits
Conquest and settlement by the European powers in the sixteenth and seventeenth centuries. European rivalries; rise of the sugar economy and slavery as a socioeconomic system. Comparative development of the English, French, and Spanish slave-holding colonies. The Haitian Revolution; the abolition of the slave trade and emancipation in the British colonies; the Ten Years' War and Emancipation in Cuba.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 51.6 History of the Modern Caribbean

3 hours; 3 credits
Historical forces in the evolution of Caribbean nations from the nineteenth century to the present. Includes material on Cuba, the Dominican Republic, Guyana, Haiti, Jamaica, Trinidad-Tobago among other nations. Concentrates upon national and international factors influencing each society as well as comparative analysis.
Prerequisite: Core Studies 4 or permission of the chairperson.

## 53 Revolutionary China

3 hours; 3 credits
Origins, development, and present state of the Chinese revolution. Social and ideological patterns in the breakdown of the Confucian order. The Revolution of 1911. Urban nationalism and the warlords. Rise of the Guomindang and the Communist Party. The Japanese invasion, Maoist ideology, and the Communist conquest. The People's Republic since 1949. Political, social, economic and ecological crises in the struggle to modernize. China's global impact. (Not open to students who have completed History 53.2 or History 53.10.)
Prerequisite: Core Studies 4 or permission of the chairperson.

### 53.4 Modern Japan

3 hours; 3 credits
Development of Japan as a modern nation. Tokugawa origins of modern institutions; emergence of the imperial state in the Meiji period; expansion on the Asian continent; nationalism, liberalism, and militarism between the wars. Destruction in World War II; recovery and the rise to affluence. Japan as a postindustrial power; its regional and global influence.
Prerequisite: Core Studies 4 or permission of the chairperson.

### 53.7 The Jewel in the Crown: British Imperialism and Indian Nationalism

3 hours; 3 credits
The decline of the Mughal Empire and the competition for succession won by the British East India Company; the structure and ideology of the Raj; social, economic, and cultural changes during the Raj including the role of race and the changing place of women. Rise of Indian nationalism and Muslim separatism viewed from above and below. Leadership, organization and ideology of early nationalists and the Congress party under Gandhi. Partition and independence of India, Pakistan, and Bangladesh. Prerequisite: Core Studies 4 or permission of the chairperson.

### 53.11 India and Vietnam: The Struggle for Freedom

## 3 hours; 3 credits

Comparisons of British rule in India and French rule in Indochina in the nineteenth century. The rise of nationalism in the two areas in the later nineteenth century. Comparative historical 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 on European imperial rule in Asia and on nationalist movements. Independence in the postwar generation and consequences for the new nations. Extensive use of slides and films of both areas.
Prerequisite: Core Studies 4 or permission of the chairperson.

## 54 History of the Middle East in the Twentieth Century

## 3 hours; 3 credits

Ottoman and colonial heritage of the Middle East; competing ideologies; oil and its impact, origins and development of the Arab-Israeli conflict; Iran under shahs and clergy; roots of radical nationalism in Turkey, Egypt, Iraq, and Syria, sectarianism and class conflict in Lebanon; Islamic reform and revivalism; changing role of women and minorities. (Not open to students who have completed History 57.3 or 57.4.)
Prerequisite: Core Studies 4 or permission of the chairperson.

### 55.1 Africa to 1800

3 hours; 3 credits
Exploration of themes in the history of Africa south of the Sahara from earliest times to 1800. Salient themes include trans-Saharan linkages in classical times, Sudanic empires, forest states, Kongo, Ndongo, east African coastal city-states, Mwenemutapa dynasty. Origins, development, and consequences of the Atlantic slave trade; abolition. This course is the same as Africana Studies 11.1. (Not open to students who have completed Africana Studies 18.11.)
Prerequisite: Core Studies 4.

### 55.2 Africa from 1800

3 hours; 3 credits
Themes include the Islamic revolutions, Mfecane, rise of legitimate trade, intrusion of European missionaries and explorers, Ashanti wars, political developments in interlacustrine East Africa, imperialism, colonial experience, nationalist independence movements, and Pan-Africanism. Selections reflect the experience of all the regions of the continent south of the Sahara from 1800 to the present. This course is the same as Africana Studies 11.2. (Not open to students who have taken Africana Studies 18.2.) Prerequisite: Core Studies 4.

### 58.9 Special Topics in Asian, Caribbean, Latin American, and Middle Eastern History

## 3 hours; 3 credits

Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take this course for credit twice, but may not repeat topics.
Prerequisite: Core Studies 4 or permission of the chairperson.

## Upper-division courses

Colloquia are intensive reading and discussion courses in major fields of historical scholarship. Topics vary from term to term; students should consult the department for current offerings and syllabi.

## 61 Colloquium in the History of Religion

3 hours; 3 credits
Religious beliefs, organizations, and communities in historical context. Cross-cultural influences in religious history. Use of historical, literary, and artistic records. Topics may include martyrdom, gender and the body, monasticism, and mysticism in early and medieval Christianity, Jewish-Christian encounters, and revivalism in America and Europe.
Prerequisite: History 10; junior or senior standing; and permission of the chairperson.

## 62 Colloquium in History and Biography

## 3 hours; 3 credits

The individual life in relation to historical change. Topics may include the life of the revolutionary, the hero in history, collective biography, and the biographer as historian.
Prerequisite: History 10; junior or senior standing; and permission of the chairperson.

## 63 Colloquium in Social History

## 3 hours; 3 credits

Classes, groups, and mass movements in history. Topics may include the European nobility, growth of the modern labor movement, immigration and migration, the history of childhood and the family, the bourgeoisie, frontiers in history, urbanization, and industrialization.
Prerequisite: History 10; junior or senior standing; and permission of the chairperson.

## 64 Colloquium on Historians and Historical Writing

3 hours; 3 credits
Historical scholarship since Herodotus. Topics may include narration and the problem of historical knowledge, the American patrician historians, the Renaissance idea of history, and revisionism in recent historical thought.
Prerequisite: History 10; junior or senior standing; and permission of the chairperson.

## 65 Colloquium in Political History

3 hours; 3 credits
States, governments, and people in human history. Topics may include imperialism, the growth of the American presidency, nationalism and nation-building in the early modern period, and comparative revolutions.
Prerequisite: History 10; junior or senior standing; and permission of the chairperson.

## 66 Colloquium in Cultural and Intellectual History

3 hours; 3 credits
Ideas, ideologies, and mentalities in their social and cultural context. Topics may include utopias and dystopias, ancient and modern humanism, the history of historical preservation, and the idea of American uniqueness.
Prerequisite: History 10; junior or senior standing; and permission of the chairperson.

## 67 Colloquium in Women's History

3 hours; 3 credits
Women's lives and experiences in the context of western history. Topics may include the history of feminism, women and Fascism, women and revolution, and medieval and Renaissance women.
Prerequisite: History 10; junior or senior standing; and permission of the chairperson.

### 69.1 Introduction to Archival Management

3 hours; 3 credits
The role of the archivist in historical research. Theoretical and historical basis of archival management. Types of archives. Applications of modern archival practices. The Brooklyn College archives will serve as the student's laboratory.
Prerequisite: Core Studies 3 and 4 or permission of the chairperson.

### 69.2 Oral History Theory and Practice

3 hours; 3 credits
Theory of and fieldwork in oral history interviewing. Preparing for, conducting, and transcribing oral history interviews. Reviewing legal and ethical issues. Analyzing the relationship between history and memory. Studying the use of life history narratives in print, film, television, radio, exhibitions, performance, community history projects, and the classroom.
Prerequisite: Core Studies 3 and 4 or permission of the chairperson.

## 70 Seminar

2 hours and independent work§; 3 credits
Techniques of historical research and writing. Topics vary from term to term. Course description may be obtained in the department office before registration. Research paper. Limited enrollment. Completion with a grade of B or higher carries honors credit.
Prerequisite: History 10; junior or senior standing; and permission of the chairperson.

## 78.1, 78.2 Internship in Public History I, II

9 hours of fieldwork; 3 credits
Applied training in such areas of public history as archival and museum management, mounting historical exhibits, and collection classification. To be pursued in conjunction with an institution outside the college under the supervision of a History Department liaison. A written report is required.
Prerequisite: History 69 or 69.1 or permission of the chairperson.

## 79 Independent Study

Minimum of 9 hours conference and independent work§;
3 credits
Individual study supervised by a faculty member. Approved topic and readings. Weekly conference. Final examination or paper. Students may take this course twice for credit but may not repeat topics.
Prerequisite: History 10; junior or senior standing; and permission of the chairperson.

## Honors course

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for the course described below. Students may not register for more than six credits in honors courses in the department in one term.

### 83.1 Independent Research

Minimum of 9 hours conference and independent work§; 3 credits
Independent research supervised by a faculty member. Approved topic. Weekly conference. Thesis or research paper. Students may take this course twice for credit but may not repeat topics.
Prerequisite: History 10; junior or senior standing; and permission of the chairperson.
The following courses are inactive and will be offered only if there is sufficient demand:

## 15History of Indian Civilization <br> 28.1European Diplomatic History since 1814 <br> 43.3American Social History through the Civil War

## Integrated Science

Integrated Science 1 is taught by faculty in the Department of Physics. Integrated Science 1.5, 2, and 2.8 are taught by faculty in the Department of Chemistry.
Integrated science courses are courses in the physical sciences stressing fundamental concepts and the methods, growth, and usefulness of science. These courses are for students who are not science majors.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 18 credits in advanced courses for science majors.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## Workshop

No credit
Voluntary sessions for students enrolled in Integrated Science 1 and 2 who need additional assistance. Emphasis on the solution of problems encountered in these courses.

## *1, *2 Matter and Energy

1 hour recitation, 2 hours lecture, 2 hours laboratory; 4 credits
Development in depth of modern ideas of the solar system, force and motion, properties of matter, energy, electricity and magnetism, wave motion. Structure of the atom, electronic interpretation of chemical processes, air and water pollution, nuclear energy, sun, and stars. (Integrated Science 1 is not open to students who have completed Physics 0.1 or 0.5 or 1 . Integrated Science 2 is not open to students who have completed any college course in chemistry except Chemistry 0.7.)
Prerequisite of 2: Integrated Science 1.

## 1.5, 2.8 Science and Man's Environment

2 hours recitation, 2 hours lecture, 2 hours laboratory;
5 credits
Introduction to fundamental principles of science and their application in controlling and conserving the environment. Examination of relevant physical, chemical, biological, and geological theories from an ecological viewpoint. Examination of scientific and technological means by which the environment can be conserved and improved. Social implications.
Prerequisite: enrollment in the Small College Program.

## Interdisciplinary Studies

Interdisciplinary Studies includes interdisciplinary studies courses open to the general student body as well as courses associated with particular programs in the Honors Academy and with the Children's Studies Program.
Faculty: from the departments of the college.

## Courses

Interdisciplinary Studies courses are scheduled at various times depending on student and program demands.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## 10 Minicourse in Special Topics

1 hour; 1 credit
Lecture and discussions on topics involving more than one department or program. Course meets for 15 irregularly scheduled hours, including lectures and a final examination. Students may take this course for credit four times, but may not repeat topics. Specific prerequisites may be added depending on the subject matter and level of the topic.

## 12 Italians in America

3 hours; 3 credits
Examination of the role of Italian-Americans in American society. Processes of acculturation, assimilation, and integration. Analysis of principle patterns of economic, social, and political behavior of the ItalianAmericans. (Not open to students who have completed Interdisciplinary Studies 9.)
Prerequisite: Core Studies 3 or 4.

## 25 Italian-American Relations: Foreign Relations, Migration, Commerce

3 hours; 3 credits
Introduction to basic patterns of economic, cultural, and political interaction between Italy and the United States since the end of World War II. Central features of institutional life in both countries as well as an overview of the basic patterns of contact between these two societies in the postwar period.
Prerequisite: Core Studies 4; or permission of the chairperson of the Department of Modern Languages and Literatures.

## 70 Seminar

2 hours recitation and a minimum of 7 hours conference and independent work§; 3 credits
Seminar or colloquium on a topic involving more than one department or program. Students may take this course for credit twice, but may not repeat topics.
Prerequisite: junior or senior standing. Specific prerequisites may be added depending on the subject matter and level of the seminar

## Honors Academy

Office: 2231 Boylan Hall
Telephone: 951-4114
Director: Kenneth A. Bruffee
Mellon Minority Undergraduate Fellowship Director: Margarite Fernández Olmos
Scholars Program Director: Kenneth A. Bruffee
Ford Colloquium Director: Paul Montagna
B.A.-M.D. Program Director. Jerrold S. Mirotznik

Engineering Honors Director. Viraht Sahni
Dean's List-Departmental Honors
Special Baccalaureate Degree Program

Faculty: from the departments of the college.

## Scholars Program

Program requirements (18 credits)
In addition to completing the requirements for a baccalaureate degree, the following requirements must be met.

1. A scholastic index of 3.50 or higher.
2. Completion of each of the following with a grade of A or B :
a. Scholars Program 50.
b. Scholars Program 85.
c. Two of the following courses in sections designated for students enrolled in the Scholars Program: Core Studies 1, 3, 4, 6, 10, English 1, 2.
d. Honors work in two additional courses not offered to satisfy requirements $a, b$, or $c$. Each of these courses may be in either category 1 or 2 below:
(1) an honors course (80s level). The topic must be interdisciplinary and receive prior approval from the Scholars Program director.
(2) an honors project in a regular (non-Scholars Program) course. Projects must be interdisciplinary and receive prior approval from the Scholars Program director and from the course instructor.
3. Completion of a senior thesis. The topic of the senior thesis and the thesis itself must be approved by the Scholars Program director and a thesis adviser.

## Courses

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

## 50 Interdisciplinary Topics

3 hours; 3 credits
This course addresses issues of an interdisciplinary character. Questions of methodology will be raised as an essential aspect. Topics vary from term to term. Course descriptions may be obtained in the Scholars Program office. Students may take this course three times but may not repeat topics.
Prerequisite: good standing in the Scholars Program or permission of the director of the Scholars Program.

## 85 Colloquium

3 hours; 3 credits
A series of lectures in one or more fields by faculty and invited guests. The colloquium is led by a faculty coordinator and is intended to be responsive to areas of student interest. Each student is expected to present one piece of original work. This course may be repeated once with the permission of the director of the program.
Prerequisite: acceptance of the qualifying paper and satisfactory standing in the Scholars Program.

## Ford Colloquium

Program requirements (18 credits)
Completion of all requirements for a baccalaureate degree
as stated elsewhere in this Bulletin and all of the following courses:

1. Ford Colloquium 51, which must be taken in the summer preceding the junior year.
2. Ford Colloquium 62, which must be taken in the fall semester of the junior year.
3. Completion of a research project and independent study course in the major department under the direction of an approved departmental mentor during the spring semester of the junior year.
4. Ford Colloquium 73 and 74 , which must be taken in the senior year.

## Courses

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

## 51 Orientation for Teaching and Research

6 hours; 6 credits
Topics include theory and/or history of teaching, learning, and cultural innovation; approached through collaborative learning; practice in basic library research; oral reporting; reading and discussion; writing and rewriting, with group critiques, basic word processing; study visits. Summer session between the sophomore and junior years.
Prerequisite: permission of the Ford Colloquium director.

## 62 Introduction to Scholarly Disciplines

3 hours; 3 credits
Topics relating to established academic disciplines, their history, characteristic methods of inquiry, current issues and trends; analysis by collaborative working groups, oral and written reports; lectures by faculty from diverse disciplines; students choose mentors and outline research projects with guidance from the instructor, colloquium director, and chairperson of the major department.
Prerequisite: Ford Colloquium 51 and permission of the Ford Colloquium director.

## 73 Critical Analysis in Scholarship and Research

3 hours; 3 credits
Reexamines disciplines studied and used in the junior year from the standpoint of philosophy of knowledge; foundational and historical criticism of the concept of scholarly discipline; diversity of disciplinary expressions for knowledge; dynamics of change. Approach is through collaborative inquiry, essays, and oral reports.
Prerequisite: Ford Colloquium 62 and satisfactory completion of an approved research project in the major field, and permission of the Ford Colloquium director.

## 74 Knowledge and Society

3 hours; 3 credits
Reexamines academic discipline, research, and teaching
from the standpoint of society; professionalization and institutionalization of academic life; economic, political, social implications, and constraints; public and private funding; stresses of paradigm maintenance and change on institutions and individuals; rhetoric and writing; pedagogy and curriculum; ethics and credibility.
Prerequisite: Ford Colloquium 73 and permission of the Ford Colloquium director.

## B.A.-M.D. Program

## Program requirements

Completion of all requirements for a baccalaureate degree as stated elsewhere in this Bulletin are subject to the following provisions:

1. Core Studies 1,3 , and 10 must be taken in designated
sections during the first three semesters at Brooklyn College.
2. Students who major in a natural science must take at least 15 credits in courses in the humanities or social sciences beyond the core curriculum. This will normally consist
of at least five courses in a single department; with the permission of the coordinator of the B.A.-M.D.
Program, students may take five related courses in the humanities and/or social sciences.
3. The following courses are required:
a. Biology 17, 17.1, 29, 29.1, and 34; Chemistry 1, 2, 51, and 52; Physics 1 and 2. These courses must be taken at Brooklyn College. (Credit received for advanced placement examinations will be accepted.)
b. Interdisciplinary Studies 8 . This course must be taken in the summer following the sophomore year.
c. Interdisciplinary Studies 71. A designated section of this course must be taken during the senior year.

## Courses

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

## 8 Post-Freshman Summer Community Internship and Seminar <br> Minimum of 175 hours fieldwork, <br> 15 lecture/recitation hours; 4 credits <br> Community service internship during the summer between the first and second years of the B.A.-M.D. <br> Program. Six-week placement at a health-related facility and concurrent summer seminar which deals with the students' experiences. The seminar will include the discussion of such issues as medical ethics, patient/client/professional roles, race and ethnic conflict/conflict resolution, and the nature of the community. Open only to students in the B.A.-M.D. Program. <br> Prerequisite: successful completion of the first year of the B.A.-M.D. Program, or permission of the B.A.M.D. Program Coordinator.

## 71 Seminar: Health Care in the Inner City

2 hours lecture and a minimum of 7 hours conference and independent work; 3 credits
Interdisciplinary study of health-care crises in the inner city. Guest lecturers will discuss the medical issues.
Prerequisite: junior or senior standing in the B.A.-M.D. Program.

## Children's Studies Program

An interdisciplinary minor
Program office: Children's Studies Center, 3416 James Hall
Telephone: 951-3192
Director: Gertrud Lenzer
Faculty: From the departments of the college.
Program requirements for a minor in children's studies
Fifteen credits as follows (note that some of the listed courses have prerequisites):
One of the following:
Children's Studies 20 or 25
Two of the following:
English 65 or Speech 14.4
Health and Nutrition Sciences 36
Psychology 20
Sociology 40.2
Two of the following: Africana Studies 54
Education 34
History 30.4
Puerto Rican and Latino Studies 40
All courses must be completed with a grade of $C$ or higher.
A minimum of nine credits must be completed at
Brooklyn College.
Children's studies minors should consult with the program director to plan an appropriate sequence of courses and declare their minor with the program director.

## Courses

The Schedule of Classes published each term lists under Children's Studies all courses offered in the program. Not all courses are offered each term.

## 20 Perspectives on Childhood

3 hours; 3 credits
Childhood viewed from the perspectives of health science, history, literature, psychology, sociology, and the arts. The history of childhood; autobiography as inquiry into the child's selfhood; the child's imagination; child development and health; adolescence as life-stage and perceptions of adolescence; the child in relation to the family, school, and community; children's experiences of personal, social, and political problems; social, economic, and educational policies affecting children; children's rights and international policy. May be team-taught. (Not open to students who have completed Children's Studies 1.)
Prerequisite: Core Studies 1, 3, or 4 and English 1; or permission of program director.

## 25 Special Topics: Issues in Children's Studies

3 hours; 3 credits
Emerging issues, policies, and research in rapidly developing areas relating to children and youth. Topics vary from term to term. (Not open to students who have completed Children's Studies 5.)

## Judaic Studies

Department office: 3111 James Hall
Telephone: 951-5229
Chairperson: Sara Reguer
Deputy Chairperson, Division of Graduate Studies: Herbert Druks
Professors: Eliach, Friedlander, Helfand, Leiman, Reguer;
Associate Professor: Druks;
Adjunct Professor: Scult.
B.A. degree program in Judaic studies

HEGIS code 0309
Department requirements (22 credits)
Judaic Studies 11.
Two courses chosen from the ancient and medieval periods: Judaic Studies 12, 13.5, 14, 15, 17, 22, 30, 33, 43.5.

Two courses chosen from the modern period: Judaic Studies 10, 11.5, 13, 16, 19.5, 20, 21.5, 31, 37, 40.5, $46,47,48.5,49.6,50,51,52.5,53.5,54,56$.
One of the following: Judaic Studies 71, 75.1, 75.2.
One of the following: Judaic Studies 83.1, 83.2, 88.1, 88.2.

## Department recommendations

The related courses listed at the end of the department section are strongly recommended for Judaic studies majors.

## Department honors

To qualify for honors in Judaic studies, a student must complete Judaic Studies 83.1 or 83.2 or 88.1 or 88.2 with a grade of $B$ or higher.

## Requirements for a minor in Judaic studies

Twelve credits of advanced courses in Judaic studies. Each course must be approved by the department chairperson and completed at Brooklyn College with a grade of C or higher.
Requirements for an optional minor in Hebrew
Twelve credits in courses in Hebrew numbered 11.1 or higher with a grade of $C$ or higher. Minors in Hebrew should consult with a department counselor to plan a sequence of courses.

Concentrations in Judaic studies and in Hebrew for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher (K-6); special education teacher.
The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs may elect a concentration in Judaic studies or in Hebrew.
Concentration in Judaic studies:
At least 12 credits, in at least four courses in Judaic studies numbered 10 or higher, completed with a grade of C or higher.
Concentration in Hebrew:
All of the following courses completed with a grade of $C$ or higher: Hebrew 3, 4, 4.5, 11.1, 25, 47.

## Division of Graduate Studies

The Judaic Studies Department offers a master of arts in Judaic studies and graduate courses for students in other fields. For information, students should consult the department chairperson. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 18 credits in advanced courses for majors in this department.
§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## *1 Introduction to Judaic Studies

3 hours; 3 credits
Survey of basic concepts, terminology, facts of the Jewish experience for students with little background in Judaic studies. Cultural, religious, historical highlights; relations with other religions and cultures. (Not open to students who are enrolled in or have completed Judaic Studies 12, 12.1, 12.2, 13, or the equivalent.)

## 10 Jewish Biography in the Classroom

3 hours; 3 credits
An analysis of the experience of American Jews as an immigrant community focusing on the interaction between Jewish culture, tradition, and values and the fundamental ideals of American culture. The biographies of American Jews and their search for meaning within the American experience. Particular attention will be paid to the role of Jewish personalities in the areas of philanthropy, social work, labor relations, public education, entertainment, and American intellectual life.
Prerequisite: Core Studies 1 and 6.

## 11 Land and Cultures of Israel

4 hours; 4 credits
Survey of the history and culture of Israel. Its socio-economic and political structure, including: kibbutzim, relationship between church and state, Ashkenazim and Sephardim, conflict between Jews and Arabs, the role of the military, the labor movement, and the relationship between Israel and the Diaspora.

### 11.5 History of Zionism

3 hours; 3 credits
Historical review of the development of Zionism as an idea and as a political movement from its roots in Jewish tradition and modern Jewish thought to the present.

## 12 Jewish Religion and Tradition

3 hours; 3 credits
Survey of major developments in Jewish culture and tradition from the biblical period in the ancient Near East through the medieval period in Europe. Ethical teachings of the prophets. Rabbinic Judaism. Jewish sectarianism; the impact of Christianity and Islam on Jewish life.

## 13 Out of the Ghetto

3 hours; 3 credits
Study of major developments in early modern Jewish culture, tradition, and history from the early modern period through the twentieth century. Analysis of the impact of modernity on traditional Jewish life.
Sabbatianism. Hasidism. Haskalah. Zionism. Emergence of Reform and Conservative movements.

### 13.5 Sages and Scholars

3 hours; 3 credits
Biographical studies of major Jewish scholars and religious personalities from the late Middle Ages to the twentieth century, their literary activities, and their impact on Jewish society and intellectual life. Personalities to be studied include Rabbi Joseph Karo, the Gaon of Vilna, and Rabbi Dr. David Zvi Hoffman.

## 14 Introduction to the Talmud

3 hours; 3 credits
Survey and analysis of select passages from the Talmud, the major repository of Jewish legal and ethical teaching. Readings reflect major concerns of Judaism in antiquity, such as the obligation to study the Torah, to care for the needy, and to promote justice.
Prerequisite: Judaic Studies 12 or permission of the chairperson.

## 15 Introduction to the Midrash

3 hours; 3 credits
Survey and analysis of select passages from the Midrash, the major repository of Jewish thought and biblical commentary of the Talmudic Rabbis. Men and women. Jew and non-Jew. Good and evil. Reward and punishment.
Prerequisite: Judaic Studies 12 or permission of the chairperson.

## 16 Modern Jewish Biographies

3 hours; 3 credits
Biographical studies of modern Jewish personalities who made major contributions in the fields of politics, science, literature, the arts, and finance. Focusing on the relationship between Jews and Western culture, the course will explore how Jews confronted modernity. Personalities to be studied include Einstein, Freud, Marx, Szold, Rothschild, Kafka, Chagall, and others. Biographical works as historical sources.
Prerequisite: Judaic Studies 13.

## 17 The Jewish Woman

3 hours; 3 credits
The role of the Jewish woman in religion and history. The status of women in Jewish Law. Different roles of the Jewish woman in the Sephardic and Ashkenazic communities. Jewish responses to the feminist movement.
Prerequisite: Judaic Studies 1 or permission of the chairperson

## 18 Studies in Jewish Customs

3 hours; 3 credits
Study of the origins and authority of ritual customs ("minhagim") in Jewish tradition, relationship to historic conditions, and place in the Jewish legal system ("halakhah"). Analysis of the typology of customs based on internal religious dynamics as well as external, environmental influences. An analysis of the nature of customs as an expression of communal and cultural diversity within Jewish life.
Prerequisite: Judaic Studies 12 or permission of the chairperson; reading knowledge of Hebrew.

### 19.5 Anti-Semitism

3 hours; 3 credits
Analysis of ideological and historical origins of anti-Semitism in the Greek and Roman periods. JewishChristian relations from the New Testament period through modern times. Special emphasis on political and racial anti-Semitism in the nineteenth and twentieth centuries.
Prerequisite: Core Studies 4 or Judaic Studies 12 or 13 or permission of the chairperson.

## 20 Contemporary Issues in Halakhah

3 hours; 3 credits
Analysis of halakhic problems in the light of advances in science, medicine, and technology.
Prerequisite: Judaic Studies 12 or 13 or permission of the chairperson.

### 21.5 Religious Controversy in Israel

3 hours; 3 credits
Inquiry into law and religious teaching as they relate to public policy in the State of Israel. Included are "Who is a Jew?," the status of women, Sabbath observance, conversion to Judaism, religious pluralism. Prerequisite: Judaic Studies 11 or permission of the chairperson.

## 22 Job and the Problem of Evil

3 hours; 3 credits
Intensive study of the Book of Job as the primary religious work dealing with suffering and evil. Opinions as to "why bad things happen to good people" will be considered in both ancient and modern works. This course is the same as Studies in Religion 10.
Prerequisite: Judaic Studies 12 or permission of the chairperson.

## 31 Modern Jewish Thought

3 hours; 3 credits
Significant works in modern Jewish thought. Modernization of society and its impact on Judaism considered through the works of such thinkers as Moses Mendelssohn, Samson R. Hirsh, Martin Buber, J.B.
Soloveitchik, A.J. Heschel, and Mordechai Kaplan.
Prerequisite: Core Studies 10 or permission of the chairperson.

## 33 Maimonides: Philosopher, Legalist, Physician

3 hours; 3 credits
Readings from Maimonides' philosophical, ethical, and legal writings. Impact on medieval Jewish and Christian thought and the Jewish legal system.
Prerequisite: Core Studies 10 or permission of the chairperson.

## 37 The Hasidic Movement: Its History and Literature

3 hours; 3 credits
History and literature of the Hasidic movement. Major dynasties and prominent masters in Europe, Israel, and America. Impact on such major literary figures as Kafka, Peretz, Buber, and Singer.
Prerequisite: Judaic Studies 13 or permission of the chairperson.

### 40.5 The Sephardic Heritage

3 hours; 3 credits
The Jewish experience in Muslim countries. Analysis of the Jewish communities in all aspects of life and the upheaval caused by their mass emigration, particularly to Israel and the United States. (Not open to students who have completed Judaic Studies 75.1, "The Sephardic Heritage.")
Prerequisite: Judaic Studies 11 or Core Studies 9 or permission of the chairperson.

### 43.5 Italian Jewry

3 hours; 3 credits
The unique relationship between Italy and its Jewish population. Jewish contributions to Italian culture. Italian Jewry during the Renaissance. "New" Sephardic communities. Italian Jewry during World War II.
Prerequisite: Judaic Studies 13 or permission of the chairperson.

## 46 The Shtetl in History and Literature

3 hours; 3 credits
Survey of the history and literature of the East European shtetl; its religious, social, educational, economic, and political institutions; its lore and folklore as reflected in historical and literary works. Its impact on
America and Israel.
Prerequisite: Judaic Studies 1 or 13 or permission of the chairperson.

## 47 History of the Jews in the United States

3 hours; 3 credits
Survey of the history of American Jewry from the 1650s to the present. Personalities who have played an integral part in the American experience. American Jewish contribution to establishment of Israel. Relations of American Jewish community to Jewish communities throughout the world.
Prerequisite: Judaic Studies 1 or 13 or Core Studies 3 or permission of the chairperson.

### 48.5 The Jews of New York

## 3 hours; 3 credits

Study of the history and structure of New York's Jewish communities from the seventeenth century to the present. Contributions to New York's political, cultural, and economic life.
Prerequisite: Judaic Studies 47 or permission of the chairperson.

### 49.6 Jewish Religious Movements in America

3 hours; 3 credits
Study of Jewish denominations in the United States. Ideologies and institutions of Orthodox, Conservative, Reform, and Reconstructionist Judaism. Contemporary Jewish issues.
Prerequisite: Judaic Studies 12 or 13 or 47 or permission of the chairperson.

## 50 History of the Holocaust

3 hours; 3 credits
History and analysis of Nazi Germany's attempt to annihilate European Jewry, 1933-45. Ghettos and killing centers. Deportations and killings. Jewish physical and spiritual resistance, liberation, and postwar displaced persons camps.
Prerequisite: Judaic Studies 13 or permission of the chairperson.

## 51 The Nazi Concentration Camps

## 3 hours; 3 credits

Analysis of the Nazi concentration and extermination camps as the arena of the Holocaust. History, ideology, and organization of the camps; the psychology of their bureaucrats and guards; and the response of Jewish and other inmates.
Prerequisite: Judaic Studies 50 or Core Studies 4 or permission of the chairperson.

### 52.5 Nazi War Crimes: Laws and Trials

3 hours; 3 credits
Analysis of postwar trials of Nazi criminals. Laws and procedures used to bring them to trial. Nuremberg and other Allied trials; trials in postwar West Germany; denaturalization proceedings in the United States. Prerequisite: Judaic Studies 50 or Core Studies 4 or permission of the chairperson.

### 53.5 Literature of the Holocaust

3 hours; 3 credits
Impact of the Holocaust as reflected in contemporary literature. Reading of authors who experienced or witnessed the Holocaust and writers of the post-Holocaust generation. All works are in English or English translation.
Prerequisite: Core Studies 6 or permission of the chairperson.

## 54 The Holocaust and Halakhah

3 hours; 3 credits
Analysis of rabbinic responsa dealing with legal and religious questions that arose as a result of the Nazi persecution.
Prerequisite: Judaic Studies 50 or permission of the chairperson.

### 70.1 Summer Archaeological Field School in Israel

(Intensive Program)
3 hours lecture; 6 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. This course is the same as Art 70.12. (Not open to students who have previously received credit for archaeological fieldwork.) Prerequisite: permission of the chairperson and one of the following: Judaic Studies 12, Anthropology 2.2, Art 2.1, Classics 26, Core Studies 1, 2.1, 9, a course in archaeological theory and methodology.

## 71 Seminar in Special Topics

3 hours; 3 credits
Topics vary from term to term. Course description may be obtained in the department office before registration.
Prerequisite: permission of the chairperson.

## 75.1, 75.2 Special Topics

3 hours; 3 credits each term
Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take Judaic Studies 75.1 for credit twice or 75.2 for credit twice or 75.1 and 75.2 for credit once each, but may not repeat topics.
Prerequisite: permission of the chairperson.

## 83.1, 83.2 Independent Research I, II

Minimum of 9 hours conference and independent work§; 3 credits
Independent research supervised by a faculty member. Approved topic. Weekly conference. Thesis or report.
Prerequisite: completion of a program, approved by the chairperson, in the Judaic Studies Department or related departments; and permission of the instructor and the chairperson.

## 88.1, 88.2 Independent Study I, II

Minimum of 9 hours conference and independent work§; 3 credits each term
Independent study supervised by a faculty member. Approved reading. Periodic conferences. Final examination or term paper.
Prerequisite: completion of a program, approved by the chairperson, in the Judaic Studies Department or related departments; and permission of the instructor and the chairperson.

## Hebrew

## *1 Elementary Hebrew I

3 hours recitation, 1 hour laboratory; 3 credits
Fundamental course in grammar, speaking, reading, and writing. (Not open to students who have completed Hebrew 0.5.)

## *2 Elementary Hebrew II

3 hours recitation, 1 hour laboratory; 3 credits
Continuation of Hebrew 1. (Not open to students who have completed Hebrew 0.6 and 0.7.)
Prerequisite: Hebrew 1 or one year of high school Hebrew.

## *3 Intermediate Hebrew I

3 hours recitation, 1 hour laboratory; 3 credits
Oral and aural drill. Grammar review, selected modern readings, and practice in writing and speaking.
Prerequisite: Hebrew 2 or two years of high school Hebrew or permission of the chairperson.

## *4 Intermediate Hebrew II

3 hours recitation, 1 hour laboratory; 3 credits
Continuation of Hebrew 3. Reading and discussion in Hebrew. (Not open to students who have completed Hebrew 4.1.)
Prerequisite: Hebrew 3 or three years of high school Hebrew or permission of the chairperson.

## *4.1 Literary Masterpieces

3 hours; 3 credits
Readings from significant works and introduction to literary analysis. Conducted in Hebrew. (Not open to students who are enrolled in or have completed Hebrew 4 or 4.5.)
Prerequisite: four years of high school Hebrew and ability to converse in Hebrew.

## *4.5 Conversation

3 hours; 3 credits
Oral and aural practice. Reading newspapers and journals. Discussion and short exposés in Hebrew.
Students who are fluent in Hebrew may not take this course for credit except with permission of the
chairperson. (Not open to students who have completed Hebrew 4.6.)
Prerequisite or corequisite: Hebrew 4.

## *9.1 Hebrew Literature in Translation I

3 hours; 3 credits
Survey of Hebrew literature from the Biblical period through the Middle Ages. Representative works in English translation. (Not open to students who are enrolled in or have completed Comparative Literature 17 or Hebrew 9.)

## *9.2 Hebrew Literature in Translation II

## 3 hours; 3 credits

Survey of Hebrew literature from the end of the Middle Ages to the present. Representative works in English translation. (Not open to students who are enrolled in or have completed Comparative Literature 17.)

### 11.1 Advanced Grammar and Composition

3 hours; 3 credits
Critical and historical review of grammar and style. Writing original narratives and essays.
Prerequisite: Hebrew 4 or 4.1 or permission of the chairperson.
Hebrew courses 21 through 85 are taught entirely in Hebrew.

## 21 Poetry of the Hebrew Renaissance

3 hours; 3 credits
Readings from the poetry of Bialik, Tchernichovsky, and some of their contemporaries.
Prerequisite: Hebrew 4 or 4.1 or permission of the chairperson.

## 25 Prose of the Hebrew Renaissance

3 hours; 3 credits
Novels and short stories of Mendele Mokher Sefarim, Berditchevsky, Brenner, Frischmann, and Peretz.
Prerequisite: Hebrew 4 or 4.1 or permission of the chairperson.

## 41 Bible: The Historical Books

3 hours; 3 credits
The Books of Joshua, Judges, Samuel, Kings, Chronicles, Ezra, and Nehemiah.
Prerequisite: Hebrew 4 or 4.1 or permission of the chairperson.

### 45.1 Bible: The Prophets and the Psalms

3 hours; 3 credits
Prerequisite: Hebrew 4 or 4.1 or permission of the chairperson.

## 47 Prose of Modern Israel

3 hours; 3 credits
Prose fiction since World War I. Burla, Shenhar, Shamir, Meged, and Yizhar.
Prerequisite: Hebrew 4 or 4.1 or permission of the chairperson.

## 48 Agnon and Hazaz

3 hours; 3 credits
Their novels and short stories.
Prerequisite: Hebrew 4 or 4.1 or permission of the chairperson.

## 49 Poetry of Modern Israel

3 hours; 3 credits
Readings from the poetry of such writers as Shimeoni, Shlonsky, Lamdan, Meltzer, Sh. Shalom, and Leah Goldberg.
Prerequisite: Hebrew 4 or 4.1 or permission of the chairperson.

## 51 Medieval Literature

3 hours; 3 credits
Prose and poetry of the Middle Ages, particularly that of the Golden Age in Spain.
Prerequisite: Hebrew 4 or 4.1 or permission of the chairperson.
52 Literature of the Haskalah

3 hours; 3 credits
Growth of modern Hebrew literature in the eighteenth and nineteenth centuries. Representative authors.
(Not open to students who have completed Hebrew 16.)
Prerequisite: Hebrew 4 or 4.1 or permission of the chairperson.

## 70 Tutorial in Literature and Culture

1 hour conference; minimum 8 hours independent work§; 3 credits
Study of a special topic at an advanced level. Periodic reports and a final paper or examination.
Prerequisite: junior or senior standing and 12 credits in advanced Hebrew courses with an average of 3.0 or higher. Approval of topic by the instructor and the chairperson.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for the courses described below. Students may not register for more than six credits in honors courses in the department in one term.

### 84.1 Seminar

1 hour conference, minimum 8 hours independent work§; 3 credits
Study of a literary topic, including but not limited to periods, genres, or major writers. Substantial paper in Hebrew. May not be taken concurrently with Hebrew 85.
Prerequisite: junior or senior standing and 15 credits in advanced Hebrew courses, approved by the chairperson, with an average of 3.5 or higher. Students may take this course for credit twice, but may not repeat topics.

## 85 Seminar and Senior Thesis

1 hour conference, minimum 8 hours independent work; 3 credits Research thesis written in Hebrew on a literary, linguistic, or cultural topic. May not be taken concurrently with Hebrew 84.1.
Prerequisite: senior standing and 18 credits in advanced Hebrew courses with an average of 3.5 or higher. Approval of the research topic by the instructor and the chairperson.

## Related courses

Art 13.40 Jewish Art
Education 65.07, 66.07 Seminars in Secondary Education in Hebrew I, II
English 59 Special Topics in Literature
("The Jew in American Literature," when offered)
History 50 Ancient Jewish History
History 23.3 Medieval Jewish History
History 28.3 The Jews in Modern Europe
Music 10.3 Jewish Folk Music
Philosophy 60.1, 60.2, 60.3, 60.4, 60.5 Special Topics
(topics relating to Judaic studies, when offered)
Philosophy 70.1, 70.2 Seminar in the History of Philosophy
I, II (Introduction to Judaic Philosophy I, II, when offered)
Physical Education 17.14 Israeli Folk Dancing
Political Science 49.3 Politics of the Middle East
Political Science 49.5 Government and Politics of Israel
Sociology 27.2 Sociology of the American Jewish Community
Theater 41.2 The Yiddish Theater
Yiddish 3 Intermediate Yiddish
Yiddish 4 Advanced Yiddish

## Linguistics Program

Telephone: 951-5641
Convener: John D. Roy
Faculty: from the departments of the college.
The Linguistics Program offers a major in linguistics, a dual major in linguistics and a related discipline, and a minor in linguistics.

## B.A. degree program in linguistics <br> HEGIS code 1505

Program requirements (27-49 credits)
Students must complete parts 1 through 5.

1. Linguistics 1 or Anthropology 2.3.
2. All of the following: Anthropology 17, Speech 13, Linguistics 84.1.
3. Two of the following: Linguistics 21, 22, 23.
4. One advanced foreign language course chosen from the following: Greek 12 or above, Latin 12 or above, Chinese 10 or above, French 11.1, German 11.1, Hebrew 11.1, Italian 11.1, Russian 11.1, Spanish 11.1, plus any prerequisite of
the course. Another advanced foreign language course
may be substituted with permission of the Linguistics
Program convener.
5. Two of the following: Anthropology 17, 19, Computer and Information Science 24, 29, 32, 38, 45, English 24.3, 24.4, 24.7, 24.8, 24.9, Mathematics 51.1, 52, 56, Philosophy 13, 19, 33, 34, Psychology 22, 58.1, Puerto Rican and Latino Studies 43, Sociology 77.2, Speech 17.6, 31, plus any prerequisite of the courses. Other courses, particularly appropriate honors seminars, may be substituted for either or both of the two courses with permission of the Linguistics Program convener.

## B.A. degree program for linguistics dual major HEGIS code 1505

Program requirements (21-36 credits plus a major in a department; see part 6 below) Students must complete parts 1 through 7.*

1. Linguistics 1 or Anthropology 2.3.
2. Speech 13.
3. Two of the following: Linguistics 21, 22, 23.
4. One advanced language course chosen from the following: English 24.7, Greek 12 or above, Latin 12 or above, Chinese 10 or above, French 11.1, German 11.1, Hebrew 11.1, Italian 11.1, Russian 11.1, Spanish 11.1, plus any prerequisite of the course. If a foreign language is chosen, it may be the same as that in part 7.
5. Two of the following: Anthropology 17, 19, Computer and Information Science 24, 29, 32, 38, 45, English 24.3, 24.4, 24.8, 24.9, Mathematics 51.1, 52, 56, Philosophy 13, 19, 33, 34, Psychology 22, 58.1, Puerto Rican and Latino Studies 43, Sociology 77.2, Speech 17.6, 31, plus any prerequisite of the courses. Other courses, particularly appropriate honors seminars, may be substituted for either or both of the two courses with permission of the Linguistics Program convener.
6. A major in a department of the college. The following majors are recommended for the dual major program: anthropology, classics, computer and information science, English, mathematics, modern languages and literatures, philosophy, psychology, sociology, and speech. Any other major must be approved by the Linguistics Program convener.
7. Study of a classical or modern foreign language through course 4 or 4.1, or the equivalent; or proficiency in a classical or modern foreign language through course 4 or 4.1 , or the equivalent. Proficiency is determined by the department offering the language.
*Note: If any of the courses in parts 1 through 7 is applicable toward the requirements of the student's department major, it may be applied toward the requirements of both the Linguistics Program and the department major.

## Requirements for a minor in linguistics

A minimum of 12 credits of advanced electives in the Linguistics Program. Advanced linguistics courses in other departments may be used with the approval of the program convener. Each course must be completed with a grade of $C$ or higher. Students should meet with the program convener to plan a program suited to their interests and career plans.

## Recommendation for prospective graduate students

Prospective graduate students in linguistics should develop reading fluency in French and either German or Russian and some familiarity with Greek and Latin.

## Courses

§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## 1 Introduction to Linguistics

3 hours; 3 credits
Nature and structure of human language in relation to other communication systems. Evolution and acquisition of language; dialects and styles; language and culture; speech and writing. Comparison of traditional and recent theories of language.
(Not open to students who are enrolled in or have completed Anthropology 2.3.)

## 21 Phonology

3 hours; 3 credits
Analysis of the sound systems of natural languages.
Phonetics and phonology. Relation of phonology to vocabulary and syntax.
Prerequisite: Linguistics 1 or Anthropology 2.3; and Speech 13.

## 22 Syntax

3 hours; 3 credits
Analysis of the sentence structure of natural languages. Sentence and discourse. Relation of syntax to semantics and phonology. Traditional and recent theories of syntactic analysis.
Prerequisite: Linguistics 1 or Anthropology 2.3.

## 23 Semantics

3 hours; 3 credits
Analysis of the meaning of words and sentences. Relation of semantics to vocabulary, syntax, and discourse. Traditional and recent theories of meaning.
Prerequisite: Linguistics 1 or Anthropology 2.3.

### 84.1 Seminar or Independent Study in Linguistics

Recitation or conference and independent work§; 3 credits
Independent reading and research on a problem or topic in linguistic analysis. Major paper or final examination.
Prerequisite: six credits in linguistics courses and permission of the Linguistics Program convener.

## Mathematics

Department office: 1156 Ingersoll Hall
Telephone: 951-5246, 951-5247
SGS office: 1148 Ingersoll Hall
Telephone: 951-5243
Chairperson: George S. Shapiro
Deputy Chairperson, CLAS: Wolfe Snow
Deputy Chairperson, SGS: Raymond Gittings
Deputy Chairperson, Division of Graduate Studies: Kishore Marathe
Professors: Bloom, Gardiner, Gittings, Halpern, Kohn, Marathe, Máté, Shapiro, Sibner, Stone; Associate Professors: Godino, Hennefeld, Hochberg, Jantosciak, Kwak, Snow, Spatz, Velling; Lecturer: Miller.

## Placement examination in mathematics

Students who plan to take calculus (Mathematics 3.3) without having taken precalculus (Mathematics 2.9) should take the Brooklyn College Calculus Placement Test, which is routinely offered to incoming students by the Office of Testing.

## B.A. and B.S. degree programs in mathematics <br> HEGIS code 1701

Department requirements (30-33 credits)
To enroll in any advanced course in mathematics, students must maintain an average grade of $C$ or higher in all courses previously taken in the department, unless this requirement is waived by the chairperson. A student exempt, without credit, from a course may not take the course later for credit except with permission of the chairperson. Mathematics majors must offer a minimum of 18 credits in advanced courses for the degree. All mathematics courses offered to satisfy the requirements for a major in mathematics must be completed with a grade of C - or higher.

One of the following mathematics sequences, $a$ ), b), c), or d):
a) Mathematics 3.3 and 4.3 and 5.3.
b) Mathematics 3.20 and 4.20 and 5.20 .
c) Mathematics 3.20 and 4.20 and 4.31 and 5.3.
d) Mathematics 4.10 and 5.10 .

Mathematics 10.1, 11.1, and 14.1.
Two of the following: Mathematics 12.1, 13.5, 14.5, 15, 18.1, 24, 25, 27, 37.1, 43, 52, 56, 88.1, 88.2, 88.3, 88.4.

Computer and Information Science 1.10 or 1.20 or 1.5.
Additional courses in the Mathematics Department to bring the total number of credits in advanced courses to 18.

## Recommendation for prospective graduate students

Prospective doctoral students should develop reading competence in at least one of the following languages: French, German, Russian.

## Department recommendation

Majors should consult with a Mathematics Department counselor concerning substitutions for core science courses.

## Computational mathematics program

The Department of Mathematics and the Department of Computer and Information Science offer an interdepartmental major in computational mathematics. The program is described in the Department of Computer and Information Science section.

## Mathematics for prospective teachers

A program is offered for prospective teachers of mathematics in secondary school. Courses are offered for prospective teachers of mathematics in elementary school. Courses in methods of teaching mathematics in elementary and secondary school are in the "Education" section in this Bulletin.

## Program recommendations

Elementary education majors should consult with a mathematics education counselor as to which mathematics courses are most appropriate for them.
B.A. and B.S. degree programs for mathematics teacher (7-12) HEGIS code 1701-01

The School of Education and the Department of Mathematics jointly offer a program for students who plan to teach mathematics in secondary school. Satisfactory completion of the program leads to recommendation for New York State certification.
Additional information may be obtained from the School of Education or the Department of Mathematics. Students should consult a counselor as early as possible to plan their programs.
All mathematics courses offered to satisfy the requirements for a major in mathematics teacher must be completed with a grade of C - or higher.

Program requirements (54-57 credits)
One of the following mathematics sequences, a), b), c), or d):
a) Mathematics 3.3 and 4.3 and 5.3.
b) Mathematics 3.20 and 4.20 and 5.20
c) Mathematics 3.20 and 4.20 and 4.31 and 5.3.
d) Mathematics 4.10 and 5.10.

All of the following: Mathematics 10.1, 11.1, 14.1, 25, 46, 51.1, 71.
Computer and Information Science 1.10 or 1.20 or 1.5.
All of the following: Education 16, 34, 62.03, 63.3, 65.03, 69.

Mathematics concentration for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher (K-6); special education teacher.
The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs and who elect a concentration in mathematics must complete either Option I or Option II with a grade of C- or higher in each course:
Option I:
Mathematics 3.3, 4.3, 41; Mathematics 8.1 or 10.1 or 74.1; Computer and Information Science 1.10 or 1.20 or 1.5.
Option II:
At least 12 credits of advanced electives in mathematics.

## Additional requirements for a B.S. degree

Candidates for a B.S. degree with a major in mathematics must complete at least 60 credits in science and mathematics; 24 of these 60 credits must be completed in advanced courses in the Mathematics Department. These 24 credits must be completed at Brooklyn College with a grade of C - or higher in each course.
The following courses may be applied toward the 60 credits in science and mathematics:
A) All courses in the departments of biology, chemistry, computer and information science, geology, mathematics, physics, and psychology.
B) Courses marked with a (©) symbol in the Department of

Health and Nutrition Sciences.
C) Anthropology and Archaeology 2.4, 16, 24.1, 26.1,
26.2, 36, 85.3.

Core Studies 5, 7.1, 7.2, 8.1, 8.2.
Economics 30.2, 30.3, 31.1, 31.2.
Philosophy 13, 33, 42.

Physical Education 22.71, 22.75, 23, 30, 51.
Sociology 77.1.

## Minor in mathematics

At least 12 credits in advanced electives in mathematics with a grade of C - or higher. With the permission of the chairperson, at most 6 credits of advanced courses from another institution may be accepted toward this requirement. Mathematics minors should consult with the department counselor for recommendations.

## Division of Graduate Studies

The Mathematics Department offers a master of arts degree program in mathematics and a master of arts degree program for mathematics teachers (grades 7 through 12). For information, students should consult the department's deputy for graduate studies. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked(*) are not counted toward the requirement of no fewer than 18 credits in advanced courses for majors in this department.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term. The following courses have been divided into five categories
to assist students in selecting the appropriate mathematics courses. The first category is self-explanatory. Levels 1 through 4 contain courses for mathematics and science majors, with level 1 the least advanced and level 4 the most advanced.
For the nonscience student: 1.2, 1.3, 1.4, 1.45, 1.5, 1.8, 1.9, 1.92, 1.95, 1.97, 2.3.
Level 1: 2.9, 3.3, 4.3, 4.31, 4.35.
Level 2: 5.3, 5.35, 8.1, 10.1, 13, 39, 41, 74.1, 74.2.
Level 3: 7.1, 13.1, 14.1, 17, 25, 37.1, 51.1, 73.2 .
Level 4: 7.2, 11.1, 12.1, 13.5, 14.5, 15, 18.1, 24, 27, 43, 46, 52, 56, 71, 88.1, 88.2, 88.3, 88.4.

## Workshops

No credit
Voluntary sessions for students enrolled in any mathematics course numbered lower than 6 who need additional assistance. Emphasis on the solution of problems encountered in these courses.

## *1.2 Basic Concepts of Geometry

## 3 hours; 3 credits

Analysis, on an elementary level, of the nature of mathematics. Geometries of various types. (Not open to students who have completed Mathematics 1.7 for credit. A student who is enrolled in or has completed a Mathematics Department course numbered 5 or higher may not take Mathematics 1.2 for credit except with permission of the chairperson.)
Prerequisite: Course 2 of the New York State Sequential Mathematics Curriculum, or two-and-one-half years of high school mathematics including one year of geometry and a course in intermediate algebra, or Mathematics 0.04 , or a grade of C - or higher in Mathematics 0.35 or 0.36 or 0.44 , or the equivalent.

## *1.3 Introduction to Mathematical Thinking

## 3 hours; 3 credits

Analysis, on an elementary level, of the nature of mathematical reasoning; elements of set theory; some simple postulational systems. (A student who is enrolled in or has completed a Mathematics Department course numbered 5 or higher or Computer and Information Science 11 may not take Mathematics 1.3 for credit except with permission of the chairperson.)
Prerequisite: Course 2 of the New York State Sequential Mathematics Curriculum, or two-and-one-half years of high school mathematics including one year of geometry and a course in intermediate algebra, or Mathematics 0.04 , or a grade of C - or higher in Mathematics 0.35 or 0.36 or 0.44 , or the equivalent.

## *1.4 Elementary Number Theory

3 hours; 3 credits
Fundamental properties of integers and related systems, in particular of primes, factorization, and divisibility. (Not open to students who have completed Mathematics 1.1 for credit. A student who is enrolled in or has completed a Mathematics Department course numbered 5 or higher may not take Mathematics 1.4 for credit except with permission of the chairperson.)

Prerequisite: Course 2 of the New York State Sequential Mathematics Curriculum, or two-and-one-half years of high school mathematics including one year of geometry and a course in intermediate algebra, or Mathematics 0.04 , or a grade of C - or higher in Mathematics 0.35 or 0.36 or 0.44 , or the equivalent.

## *1.45 Problem Solving and Mathematical Reasoning.

3 hours; 3 credits
The problem-solving power of abstract mathematical reasoning largely in the context of interesting games and puzzles. Some comparisons of computer and mathematical approaches. (A student who is enrolled in or has completed a Mathematics Department course numbered 5 or higher may not take Mathematics 1.45 for credit except with permission of the chairperson.)
Prerequisite: Course 2 of the New York State Sequential Mathematics Curriculum, or two-and-one-half years of high school mathematics including one year of geometry and a course in intermediate algebra, or Mathematics 0.04 , or a grade of C - or higher in Mathematics 0.35 or 0.36 or 0.44 , or the equivalent.

## *1.5 Elements of Statistics with Applications

3 hours; 3 credits
Analysis and presentation of data. Abuses of statistics. Measures of central tendency; measures of variability. Hypothesis testing. Estimation. Tests of independence. Applications to various fields. Use of simple calculator required. (Not open to students who are enrolled in or have completed any of the following: a Mathematics Department course numbered 5 or higher, Biology 16.1, Business 30.2, Economics 30.2, Political Science 12.5, 57, Psychology 40.1, 50.)
Prerequisite: Course 2 of the New York State Sequential Mathematics Curriculum, or two-and-one-half years of high school mathematics including one year of geometry and a course in intermediate algebra, or Mathematics 0.04 , or a grade of C - or higher in Mathematics 0.35 or 0.36 or 0.44 , or the equivalent.

## *1.8 Modern Mathematics for the Social Sciences

## 3 hours; 3 credits

Mathematics 1.8 covers recent developments in mathematics of significance to the social scientist. Linear programming including necessary introductory topics and study of a computer language. (Not open to students who are enrolled in or have completed Mathematics 2.4 or a Mathematics Department course numbered 5 or higher except with permission of the chairperson.)
Prerequisite: Course 2 of the New York State Sequential Mathematics Curriculum, or two-and-one-half years of high school mathematics including one year of geometry and a course in intermediate algebra, or Mathematics 0.04 , or a grade of C - or higher in Mathematics 0.35 or 0.36 or 0.44 , or the equivalent.

## *1.92 Geometry for Elementary School Teachers

3 hours; 3 credits
Formal and informal aspects of geometry of the plane and of space. Transformations; topological concepts; geometrical recreations. Laboratory materials. (Not open to students who are enrolled in or have completed Mathematics 1.2 or any Mathematics Department course numbered 5 or higher except with permission of the chairperson. Mathematics 1.92 may be credited towards a baccalaureate degree only by students who have completed at least 6 credits in courses in education numbered 48.1 through 58.82 inclusive.) Prerequisite: Mathematics 1.9 or the equivalent, or permission of the chairperson.

## *1.95 Elementary Mathematics from an Advanced Standpoint

4 hours; 4 credits
Mathematics content needed for teaching major strands in the early childhood and elementary school mathematics curriculum. Various concrete and abstract representations of mathematical concepts, inductive and deductive thinking, and applications and problem solving. (A student who is enrolled in or has completed Mathematics 1.9 or any Mathematics Department course numbered 4 or higher or who has completed Calculus 1 with a grade of $B$ or higher may not take Mathematics 1.95 for credit except with permission of the chairperson. Mathematics 1.95 may be credited toward a baccalaureate degree only by students who have completed at least five credits in Education.)
Prerequisite: Core Studies 5 or a course which is acceptable for at least three credits in mathematics at Brooklyn College.

## *1.97 Mathematics in Education

2 hours; 2 credits
Concepts and principles of mathematics underlying the elementary school curriculum. Taught in coordination with Education 44.

## a. Early childhood education section:

emphasis on topics relevant to teaching children from prekindergarten to grade 3.

## b. Elementary, bilingual, and special education section:

emphasis on topics relevant to teaching children from kindergarten to grade 6.
Prerequisite: Mathematics 1.95; or a higher level mathematics course and a passing score on a placement test.
Corequisite: Education 44.

## *2.3 Applied Mathematics for Teachers

## 3 hours; 3 credits

Topics include arithmetic calculations, calculators, measurements, graphs, applications of trigonometry, maps, and mathematical modeling with applications. (Not open to students who are enrolled in or have completed a Mathematics Department course numbered 5 or higher except with permission of the chairperson.)
Prerequisite: Course 2 of the New York State Sequential Mathematics Curriculum, or two-and-one-half years of high school mathematics including one year of geometry and a course in intermediate algebra, or Mathematics 0.04 , or a grade of C - or higher in Mathematics 0.35 or 0.36 or 0.44 , or the equivalent.

## *2.9 Precalculus Mathematics

4 hours; 3 credits
Preparation for calculus. Trigonometry. The concept of function, including exponential, logarithmic, trigonometric, and inverse trigonometric functions. Introduction to limit ideas. (Not open to students who are enrolled in or have completed a Mathematics Department course numbered 2.91 or higher.) Prerequisite: Course 3 of the New York State Sequential Mathematics Curriculum, or a grade of C- or higher in Mathematics 0.47 , or the equivalent, and assignment on the basis of a placement test.

## *2.91 Precalculus Mathematics A

3 hours lecture, 1 hour recitation; 2 credits
Preparation for calculus with more introductory material than Mathematics 2.9. Mathematics 2.91 and 2.92 constitute a two-term sequence for students who are not prepared for Mathematics 2.9 or who wish a review. Real numbers. Complex numbers. Graphs. Functions, especially linear and quadratic functions. Polynomials and rational functions. Trigonometry. (Not open to students who are enrolled in or have completed Mathematics 2.9 or any mathematics
course numbered 3 or higher.)
Prerequisite: Course 2 of the New York State Sequential Mathematics Curriculum or the equivalent.

## *2.92 Precalculus Mathematics B

3 hours lecture, 1 hour recitation; 2 credits
Continuation of Mathematics 2.91. More extensive study of functions; composition of functions, inverse functions. Logarithmic and exponential functions. Trigonometric and inverse trigonometric functions. Conic sections. Binomial theorem. (Not open to students who are enrolled in or have completed Mathematics 2.9 or any mathematics course numbered 3 or higher.)
Prerequisite: A grade of C - or higher in Mathematics 2.91 or permission of the chairperson.

## *3.3 Calculus I

3 hours; 3 credits
Mathematics 3.3 and 4.3 and 5.3 constitute a three-term sequence. Mathematics 3.3 is an introduction to calculus: derivatives and integrals of algebraic, exponential, logarithmic, and trigonometric functions of one variable, and applications. (Not open to students who have completed Mathematics 3.20 or 4.10.) Prerequisite: three years of high school mathematics including geometry and intermediate algebra and trigonometry or Course 3 of the New York State Sequential Mathematics Curriculum, and assignment on the basis of a placement test; or a grade of C or higher in Mathematics 2.9 or 2.92.

## *4.3 Calculus II

4 hours; 4 credits
Continuation of Mathematics 3.3. Trigonometric and inverse trigonometric functions, techniques (closed form and numerical) and applications of integration for functions of one variable, improper integrals, l'Hopital's rule, sequences, series, and polar coordinates. (Not open to students who have completed Mathematics 4.20 or 5.10.)
Prerequisite: a grade of C- or higher in Mathematics 3.20 or 3.3.

## *4.31 Infinite Series

1 hour; 1 credit
Intended for students who completed Calculus II, without infinite series. Taylor series; tests for convergence. (Not open to students who are enrolled in or have completed Mathematics 4.3 or 5.10 or 5.20).

Prerequisite: Mathematics 4.20 with a grade of C - or higher; or permission of the chairperson.

## *4.35 Symbolic Manipulation in Calculus II

1 hour; 1 credit
Use of symbolic manipulation computer software to present in greater depth certain topics in second semester calculus. Topics include applications of integration, numerical integration, Taylor series, graphing in polar coordinates.
Prerequisite or corequisite: Mathematics 4.3 or 4.31 .

## *5.3 Multivariable Calculus

## 4 hours; 4 credits

Continuation of Mathematics 4.3. Vectors and parametric equations, partial differentiation, multiple integration, line integrals, and Green's theorem. (Not open to students who have completed Mathematics 5.10 or 5.20.)

Prerequisite: a grade of C- or higher in Mathematics 4.3; or prerequisite or corequisite: Mathematics 4.31.

## *5.35 Symbolic Manipulation in Multivariate Calculus

## 1 hour; 1 credit

Use of symbolic manipulation computer software to present in greater depth certain topics in multivariable calculus. Topics include functions of two and three variables, vectors, partial derivatives, and multiple integrals.
Prerequisite or corequisite: Mathematics 5.3.

## *7.1 Actuarial Mathematics I

70 minutes a week for 11 weeks; 1 credit
Calculus and linear algebra. Emphasis on those aspects not covered in previous courses and on problem types similar to those appearing on Examination 100 of the Society of Actuaries. Spring term.
Prerequisite: Mathematics 5.10 or 5.20 or 5.3 ; and 10.1.
*7.2 Actuarial Mathematics II

70 minutes a week for 11 weeks; 1 credit
Probability and statistics. Emphasis on those aspects not covered in previous courses and on problem types similar to those appearing on Examination 110 of the Society of Actuaries. Fall term.
Prerequisite: Mathematics 52.

## *8.1 Elementary Probability and Statistics

3 hours; 3 credits
Sample spaces; combinatorial theory; elementary probability; random variables; discrete and continuous probability distributions; confidence intervals; hypothesis testing. (Not open to students who are enrolled in or have completed Mathematics 51.1.)
Prerequisite: Mathematics 4.3 or 4.31 or 5.10 or 5.20 .

### 10.1 Linear Algebra I

3 hours; 3 credits
Introduction to the concepts of linear algebra. Vector geometry of three dimensions. (Not open to students who are enrolled in or have completed Mathematics 14.5.)
Prerequisite: Mathematics 4.10 or 4.20 or 4.3 .

### 11.1 Advanced Calculus I

3 hours; 3 credits
Advanced calculus of functions of one variable. Relevant properties of the real number system. Properties of continuous functions and uniform continuity. Differentiable functions, mean-value theorems. L'Hopital's rule, Taylor's theorem. Sequences, series, and improper integrals.
Prerequisite: Mathematics 5.10 or 5.20 or 5.3 ; and at least 6 credits in advanced Mathematics Department courses or permission of the chairperson.

### 12.1 Advanced Calculus II

4 hours; 4 credits
Advanced calculus of functions of several variables. Elementary topology of Rn. Partial derivatives and differentials. Chain rule. Implicit function theorem and Jacobians. Rigorous development of the Riemann integral. Line and surface integrals. Green's theorem, Stokes's theorem, the divergence theorem. Prerequisite: Mathematics 10.1 and 11.1 and one other advanced Mathematics Department course.

## 13 Elementary Differential Equations

3 hours; 3 credits
Standard methods of solving ordinary differential equations; geometric interpretations; problems in physics leading to differential equations.
Prerequisite or corequisite: Mathematics 5.3.

### 13.1 Applications of Mathematics (Multivariable)

## 3 hours; 3 credits

Real problems, drawn largely from the physical sciences
but including some from the biological and social sciences, formulated mathematically; techniques of solution and interpretation of results. Techniques involve partial differential equations and are more advanced than in Mathematics 6. No background in science is required.
Prerequisite: Mathematics 13.

### 13.5 Partial Differential Equations

4 hours; 4 credits
Solution of partial differential equations; theory of Fourier series and their applications to boundary value problems; applications to mathematical physics; transform methods; numerical methods; systems of orthogonal functions.
Prerequisite: Mathematics 13.

### 14.1 Abstract Algebra I

3 hours; 3 credits
Elementary theory of groups, rings, and fields; integers, rationals, real and complex numbers; elements of number theory, polynomials.
Prerequisite: Mathematics 5.10 or 5.20 or 5.3 ; and Mathematics 10.1.

### 14.5 Linear Algebra II

4 hours; 4 credits
Determinants, matrices, and systems of linear equations; linear dependence; vector spaces; eigenvalues, and eigenvectors; matrix equations; linear transformations; convex sets.
Prerequisite: Mathematics 10.1 and 14.1.

## 15 Introduction to Functions of a Complex Variable

4 hours; 4 credits
Calculus of complex functions; Cauchy's integral theorem; Laurent series, singularities; residues; properties of analytic functions; conformal mapping; analytic continuation.
Prerequisite: Mathematics 11.1 and permission of the chairperson.

## 17 Theory of Numbers

3 hours; 3 credits
Congruences; quadratic residues; diophantine equations; factorization.
Prerequisite: Mathematics 14.1.

### 18.1 Abstract Algebra II

4 hours; 4 credits
Groups, rings, integral domains, fields; homomorphisms and isomorphisms; polynomials over a field; factorization; vector spaces over a field; field extensions and applications; introduction to Galois theory. Prerequisite: Mathematics 14.1.

## 24 Projective Geometry

4 hours; 4 credits
The extended Euclidean plane; axiomatic approach; Desargues's and Pappus's theorems; introduction of coordinates in the projective plane; projective transformations; synthetic and analytic treatment of conics; introduction to higher dimensional projective spaces.
Prerequisite: Mathematics 14.1.

## 25 Foundations of Geometry

4 hours; 4 credits
Critical analysis of foundations of geometry; postulational development of Euclidean and hyperbolic geometries; theories of incidence, order, congruence, parallelism, and measure; ordered linear geometries of arbitrary dimension as join systems (multigroups).
Prerequisite: a minimum of six credits in advanced Mathematics Department courses.

## 27 Introduction to Topology

4 hours; 4 credits
Intuitive concepts of topology: topology as a geometry of continuity, topological equivalence; one- and twodimensional manifolds, Jordan curve theorem. Introduction to general topology; topology of Euclidean, metric, and abstract spaces with emphasis on continuous mappings, compactness, connectedness, completeness, separation axioms. Applications to analysis and geometry.
Prerequisite or corequisite: Mathematics 11.1 and permission of the chairperson.

## 30 Special Topics in Mathematics

3 hours; 3 credits
A topic in mathematics not covered in the regular curriculum. The topics will, in general, vary from one offering to another. Course descriptions will be available in the department office before registration in semesters in which the course is to be offered. Students may take this course for credit three times, but may not repeat topics.
Prerequisite: Mathematics 4.3 or higher; permission of the chairperson.

### 37.1 Numerical Analysis

4 hours; 4 credits
Introduction to numerical analysis using high-speed computers. Fixed-point and floating-point arithmetic; analysis of errors; numerical solution of algebraic and transcendental equations and systems of linear equations. Interpolation and approximation. Numerical differentiation and integration. Solution of ordinary differential equations. (Not open to students who are enrolled in or have completed Mathematics 37.) Prerequisite: Mathematics 10.1; and Mathematics 5.10 or 5.20 or 4.3 or 4.31 ; and one of the following: Computer and Information Science 1.10, 1.20, 1.5, the ability to use a scientific programming language.

## 39 Chaos and Structural Stability in

One-Dimensional Dynamics
3 hours lecture, 2 hours laboratory; 4 credits
Computer and thought experiments will be used to illustrate concepts from one-dimensional dynamical systems. Lectures will focus on theoretical concepts explaining the phenomena illustrated in the laboratory assignments. Topics include structural stability, chaos, symbolic dynamics, kneading sequences for folding maps, bifurcation in parameter spaces, periodic points and the Sarkovskii ordering. Cantor sets, and fractional dimension. (Not open to students who completed Mathematics 30 in fall, 1990.)
Prerequisite: Mathematics 4.3.

## 41 History of Mathematics

3 hours; 3 credits
Development of mathematics from antiquity to recent times. Interrelationship of subject matter and the rise of modern concepts.
Prerequisite: Mathematics 4.3 or 4.31 or 5.10 or 5.20 .

## 43 Foundations of Modern Mathematics

4 hours; 4 credits
Axiomatic theories; real number system; set theory; transfinite numbers and their arithmetic; foundational questions.
Prerequisite: Mathematics 14.1.

## 46 Secondary School Mathematics from an

Advanced Viewpoint
4 hours; 4 credits
An advanced overview of mathematical topics in the secondary school curriculum: logic, space geometry, transformation geometry, coordinate geometries, polynomials, and computer applications. (Not open to students who have completed Mathematics 8 and 9.) Spring term, 1993.
Prerequisite: Mathematics 10.1 and 14.1 and Computer and Information Science 1.1 or 1.2 or 1.3 or 1.10 or 1.20.

### 51.1 Introduction to Probability and Statistics

3 hours; 3 credits
Sample spaces; combinatorial theory; elementary probability; random variables; discrete and continuous probability distributions; moments and moment-generating functions; applications. (Not open to students who are enrolled in or have completed Mathematics 8.1.)
Prerequisite: Mathematics 5.10 or 5.20 or 5.3.

## 52 Statistics

4 hours; 4 credits
Theory of estimators; distributions of functions of random variables, including chi-square, $t$ and $F$ distributions; confidence intervals; tests of hypotheses.
Prerequisite: Mathematics 51.1.

## 56 Probability

4 hours; 4 credits
Combinatorial analysis; random walks; conditional probability; central limit theorem; random variables; law of large numbers; Markov chains; finite difference methods.
Prerequisite: Mathematics 51.1.

## 71 Seminar in Problem Solving and Selected Topics

1 hour; 1 credit
Reading, discussions, problem-solving sessions on selected topics in graph theory, topology, game theory, number theory, and recreational mathematics. Fall term.
Prerequisite: at least eight credits in advanced Mathematics Department courses; and senior standing or permission of the chairperson.

### 73.2 Mathematics of Operations Research

3 hours; 3 credits
Linear programming; network analysis; queueing theory; simulation; decision analysis.
Prerequisite: Mathematics 51.1.

### 74.1 Mathematics of Compound Interest and Finance

3 hours; 3 credits
Measurement of interest; annuities-certain; amortization schedules and sinking funds; bonds and related securities.
Prerequisite: Mathematics 4.3 or 4.31 or 5.10 or 5.20 .

### 74.2 Investment Science

4 hours; 4 credits
Net present value, internal rate of return; yield, duration, immunization, and convexity of fixed-income securities; mean-variance portfolio theory, Markowitz model, CAPM, factor models, arbitrage pricing theory; models of asset dynamics, Ito's lemma, options theory, Black-Scholes equation; interest-rate derivatives. (This course is the same as Business 70.7 and Economics 70.7.)
Prerequisite: Economics 30.2 or Business 30.2 or Mathematics 8.1 or Mathematics 51.1; Mathematics 5.3. Prerequisite or corequisite: Economics 10.1 or 20.1.

## 88.1, 88.2, 88.3, 88.4 Independent Study I, II, III, IV

Minimum of 9 hours independent work and conference; 3 credits
Independent study of a selected list of readings approved by a faculty adviser. Thesis or final examination. Prerequisite: a minimum of 12 credits in advanced Mathematics Department courses and permission of the chairperson.

## Modern Languages and Literatures

Department office: 4239 Boylan Hall
Telephone: 951-5451, 951-5452
Chairperson: William Sherzer
Deputy Chairperson, CLAS: Malva E. Filer
Professors: Blasi, Bonaffini, Fernández Olmos, Filer, Huffman, Sherzer, Wile;
Associate Professors: Barran, Girelli-Carasi, Mbom, Moretta;
Assistant Professor: Sawicki.
The Department of Modern Languages and Literatures offers majors in French, Italian, Russian, and Spanish.
The department also offers courses in Arabic, Chinese, German, Greek (modern), Haitian Creole, Japanese, and Portuguese.
Courses in Hebrew are offered in the Department of Judaic Studies.

## Core curriculum

The Department of Modern Languages and Literatures participates in the college's core curriculum through the foreign language requirement.
The department shares responsibility for Core Studies 6 and 9 with other departments.
All baccalaureate students are required to complete one course in a foreign language at course-level 3 (the third semester of study at the college level) or to demonstrate an equivalent proficiency by examination, except as modified below.

1. This requirement presupposes two years of secondary school language study. If only one year of language study (or none at all) is offered, one or two semesters of college study (course-levels 1 and/or 2) are required before course-level 3 can be taken. A student who has studied language in high school for at least two years but wants to study a different language at the college level may do so, but this student must complete a minimum of two terms of the new language at the college level to fulfill the core requirement. 2. Students who have completed three years of one language in high school and passed the level 3 Regents examination are exempted from the core language requirement.
2. Students whose native language is not English may be exempted from this requirement by passing one of the competency examinations administered by the Department of Modern Languages and Literatures.
3. Neither blanket nor equivalent credit will be given for introductory courses in a foreign language from which a student has been exempted by examination.

## Placement in foreign language courses

Students may begin study of a language at Brooklyn College or may continue foreign language study begun in high school. Students who are fluent in a given language usually register for advanced courses in that language. These students may register for courses $1,2,3$, and 4.5 only with permission of a department counselor.
Students who want to begin study of a foreign language at Brooklyn College should follow these guidelines for registration.
(a) Basic courses in all languages are listed with numbers beginning with 1 (.), 2(.), 3(.), and 4 (.). Each course is the prerequisite of the next. Courses numbered $4($.$) are the prerequisite of all courses numbered$ 10 and higher. Some advanced courses have additional prerequisites.
(b) For specific information on course content and prerequisites, students should consult individual course listings on the following pages.

## Students who want to continue foreign language study begun in high school should follow these guidelines for registration.

(a) Students who have completed four years or more of foreign language study and have passed the Regents level 3 examination in the language should consult a department counselor to determine proper placement.
(b) Students who have completed fewer than four years of foreign language study but have passed the Regents level 3 examination in the language should register for course 4 or 4.1. If there has been a lapse of time since completing high school work, the student should consult a department counselor.
(c) Students who have completed three years or less of foreign language study but have not passed the Regents level 3 examination in the language are advised to consult a department counselor about placement before registration.
Students who have completed one year of language study or less in high school normally enroll in course 1 at Brooklyn College. Students with two years of high school language experience usually enroll in course 2, and students with three years of high school language experience usually enroll in course 3. Any questions regarding placement should be directed to the department office.

## B.A. degree programs

Department requirements (24-30 credits)
The Department of Modern Languages and Literatures offers majors in French, Italian, Russian, and Spanish (hereafter referred to as "Language"). The course of study of majors must be approved by the department prior to registration.
There are two options for the major:
Option I (24 credits)
Required for all majors:
All of the following: Language 11.12,15.50, and 17.50.
At least one of the following culture courses: Language 18.50, 18.75, 19.50, or 19.75.
The remaining courses are to be selected from Tier II, Tier III, Tier IV; and/or Modern Language rubric. A knowledge of Latin and/or another Language Other Than English is also helpful.
Option II (30 credits)
Thirty credits are required for New York state certification to teach a Language Other Than English at the secondary level. Twenty-four of those credits must be taken in the Department of Modern Languages and Literatures as follows:
All of the following: Language 11.12, 15.50, 17.50, and Modern Languages 58.
Two of the following culture courses: Language 18.50 or 18.75 ; 19.50 or 19.75.
Six credits to be selected from Tier II, Tier III, Tier IV; and/or Modern Language rubric.
The remaining six credits may be selected from the following options: 1 ) up to two courses in the major language and/or the Modern Language rubric; 2) two courses in a second language, level 4 or above; 3) up to two courses in related areas, subject to department approval.
A grade of B - or higher in all courses is required for student teaching.
The following majors are offered in the department:
B.A. degree program in French (HEGIS code 1102).
B.A. degree program in Italian (HEGIS code 1104).
B.A. degree program in Russian (HEGIS code 1106).
B.A. degree program in Spanish (HEGIS code 1105).

## Requirements for a minor in Italian international studies

A grade of $C$ or higher in each of the five courses offered for the minor.
All of the following: Italian 15, Modern Languages and Literatures 20.07, Interdisciplinary Studies 12 or 25. Two of the following: Art 14.71 or 14.72 , English 59 with the approval of the Modern Languages chairperson when the topic is relevant to this minor, History 25.11, Interdisciplinary Studies 12, Interdisciplinary Studies 70 with the approval of the Modern Languages chairperson when the topic is relevant to this minor, Italian 19.50 or 59.1, Political Science 47.1.

## Requirements for an optional minor in Chinese, French, German, Italian, Russian, or Spanish

A minimum of 12 credits in advanced courses in the chosen language (11.1 and above).

## Department recommendations

Modern languages and literatures majors are advised to take one or more courses in literatures other than the major.
Appropriate courses in anthropology, art history, classics, comparative literature, English, history, Judaic studies, philosophy, and theater are recommended.

## Secondary school teaching

The Department of Modern Languages and Literatures is in the process of changing the education curriculum to comply with new regulations recently approved by the New York State Education Department. Students seeking New York State teacher certification (K-12) should consult the coordinator for current certification and degree requirements.
The department offers the following B.A. degree programs in conjunction with the School of Education, each of which leads to certification as a secondary school teacher in the subject area indicated:
French teacher (7-12) HEGIS code 1102.01
Italian teacher (7-12) HEGIS code 1104.01
Spanish teacher (7-12) HEGIS code 1105.01
The student-teaching sequence of courses in secondary school foreign language education and in the program for teachers of bilingual education is described in the "Education" section in this Bulletin.

Concentrations in modern languages and literatures for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher (K-6); special education teacher.
The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs may elect one of the following concentrations in modern languages and literatures:
Six courses are required for a concentration in Chinese, French, Italian, Russian, and Spanish. Prior study of the language may substitute a maximum of two courses.
Chinese
Chinese 3.1 or 3.8 ; 4.1 or 4.8 ; 11.1 or 11.12; one of the following: $18.50,18.75,19.50,19.75$. Two courses from Tiers II or III.
French
French 4 or 4.8; 11.1 or 11.12; 15.50 and 17.50; one of the following: 18.50, 18.75, 19.50, 19.75. One course from Tiers II or III.
Italian
Italian 4 or 4.8 ; 11.1 or 11.12; 15.50 and 17.50; one of the following: 18.50, 18.75, 19.50. One course from Tiers II or III.
Russian
Russian 3.1 or 3.8 ; 4.1 or 4.8 ; 11.1 or 11.12; one of the following: $18.50,18.75,19.50,19.75$. Two courses from Tiers II or III.
Spanish
Spanish 4 or 4.8; 11.1 or 11.12; 15.50 and 17.50; one of the following: 18.50, 18.75, 19.50, 19.75. One course from
Tiers II or III.

## Division of Graduate Studies

The Modern Languages and Literatures Department offers master of arts degree programs in Spanish, and Spanish teacher (grades 7 through 12). Some courses may be creditable toward the CUNY doctoral degree. For information, students should consult the chairperson. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

All courses, unless otherwise indicated, are taught in the target language.
*Courses marked (*) are not counted toward the requirement of no fewer than 24-27 credits in advanced courses in the major language.
§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
Tier I Introductory Courses include basic culture and civilization courses and two core courses that provide a basis for future electives: 15.50 Understanding Texts teaches students how to read, analyze, and
write about texts from a diversity of genres; 17.50 Landmarks of Literature presents an established core of representative texts in chronological order.
Tier II Genre Courses include courses titled Thematic Readings in five major literary genres (poetry, the novel, short fiction, theater, and the essay). The content of these courses varies from semester to semester and it is always presented in chronological order to help students develop a sense of literary history.
Tier III Multidisciplinary Courses expand the study of literature beyond the traditional fields, focusing on special areas of interest in the contemporary world; women; autobiography; moral and religious concerns; historical and social concerns; and the arts.
Tier IV Pivotal and Monographic Courses offer the intensive study of a major author or body of literary works at an advanced level. Their in-depth nature makes them suitable for students toward the end of their course of study.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## Modern language

## *1.5 Approaches to Learning a Modern Language

3 hours; 3 credits
Analysis of the process of second-language acquisition for the adult language learner and of the relationship between language learning and cultural awareness. Development of practical self-monitoring and self-evaluating strategies to promote successful language acquisition and cultural competence. For students studying or planning to study a modern language, including English at the college level. This course is the same as English *1.5.
Prerequisite: permission of the chairperson of the Department of Modern Languages and Literatures.

### 13.01-13.11 Peer Tutoring I

2 hours tutoring, 1 hour conference; 1 credit
Two hours of peer tutoring in the Learning Center and one conference hour per week with a faculty supervisor. Final report in journal form.
13.01 Arabic
13.02 Chinese
13.03 French
13.04 German
13.05 Greek (modern)
13.06 Haitian Creole
13.07 Italian
13.08 Japanese
13.09 Portuguese
13.10 Russian
13.11 Spanish

Prerequisite: permission of the chairperson.

### 14.01-14.11 Peer Tutoring II

2 hours tutoring, 1 hour conference; 1 credit
Two hours of peer tutoring in the Learning Center and one conference hour per week with a faculty supervisor. Final report in journal form.
14.01 Arabic
14.02 Chinese
14.03 French
14.04 German
14.05 Greek (modern)
14.06 Haitian Creole
14.07 Italian
14.08 Japanese
14.09 Portuguese
14.10 Russian
14.11 Spanish

Prerequisite: one course from Modern Languages and Literatures 13.01-13.11 and permission of the chairperson.

### 20.02-20.11 Translation for the Professions

3 hours; 3 credits
Practical and theoretical approaches to translating materials drawn from a variety of texts and to integrating translation resources available in the multimedia laboratory. (French 20.03 not open to students who have completed French 54. Italian 20.07 not open to students who have completed Italian 12.1. Spanish 20.11 not open to students who have completed Spanish 54.)
20.02 Chinese
20.03 French
20.04 German
20.07 Italian
20.10 Russian
20.11 Spanish

Prerequisite: Language 11.12 or permission of the chairperson.

### 21.02-21.11 Literary Translation

3 hours; 3 credits
Practical and theoretical approaches to translating literary texts including poetry, plays, and narrative fiction. Analysis of selected published translations and of the cultural factors bearing upon the process of translation. Integration of resources available in the multimedia laboratory. (French 21.03 not open to students who have completed French 54. Spanish 21.11 not open to students who have completed Spanish 54.)
21.02 Chinese
21.03 French
21.04 German
21.07 Italian
21.10 Russian
21.11 Spanish

Prerequisite: Language 11.12 or permission of the chairperson.

### 29.02-29.11 Translation Practicum

One hour conference, minimum 9 hours independent work§; 3 credits
Individual translation project designed in consultation with a faculty supervisor and leading to a portfolio containing successive and final drafts. May be taken twice provided the project is different.
29.02 Chinese
29.03 French
29.04 German
29.07 Italian
29.10 Russian
29.11 Spanish

Prerequisite: Language 20.02-20.11 or 21.02-21.11 or permission of the chairperson.

### 50.02-50.11 Writing, Research, and Resources

3 hours; 3 credits
A practical approach to the writing of research papers using resources available in print and nonprint sources. Emphasis on scholarship as a process, including the selection of a topic, documentation, organization of materials, expository writing, and the preparation of a list of works cited. Students will submit a series of preliminary drafts for comment and approval prior to the final paper, which, in the case of majors and minors, will form part of the final Best Work Portfolio. To be taught in English. Written work to be done in a Language Other Than English.
50.02 Chinese
50.03 French
50.04 German
50.07 Italian
50.10 Russian
50.11 Spanish

Prerequisite: Language 11.1 or 11.12 or 17.50 , or permission of the chairperson.

## 51 Romance Philology

3 hours; 3 credits
A survey of the evolution of French, Italian, and Spanish from classical and vulgar Latin into modern Romance languages. Introduction to phonology, morphology, syntax, semantics, and linguistic geography. Attention given to recent phenomena such as regional linguistic differences and the influence of English. Written work of majors and minors to be done in a Language Other Than English. To be taught in English. Prerequisite: Language 11.1 or 11.12 or 17.50 , or permission of the chairperson. Some prior knowledge of Latin is desirable but not required.

### 52.03-52.11 Regional Variations in Language

## 3 hours; 3 credits

Recent developments in linguistic expression, both oral and written, in a diversity of nations and societies. The foundations of language in its country of origin and its subsequent expansion throughout the world. Emphasis on regional similarities and differences in pronunciation, lexicon, syntax, and usage through the analysis of contemporary texts, films, television, and musical lyrics, as well as materials available on the Internet.
52.03 French
52.11 Spanish

Prerequisite: Language 11.1 or 11.12 or 17.50 , or permission of the chairperson.

### 53.02-53.11 Language and Technology

3 hours, 2 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. Informational 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.
53.02 Chinese
53.03 French
53.04 German
53.07 Italian
53.10 Russian
53.11 Spanish

Prerequisite: Language 4 or permission of the chairperson.

### 58.02-58.11 Teaching and Learning Language for Communication

## 3 hours, 1 hour multimedia laboratory; 3 credits

Approaches to second language instruction and acquisition from a practical perspective. Current methodologies and applications. Student-centered learning, setting realistic goals, outcomes assessment for the four skills, the Oral Proficiency Interview (OPI), and balancing the needs of both heritage and nonheritage speakers. Identifying and using resources available in the media and on the Internet. To be taught in English.
58.02 Chinese
58.03 French
58.04 German
58.07 Italian
58.10 Russian
58.11 Spanish

Prerequisite: Language 11.1 or 11.12 or 17.50 , or permission of the chairperson.

### 59.02-59.11 Special Topics

3 hours; 3 credits
Special topic or theme not otherwise covered in the regular curriculum. Topics vary and reflect special interests of students and faculty. Course description available in department office prior to registration. Students may take the course more than one time, but may not repeat the topic or theme.
59.02 Chinese
59.03 French
59.04 German
59.07 Italian
59.10 Russian
59.11 Spanish

Prerequisite: Language 11.1 or 11.12 or 17.50 , or permission of the chairperson.

### 60.02-60.11 Fieldwork in Communities and Professional Environments I

9 hours fieldwork, 1 hour conference; 3 credits
A minimum of nine hours per week of supervised fieldwork in an approved place of employment, professional environment, or community program, where students will use one of the target languages designated below.
60.02 Chinese
60.03 French
60.04 German
60.07 Italian
60.10 Russian
60.11 Spanish

Prerequisite: 15 credits of advanced courses in the target language and permission of the chairperson.

### 61.02-61.11 Fieldwork in Communities and

## Professional Environments II

9 hours fieldwork, 1 hour conference; 3 credits
A minimum of nine hours per week of supervised fieldwork in an approved place of employment, professional environment, or community program, where students will use one of the target languages designated below.
61.02 Chinese
61.03 French
61.04 German
61.07 Italian
61.10 Russian
61.11 Spanish

Prerequisite: 15 credits of advanced courses and one course from Modern Languages and Literatures 60.02-60.11 in the target language; permission of the chairperson.

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Arabic
*1.1 Intensive Elementary Arabic I
5 hours, 1 hour multimedia laboratory; 4 credits
First in a two-semester intensive sequence for beginners and those who have had one year or less of high
school study. Introduction to phonetics and writing systems. Development of communicative skills and
cultural awareness through extensive classroom interaction and a variety of multimedia materials. Credit
given only upon completion of Arabic 2.1. (Not open to heritage speakers or to students
who have completed Arabic 1 or more than one year of high school Arabic.)
Prerequisite: none.
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## *2.1 Intensive Elementary Arabic II

5 hours, 1 hour multimedia laboratory; 4 credits
Second in a two-semester intensive sequence. Expanded acquisition of phonetics and writing systems.
Development of communicative skills and cultural awareness through extensive classroom interaction and a variety of multimedia materials. Designed to prepare students for Arabic 3.1.
(Not open to heritage speakers or to students who have enrolled in or have completed Arabic 1 or 2.)
Prerequisite: Arabic 1.1 or permission of the chairperson.

## *3.1 Intensive Intermediate Arabic I

4 hours, 1 hour multimedia laboratory; 4 credits
First in a two-semester intensive sequence for students who have completed Arabic 1.1 and 2.1 or the equivalent, or have had four years of high-school study. Continued development of oral fluency and writing in social interaction and in systematic vocabulary building. Increased awareness of cultural diversity in areas where language is spoken. (Not open to heritage speakers or to students who are enrolled in or have completed Arabic 3.)
Prerequisite: Arabic 2.1 or permission of the chairperson.

## *3.8 Basic Writing and Reading Skills for

Heritage Speakers
3 hours, 1 hour multimedia laboratory; 3 credits
Fundamentals of writing and reading for students whose knowledge of Arabic is limited to spoken communication. Emphasis on spelling, word order, and verb tenses, based on authentic literary and nonliterary texts. Practice in written self-expression.
Prerequisite: permission of the chairperson.

## *4.1 Intensive Intermediate Arabic II

4 hours, 1 hour multimedia laboratory; 4 credits
Second in a two-semester intensive sequence for students who have completed Arabic 3.1 or its equivalent. Further refinement of oral fluency and writing in social interaction and in systematic vocabulary building. Expanded awareness of cultural diversity through study of literary and nonliterary texts and other media of communication. (Not open to heritage speakers or students who have completed Arabic 4.)
Prerequisite: Arabic 3.1 or permission of the chairperson.
*4.8 Intermediate Writing and Reading Skills for Heritage Speakers
3 hours, 1 hour multimedia laboratory; 3 credits
Further development of writing and reading skills for students with basic knowledge of the structure of Arabic. Continued practice in reading and understanding authentic literary and nonliterary texts on a variety of levels.
Prerequisite: Arabic 3.8 or permission of the chairperson.

## Chinese

*1.1 Intensive Elementary Chinese I
5 hours, 1 hour multimedia laboratory; 4 credits
First in a two-semester intensive sequence for beginners and those who have had one year or less of high school study. Introduction to phonetics and writing systems. Development of communicative skills and cultural awareness through extensive classroom interaction and a variety of multimedia materials. Credit given only upon completion of Chinese 2.1. (Not open to heritage speakers or to students who have completed Chinese 1 or more than one year of high school Chinese.)
Prerequisite: none.

## *2.1 Intensive Elementary Chinese II

5 hours, 1 hour multimedia laboratory; 4 credits
Second in a two-semester intensive sequence. Expanded acquisition of phonetics and writing systems. Development of communicative skills and cultural awareness through extensive classroom interaction and a variety of multimedia materials. Designed to prepare students for Chinese 3.1.
(Not open to heritage speakers or to students who have enrolled in or have completed Chinese 1 or 2.)
Prerequisite: Chinese 1.1 or permission of the chairperson.

## *3.1 Intensive Intermediate Chinese I

4 hours, 1 hour multimedia laboratory; 4 credits
First in a two-semester intensive sequence for students who have completed Chinese 1.1 and 2.1 or the equivalent, or have had four years of high school study. Continued development of oral fluency and writing in social interaction and in systematic vocabulary building. Increased awareness of cultural diversity in areas where language is spoken. (Not open to heritage speakers or to students who are enrolled in or have completed Chinese 3.)
Prerequisite: Chinese 2.1 or permission of the chairperson.

## *3.8 Basic Writing and Reading Skills for Heritage Speakers

3 hours, 1 hour multimedia laboratory; 3 credits
Fundamentals of writing and reading for students whose knowledge of Chinese is limited to spoken communication. Emphasis on writing and the distinctions among various levels of dialect and language. Prerequisite: permission of the chairperson.

## *4.1 Intensive Intermediate Chinese II

4 hours, 1 hour multimedia laboratory; 4 credits
Second in a two-semester intensive sequence for students who have completed Chinese 3.1 or its equivalent. Further refinement of oral fluency and writing in social interaction and in systematic vocabulary building. Expanded awareness of cultural diversity through study of literary and nonliterary texts and other media of communication. (Not open to heritage speakers or students who have completed Chinese 4.) Prerequisite: Chinese 3.1 or permission of the chairperson.

## *4.8 Intermediate Writing and Reading Skills for Heritage Speakers

3 hours, 1 hour multimedia laboratory; 3 credits
Further development of writing and reading skills for students with basic knowledge of the structure of Chinese. Continued practice in reading and understanding authentic literary and nonliterary texts on a variety of levels.
Prerequisite: Chinese 3.8 or permission of the chairperson.

## *6 Calligraphy

2 hours; 1 credit
Esthetics and practice of Chinese calligraphy for students with or without Chinese language background.

## *7 T'ai-chi Ch'üan: Theory and Practice

2 hours laboratory; 1 credit
The short Yang form for health, meditation, and self-defense with push-hands practice and readings from the T'ai-chi classics, the Lao tzu, Chuang tzu, Confucian Analects, and I Ching. (Not open to students who have taken or are enrolled in Physical Education 17.20.) To be taught in English.
Prerequisite: none.

## 10 Studies in Chinese Media

3 hours; 3 credits
Introduction to Chinese media, including newspapers, journals, speeches, essays, radio and television broadcasts, video documentaries, the Internet, and pop music lyrics.
Prerequisite: Chinese 4.1 or 4.8 or permission of the chairperson.

### 11.1 Advanced Language Skills I

3 hours; 3 credits
Development of advanced language skills for nonheritage speakers; analytical practice and self-expression in the written and spoken language; use of authentic literary and nonliterary texts. (Not open to heritage speakers.)
Prerequisite: Chinese 4.1 or 4.8 or permission of the chairperson.

### 11.12 Advanced Language Skills II

3 hours; 3 credits
Continued practice in advanced written expression and in textual analysis for heritage and nonheritage speakers; composition modeled on selected literary texts.
Prerequisite: Chinese 4.8 or 11.1 or permission of the chairperson.

### 11.31-11.37 Chinese for Specific Purposes

3 hours; 3 credits
Acquisition of the language skills, terminology, and procedures necessary to function in one or more specialized areas where Chinese is routinely used. Designed to familiarize students with common interactions within the professional environment and with problems arising from cross-cultural misunderstandings. Intensive practice in speaking and writing. Reading and discussion of authentic materials related to the topic. May be taken before or concurrently with Chinese 60.02.
11.31 Chinese for the Arts
11.32 Chinese for Business
11.33 Chinese for Criminal Justice
11.35 Chinese for the Media
11.36 Chinese for Social Sciences
11.37 Chinese for Social Work

Prerequisite: Chinese 11.12 or permission of the chairperson.

### 17.50 Landmarks of Chinese Literature

3 hours; 3 credits
An introductory course designed to familiarize students with major literary works in Chinese within a chronological and cultural framework. Representative texts from the Chinese-speaking world, providing an overview of writings that have shaped the lives of generations of readers. Frequent writing assignments in Chinese to strengthen students' individual competencies. This core of texts, reviewed periodically by the department, serves as a foundation for advanced literature courses.
Prerequisite: Chinese 4.1 or 4.8 or permission of the chairperson.

### 20.1 Modern Chinese Literature from 1919 to 1949

3 hours; 3 credits
Readings from vernacular literature from the May 4th Movement to the founding of the People's Republic.
Prerequisite: Chinese 10 or permission of the chairperson.

### 20.2 Modern Chinese Literature from 1949 to the Present

3 hours; 3 credits
Readings from postwar literature of the People's Republic, Taiwan, and overseas Chinese communities.
Prerequisite: Chinese 10 or permission of the chairperson.

## 26 Survey of Classical Chinese Poetry

3 hours; 3 credits
Introduction to the development of various poetic forms in the classical style.
Prerequisite: Chinese 4.1 or 4.8 or permission of the chairperson.

## 27 T'ang Poetry

3 hours; 3 credits
Reading of the works of well-known T'ang dynasty poets.
Prerequisite: Chinese 4.1 or 4.8 or permission of the chairperson.

## 28 Philosophical Texts from the I Ching to Mao Tse-tung

3 hours; 3 credits
Intellectual history of China. Documents in the original language and translation. Emphasis on contrasts and continuity.
Prerequisite: Chinese 4.1 or 4.8 or permission of the chairperson.

### 30.50 Chinese Literature and Film

3 hours; 3 credits
The relationship between Chinese literary works and the films they inspired. Course description available in department office prior to registration.
Prerequisite: Chinese 4.1 or 4.8 or permission of the chairperson.

## 31 Classical Novel

3 hours; 3 credits
Readings from five major Chinese novels from the fourteenth to the eighteenth centuries: San-kuo yen-i, Shui-hu-chuan, Hsi-yu chi, Ju-lin wai-shih, Hung-lou Meng.
Prerequisite: Chinese 10 or permission of the chairperson.

### 40.50 Writings of a Major Chinese Author

3 hours; 3 credits
An in-depth, monographic study concentrating either on the opus of a major Chinese writer or on one of the masterpieces of Chinese literature.
Prerequisite: Chinese 17.50 or permission of the chairperson.

## 70 Tutorial in Literature and Culture

1 hour conference, minimum 8 hours independent work§; 3 credits
Study of a special topic at an advanced level. Periodic reports and a final paper or examination. Prerequisite: junior or senior standing and 12 credits in advanced Chinese courses with an average of 3.0 or higher. Approval of topic by the chairperson.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for the courses described below. Students may not register for more than six credits in honors courses in the department in one term and may not receive credit for more than four honors courses.

### 84.1 Seminar

1 hour conference, minimum 8 hours independent work§; 3 credits
Study of a literary topic, including but not limited to periods, genres, or major writers. Substantial paper in Chinese. May not be taken concurrently with Chinese 85.
Prerequisite: junior or senior standing and 15 credits in advanced Chinese courses approved by the chairperson with an average of 3.5 or higher. Students may take this course for credit twice, but may not repeat topics.

## 85 Seminar and Senior Thesis

1 hour conference, minimum 8 hours independent work§; 3 credits
Research thesis, written in Chinese, on a literary, linguistic, or cultural topic. May not be taken concurrently with Chinese 84.1.
Prerequisite: senior standing and 18 credits in advanced Chinese courses with an average of 3.5 or higher. Approval of the research topic by the instructor and the chairperson.

## French

## *1 Basic Language Skills I

3 hours, 1 hour multimedia laboratory; 3 credits
The first in a three-semester introductory sequence for beginners and those who have had one year or less of high school study. Emphasis on basic social functions, simple conversation, readings, and writing.
Introduction to the cultures where French is spoken. (Not open to heritage speakers or to students who have completed French 1.5 or more than one year of high school French.)

## *1.2 Intensive Elementary French I

5 hours, 1 hour multimedia laboratory; 4 credits
The first course in an intensive two-semester sequence for beginners and those who have one year or less of high school study. Development of reading, writing, speaking, listening, and cultural awareness through classroom interaction and practice, utilizing a variety of multimedia materials. Designed for students wishing to proceed at an accelerated pace. Credit given only upon completion of French 3.2. (Not open to heritage speakers or to students who are enrolled in or have completed French 1, French 1.5, or more than one year of high school French.)
Prerequisite: None.

## *2 Basic Language Skills II

3 hours, 1 hour multimedia laboratory; 3 credits
Second in a three-semester introductory sequence. Continued emphasis on basic social functions, simple conversations, readings, and writing. Narration and description of past and future events. Increased understanding of the cultures where French is spoken. (Not open to heritage speakers or to students who have completed French 1.5.)
Prerequisite: French 1, or two years of high school French, or permission of the chairperson.

## *3 Basic Language Skills III

3 hours, 1 hour multimedia laboratory; 3 credits
Third in a three-semester introductory sequence. Further emphasis on basic social functions and practice in longer, more complex conversations, readings, and writing on a broader range of familiar topics.
Communication of needs, ideas, and emotions. Continued study of cultures where French is spoken. (Not open to heritage speakers or to students who have completed French 3.7.)
Prerequisite: French 2, or three years of high school French without passing the level 3 Regents examination, or permission of the chairperson.

## *3.2 Intensive Elementary French II

5 hours, 1 hour multimedia laboratory; 4 credits
Second in the two-semester intensive sequence. Continued development of reading, writing, speaking, listening, and cultural awareness through extensive classroom interaction, practice, and a variety of multimedia materials. Designed to prepare students for French 4. (Not open to heritage speakers or to students who are enrolled in or have completed French 1, 2, or 3.)
Prerequisite: French 1.2 or permission of the chairperson.

## *3.4 Fundamentals of Reading and Writing forNonheritage Speakers

2 hours, 1 hour multimedia laboratory; 2 credits
Review and further development of intermediate-level reading and writing skills with special attention to grammar and style. An optional transitional course designed to prepare students for French 4. May be taken concurrently with French 3.6. (Not open to heritage speakers or to students who have recently completed four years of high school French or are enrolled in or have completed French 3.2.)
Prerequisite: French 3, or a passing grade on the level 3 Regents examination, or a significant time lag in language study at this level, or permission of the chairperson.

## *3.6 Basic Conversation Workshop

1 hour, 2 hours multimedia laboratory; 1 credit
A supplementary course providing additional practice speaking French on everyday topics using authentic materials from a variety of contemporary media such as newspapers, magazines, radio, television, and film. For nonheritage speakers who have completed French 3, 3.2, or their equivalent. May be taken oncurrently with or independently of French 3.4. (Not open to heritage speakers.)
Prerequisite: French 3 or 3.2, or a passing grade on the level 3 Regents examination, or four years of high school study, or permission of the chairperson.

## *3.8 Basic Writing and Reading Skills for Heritage Speakers

3 hours, 1 hour multimedia laboratory; 3 credits
Fundamentals of writing and reading for students whose knowledge of French is limited to spoken communication. Emphasis on writing and the distinctions among various levels of dialect and language. Prerequisite: permission of the chairperson.

## *4 Intermediate Language Skills forNonheritage Speakers

3 hours, 1 hour multimedia laboratory; 3 credits
Continued development of language skills and cultural understanding using a variety of authentic materials including film, video, and short literary texts. Class discussions, group activities, and team projects. Individual writing assignments with emphasis on accuracy and style. (Not open to heritage speakers.) Prerequisite: Recent completion of French 3, or the level 3 Regents examination with a passing grade, or four years of high school French, or French 3.2 or 3.4, or permission of the chairperson.

## *4.5 Intermediate Conversation for the Professions for Nonheritage Speakers

2 hours, 2 hours multimedia laboratory; 2 credits
A supplementary course providing conversational practice in career-oriented situations such as interviews, telephone conversations, taking and leaving messages, providing and obtaining information. May be taken concurrently with or independently of French 4. (Not open to heritage speakers.)
Prerequisite: French 3.2, 3.4, or 3.6, or permission of the chairperson.

## *4.8 Intermediate Writing and Reading Skills for Heritage Speakers

3 hours, 1 hour multimedia laboratory; 3 credits
Further development of writing and reading skills for students with basic knowledge of the structure of French. Continued practice in reading and understanding authentic literary and nonliterary texts on a variety of levels.
Prerequisite: French 3.8 or permission of the chairperson.

### 11.1 Advanced Language Skills I

3 hours, 3 credits
Development of advanced language skills for nonheritage speakers; analytical practice and self-expression in the written and spoken language; use of authentic literary and nonliterary texts. (Not open to heritage speakers or students who have completed French 4.3.)
Prerequisite: French 4 or 4.8 or permission of the chairperson.

### 11.12 Advanced Language Skills II

3 hours; 3 credits
Continued practice in advanced written expression and in textual analysis for heritage and nonheritage speakers; composition modeled on selected literary texts.
Prerequisite: French 4.8 or 11.1 or permission of the chairperson.

### 11.31-11.37 French for Specific Purposes

3 hours; 3 credits
Acquisition of the language skills, terminology, and procedures necessary to function in one or more specialized areas where French is routinely used. Designed to familiarize students with common interactions within the professional environment and with problems arising from cross-cultural misunderstandings. Intensive practice in speaking and writing. Reading and discussion of authentic materials related to the topic. May be taken before or concurrently with French 60.02.
11.31 French for the Arts
11.32 French for Business
11.33 French for Criminal Justice
11.35 French for the Media
11.36 French for Social Sciences
11.37 French for Social Work

Prerequisite: French 11.12 or permission of the chairperson.

### 15.50 Understanding Texts in French

3 hours; 3 credits
Development of reading and analytical skills in French. Short, authentic texts, both literary and nonliterary, representing diverse contemporary styles and genres. Discussions and frequent writing assignments using a variety of approaches and supplementary materials available in the multimedia laboratory. May be taken concurrently with or after French 4.8 or 11.1.
Prerequisite: French 4 or 4.8 or permission of the chairperson.

### 17.50 Landmarks of French and Francophone Literatures

## 3 hours; 3 credits

An introductory course designed to familiarize students with major literary works in French within a chronological and cultural framework. Representative texts from the French-speaking world, providing an overview of French and Francophone writings that have shaped the lives of generations of readers. Frequent writing assignments in French to strengthen students' individual competencies. This core of texts, reviewed periodically by the department, serves as a foundation for advanced literature courses. (Not open to students who have completed French 18.)
Prerequisite or corequisite: French 15.50 or permission of the chairperson.

### 18.50 Contemporary France

3 hours; 3 credits
An exploration of the major features of contemporary French society and other French-speaking European cultures from 1945 to the present with particular attention to developing an understanding of the concepts of cultural identity and difference within the changing European context. Discussions and frequent writing assignments using a variety of approaches and supplementary materials from the French print, broadcast, and electronic media. Field trips to museums and cultural events. May be taken concurrently with or after French 4.8 or 11.1. (Not open to students who have completed French 51.)
Prerequisite: French 4 or 4.8 or permission of the chairperson.

### 18.75 The Contemporary Francophone World

3 hours; 3 credits
An exploration of the contemporary French-speaking world outside of Europe from 1945 to the present with particular attention to developing an understanding of the concepts of cultural identity and difference, nationalism, and la francophonie. Discussions and frequent writing assignments using a variety of approaches and supplementary materials from the print, broadcast, and electronic media. Field trips to museums and cultural events. May be taken concurrently with or after French 4.8 or 11.1.
Prerequisite: French 4 or 4.8 or permission of the chairperson.

### 19.50 History of French Civilization

3 hours; 3 credits
A historical overview of the values, institutions, and cultural heritage of France and other French-speaking European cultures from their origins to the mid-twentieth century. Discussions and frequent writing assignments using a variety of approaches and supplementary materials from the French print, broadcast, and electronic media. Field trips to museums and cultural events. May be taken concurrently with or after French 4.8 or 11.1. (Not open to students who have completed French 51.)
Prerequisite: French 4 or 4.8 or permission of the chairperson.

### 19.75 History of Francophone Cultures

3 hours; 3 credits
A historical overview of the cultural heritage of the major French-speaking cultures of the world outside of Europe from the foundations of French colonialism to 1945. Particular attention to developing an understanding of the concepts of colonialism; nationalism; and racial, regional, and national identities.
Discussions and frequent writing assignments using a variety of approaches and supplementary materials from the print, broadcast, and electronic media. Field trips to museums and cultural events. May be taken concurrently with or after French 4.8 or 11.1.
Prerequisite: French 4 or 4.8 or permission of the chairperson.

### 20.50: Thematic Readings in French Poetry

3 hours; 3 credits
Representative selections from medieval times to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: French 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 20.75 Thematic Readings in Francophone Poetry

3 hours; 3 credits
Representative selections from medieval times to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: French 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 21.50 Thematic Readings in the French Novel

## 3 hours; 3 credits

Representative works from the origins to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: French 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 21.75 Thematic Readings in the Francophone Novel

3 hours; 3 credits
Representative works from the origins to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: French 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 22.50 Thematic Readings in French Short Fiction

3 hours; 3 credits
Representative stories and short novels from medieval times to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: French 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 22.75 Thematic Readings in Francophone Short Fiction

3 hours; 3 credits
Representative stories and short novels from the origins to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: French 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 23.50 Thematic Readings in French Theater

3 hours; 3 credits
Representative works from the origins to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students make take the course twice provided the theme and content are different.
Prerequisite: French 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 23.75 Thematic Readings in Francophone Theater

3 hours; 3 credits
Representative works from the Francophone theater within a specific thematic and cultural context. This course will study the tensions of an age torn between traditions and modernity in this important period of the Francophone world. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: French 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 24.50 Thematic Readings in the French Essay

3 hours; 3 credits
Representative works of French expository prose from the Middle Ages to the present within a specific thematic and cultural context. Course description available in department prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: French 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 24.75 Thematic Readings in the Francophone Essay

3 hours; 3 credits
Representative works from Francophone thought. Political, social, and cultural milieu of the twentiethcentury Francophone world within a specific thematic and cultural context. Emphasis on the historical, ideological, and cultural forces that have transformed the Francophone world from a dominated space into a free one. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: French 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 30.50 French Literature and Film

3 hours; 3 credits
The relationship between French literary works and the films they inspired. Course description available in department office prior to registration.
Prerequisite: French 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 31.50 Women in French Literature

3 hours; 3 credits
The image of women as expressed in selected French literary works. Course description available in department office prior to registration.
Prerequisite: French 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 32.50 Autobiographical Literature in French

3 hours; 3 credits
Autobiographical fiction and nonfiction in French literature. Memoirs, letters, diaries, journals, confessions. Course description available in department office prior to registration.
Prerequisite: French 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 33.50 Moral and Religious Themes in French and Francophone Literatures

3 hours; 3 credits
Religious beliefs and practices as expressed in selected literary works in French. Course description available in department office prior to registration.
Prerequisite: French 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 34.50 Historical and Social Visions in French and Francophone Literatures

3 hours; 3 credits
French and Francophone history and/or society, past and present, as reflected in selected literary works. Course description available in department office prior to registration.
Prerequisite: French 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 35.50 French and Francophone Literatures and the Arts

3 hours; 3 credits
The relationship between French and Francophone literary works and the visual and/or performing arts.
Outside lectures, visits to exhibitions and/or museums, attendance at musical and/or theatrical
performances. Course description available in department office prior to registration.
Prerequisite: French 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 40.50 Writings of a Major French Author

3 hours; 3 credits
An in-depth, monographic study concentrating either on the opus of a major French writer or on one of the masterpieces of French literature.
Prerequisite: French 11.1 or 11.12 or 17.50 and two courses from Tiers II and/or III, or permission of the chairperson.

### 40.75 Writings of a Major Francophone Author

3 hours; 3 credits
An in-depth, monographic study concentrating either on the opus of a major Francophone writer or on one of the masterpieces of Francophone literature.
Prerequisite: French 11.1 or 11.12 or 17.50 and two courses from Tiers II and/or III, or permission of the chairperson.

## 70 Tutorial in Literature and Culture

1 hour conference, minimum 8 hours independent work§; 3 credits
Study of a special topic at an advanced level. Periodic reports and a final paper or examination.
Prerequisite: junior or senior standing and 12 credits in advanced French courses with an average of 3.0 or higher. Approval of topic by the chairperson.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for the courses described below. Students may not register for more than six credits in honors courses in the department in one term and may not receive credit for more than four honors courses.

### 84.1 Seminar

1 hour conference, minimum 8 hours independent work§; 3 credits
Study of a literary topic, including but not limited to periods, genres, or major writers. Substantial paper in French. May not be taken concurrently with French 85.
Prerequisite: junior or senior standing and 15 credits in advanced French courses approved by the chairperson with an average of 3.5 or higher. Students may take this course for credit twice, but may not repeat topics.

## 85 Seminar and Senior Thesis

1 hour conference, minimum 8 hours independent work§; 3 credits
Research thesis, written in French, on a literary, linguistic, or cultural topic. May not be taken concurrently with French 84.1.
Prerequisite: senior standing and 18 credits in advanced French courses with an average of 3.5 or higher. Approval of the research topic by the instructor and the chairperson.

## German

*1.2 Intensive Elementary German I
5 hours, 1 hour multimedia laboratory; 4 credits
The first course in an intensive two-semester sequence for beginners and those who have one year or less of high school study. Development of reading, writing, speaking, listening, and cultural awareness through classroom interaction and practice, utilizing a variety of multimedia materials. Designed for students wishing to proceed at an accelerated pace. Credit given only upon completion of German 3.2. (Not open to heritage speakers or to students who are enrolled in or have completed German 1, German 1.5, or more than one year of high school German.)
Prerequisite: none.

## *3.2 Intensive Elementary German II

5 hours, 1 hour multimedia laboratory; 4 credits
Second in the two-semester intensive sequence. Continued development of reading, writing, speaking, listening, and cultural awareness through extensive classroom interaction, practice, and a variety of multimedia materials. Designed to prepare students for German 4. (Not open to heritage speakers or to students who are enrolled in or have completed German 1, 2, or 3.)
Prerequisite: German 1.2 or permission of the chairperson.

## *4 Intermediate Language Skills forNonheritage Speakers

3 hours, 1 hour multimedia laboratory; 3 credits
Continued development of language skills and cultural understanding using a variety of authentic materials including film, video, and short literary texts. Class discussions, group activities, and team projects. Individual writing assignments with emphasis on accuracy and style. (Not open to heritage speakers.) Prerequisite: German 3 or 3.2 , or the level 3 Regents examination with a passing grade, or four years of high school German, or permission of the chairperson.

## *4.5 Intermediate Conversation for the Professions for Nonheritage Speakers

2 hours, 2 hours multimedia laboratory; 2 credits
A supplementary course providing conversational practice in career-oriented situations such as interviews, telephone conversations, taking and leaving messages, providing and obtaining information. May be taken concurrently with or independently of German 4. (Not open to heritage speakers.)
Prerequisite: German 3.2 or permission of the chairperson.

## *9 German Literature in Translation

3 hours; 3 credits
Development of German literature from the eighteenth through the twentieth century. Lectures, readings, and discussions in English.
Prerequisite: English 2 or permission of the chairperson.

### 11.1 Advanced Language Skills I

3 hours; 3 credits
Development of advanced language skills for nonheritage speakers; analytical practice and self-expression in the written and spoken language; use of authentic literary and nonliterary texts. (Not open to heritage speakers or students who have completed German 4.3.)
Prerequisite: German 4 or permission of the chairperson.

### 11.12 Advanced Language Skills II

3 hours; 3 credits
Continued practice in advanced written expression and in textual analysis for heritage and nonheritage speakers; composition modeled on selected literary texts.
Prerequisite: German 11.1 or permission of the chairperson.

### 11.31-11.37 German for Specific Purposes

3 hours; 3 credits
Acquisition of the language skills, terminology, and procedures necessary to function in one or more specialized areas where German is routinely used. Designed to familiarize students with common interactions within the professional environment and with problems arising from cross-cultural misunderstandings. Intensive practice in speaking and writing. Reading and discussion of authentic materials related to the topic. May be taken before or concurrently with German 60.02.
11.31 German for the Arts
11.32 German for Business
11.33 German for Criminal Justice
11.35 German for the Media
11.36 German for Social Sciences
11.37 German for Social Work

Prerequisite: German 11.12 or permission of the chairperson.

## 70 Tutorial in Literature and Culture

1 hour conference, minimum 8 hours independent work§; 3 credits
Study of a special topic at an advanced level. Periodic reports and a final paper or examination.
Prerequisite: junior or senior standing and 12 credits in advanced German courses with an average of 3.0 or higher. Approval of topic by chairperson.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for the courses described below. Students may not register for more than six credits in honors courses in the department in one term and may not receive credit for more than four honors courses.

### 84.1 Seminar

1 hour conference, minimum 8 hours independent work§; 3 credits
Study of a literary topic, including but not limited to periods, genres, or major writers. Substantial paper in German. May not be taken concurrently with German 85.
Prerequisite: junior or senior standing and 15 credits in advanced German courses approved by the chairperson with an average of 3.5 or higher. Students may take this course for credit twice, but may not repeat topics.

## 85 Seminar and Senior Thesis

1 hour conference, minimum 8 hours independent work§; 3 credits
Research thesis, written in German, on a literary, linguistic, or cultural topic. May not be taken concurrently with German 84.1.
Prerequisite: senior standing and 18 credits in advanced German courses with an average of 3.5 or higher. Approval of the research topic by the instructor and the chairperson.

## Greek (modern)

## *3.8 Basic Writing and Reading Skills for Heritage Speakers

3 hours, 1 hour multimedia laboratory; 3 credits
Fundamentals of writing and reading for students whose knowledge of modern Greek is limited to spoken communication. Emphasis on writing and the distinctions among various levels of dialect and language.
Prerequisite: permission of the chairperson.

## *4.8 Intermediate Writing and Reading Skills for Heritage Speakers

3 hours, 1 hour multimedia laboratory; 3 credits
Further development of writing and reading skills for students with basic knowledge of the structure of modern Greek. Continued practice in reading and understanding authentic literary and nonliterary texts on a variety of levels.
Prerequisite: Modern Greek 3.8 or permission of the chairperson.

## Haitian Creole

## *3.8 Basic Writing and Reading Skills for Heritage Speakers

3 hours, 1 hour multimedia laboratory; 3 credits
Fundamentals of writing and reading for students whose knowledge of Haitian Creole is limited to spoken communication. Emphasis on writing and the distinctions among various levels of dialect and language.
Prerequisite: permission of the chairperson.

## *4.8 Intermediate Writing and Reading Skills for Heritage Speakers

3 hours, 1 hour multimedia laboratory; 3 credits
Further development of writing and reading skills for students with basic knowledge of the structure of Haitian Creole. Continued practice in reading and understanding authentic literary and nonliterary texts on a variety of levels.
Prerequisite: Haitian Creole 3.8 or permission of the chairperson.

## Italian

## *1 Basic Language Skills I

3 hours, 1 hour multimedia laboratory; 3 credits
The first in a three-semester introductory sequence for beginners and those who have had one year or less of high school study. Emphasis on basic social functions, simple conversation, readings, and writing. Introduction to the cultures where Italian is spoken. (Not open to heritage speakers or to students who have completed Italian 1.5 or more than one year of high school Italian.)

## *1.1 Italian Diction for Singers

3 hours; 3 credits
Fundamental course in Italian diction as sung in Italian musical repertoire. Reading comprehension, vocabulary, and grammar. (Not open to students who have completed Italian 1, 1.5, 2, or 3 at Brooklyn College.)
Prerequisite: permission of the director of the Conservatory of Music.

## *1.2 Intensive Elementary Italian I

5 hours, 1 hour multimedia laboratory; 4 credits
The first course in an intensive two-semester sequence for beginners and those who have one year or less of high school study. Development of reading, writing, speaking, listening, and cultural awareness through classroom interaction and practice, utilizing a variety of multimedia materials. Designed for students wishing to proceed at an accelerated pace. Credit given only upon completion of Italian 3.2. (Not open to heritage speakers or to students who are enrolled in or have completed Italian 1, Italian 1.5, or more than one year of high school Italian.)
Prerequisite: none.

## *2 Basic Language Skills II

3 hours, 1 hour multimedia laboratory; 3 credits
Second in a three-semester introductory sequence. Continued emphasis on basic social functions, simple conversations, readings, and writing. Narration and description of past and future events. Increased understanding of the cultures where Italian is spoken. (Not open to heritage speakers or to students who have completed Italian 1.5.)
Prerequisite: Italian 1, or two years of high school Italian, or permission of the chairperson.

## *3 Basic Language Skills III

3 hours, 1 hour multimedia laboratory; 3 credits
Third in a three-semester introductory sequence. Further emphasis on basic social functions and practice in longer, more complex conversations, readings, and writing on a broader range of familiar topics. Communication of needs, ideas, and emotions. Continued study of cultures where Italian is spoken. (Not open to heritage speakers or to students who have completed Italian 3.7.)
Prerequisite: Italian 2, or three years of high school Italian without passing the level 3 Regents examination, or permission of the chairperson.

## *3.2 Intensive Elementary Italian II

5 hours, 1 hour multimedia laboratory; 4 credits
Second in the two-semester intensive sequence. Continued development of reading, writing, speaking, listening, and cultural awareness through extensive classroom interaction, practice, and a variety of multimedia materials. Designed to prepare students for Italian 4. (Not open to heritage speakers or to students who are enrolled in or have completed Italian 1, 2, or 3.)
Prerequisite: Italian 1.2 or permission of the chairperson.

## *3.4 Fundamentals of Reading and Writing for Nonheritage Speakers

2 hours, 1 hour multimedia laboratory; 2 credits
Review and further development of intermediate-level reading and writing skills with special attention to grammar and style. An optional transitional course designed to prepare students for Italian 4. May be taken concurrently with Italian 3.6. (Not open to heritage speakers or to students who have recently completed four years of high school Italian or are enrolled in or have completed Italian 3.2.)
Prerequisite: Italian 3, or a passing grade on the level 3 Regents examination, or a significant time lag in language study at this level, or permission of the chairperson.

## *3.6 Basic Conversation Workshop

1 hour, 2 hours multimedia laboratory; 1 credit
A supplementary course providing additional practice
speaking Italian on everyday topics using authentic materials from a variety of contemporary media such as newspapers, magazines, radio, television, and film. For nonheritage speakers who have completed Italian $3,3.2$, or their equivalent. May be taken concurrently with or independently of Italian 3.4. (Not open to heritage speakers.)
Prerequisite: Italian 3 or 3.2, or a passing grade on the level 3 Regents examination, or four years of high school study, or permission of the chairperson.

## *3.8 Basic Writing and Reading Skills for Heritage Speakers

3 hours, 1 hour multimedia laboratory; 3 credits
Fundamentals of writing and reading for students whose knowledge of Italian is limited to spoken communication. Emphasis on writing and the distinctions among various levels of dialect and language. Prerequisite: Permission of the chairperson.

## *4 Intermediate Language Skills forNonheritage Speakers

3 hours, 1 hour multimedia laboratory; 3 credits
Continued development of language skills and cultural understanding using a variety of authentic materials including film, video, and short literary texts. Class discussions, group activities, and team projects. Individual writing assignments with emphasis on accuracy and style. (Not open to heritage speakers.) Prerequisite: Recent completion of Italian 3, or the level 3 Regents examination with a passing grade, or four years of high school Italian, or Italian 3.2 or 3.4, or permission of the chairperson.

## *4.5 Intermediate Conversation for the Professions for Nonheritage Speakers

2 hours, 2 hours multimedia laboratory; 2 credits
A supplementary course providing conversational practice in career-oriented situations such as interviews, telephone conversations, taking and leaving messages, providing and obtaining information. May be taken concurrently with or independently of Italian 4. (Not open to heritage speakers.)
Prerequisite: Italian 3.2, 3.4, or 3.6, or permission of the chairperson.

## *4.8 Intermediate Writing and Reading Skills for Heritage Speakers

3 hours, 1 hour multimedia laboratory; 3 credits
Further development of writing and reading skills for students with basic knowledge of the structure of Italian. Continued practice in reading and understanding authentic literary and nonliterary texts on a variety of levels.
Prerequisite: Italian 3.8 or permission of the chairperson.

## *7 The Italian Cultural Heritage

3 hours; 3 credits
The cultural and ethnic experience of Italy and the Italian people. Conducted in English. Readings in English. (Not open to students who are enrolled in or have completed Italian 50.)

## *9 Italian Literature in Translation

3 hours; 3 credits
Survey of Italian literature from its origins to the present. Background lectures. Reading and discussion in English of representative masterpieces.

### 11.1 Advanced Language Skills I

## 3 hours; 3 credits

Development of advanced language skills for nonheritage speakers; analytical practice and self-expression in the written and spoken language; use of authentic literary and nonliterary texts. (Not open to heritage speakers or students who have completed Italian 4.3.)
Prerequisite: Italian 4 or permission of the chairperson.

### 11.12 Advanced Language Skills II

3 hours; 3 credits
Continued practice in advanced written expression and in textual analysis for heritage and nonheritage speakers; composition modeled on selected literary texts.
Prerequisite: Italian 11.1 or permission of the chairperson.

### 11.31-11.37 Italian for Specific Purposes

3 hours; 3 credits
Acquisition of the language skills, terminology, and procedures necessary to function in one or more specialized areas where Italian is routinely used. Designed to familiarize students with common interactions within the professional environment and with problems arising from cross-cultural misunderstandings. Intensive practice in speaking and writing. Reading and discussion of authentic materials related to the topic. May be taken before or concurrently with Italian 60.02.
11.31 Italian for the Arts
11.32 Italian for Business
11.33 Italian for Criminal Justice
11.35 Italian for the Media
11.36 Italian for Social Sciences
11.37 Italian for Social Work

Prerequisite: Italian 11.12 or permission of the chairperson.

## 15 Internship in Italian International Studies

9 hours fieldwork; 3 credits
A minimum of nine hours per week of supervised fieldwork in an approved professional international institution that is concerned with Italian cultural activities, diplomacy, trade, or banking. Scheduled conferences. Critical report written in Italian on the semester's experience. (Not open to students who have taken Italian 8.)
Prerequisite: Italian 4 or permission of the chairperson.

### 15.50 Understanding Texts in Italian

3 hours; 3 credits
Development of reading and analytical skills in Italian. Short, authentic texts, both literary and nonliterary, representing diverse contemporary styles and genres. Discussions and frequent writing assignments using a variety of approaches and supplementary materials available in the multimedia laboratory. May be taken concurrently with or after Italian 4.8 or 11.1.
Prerequisite: Italian 4 or 4.8 or permission of the chairperson.

### 17.50 Landmarks of Italian Literature

3 hours; 3 credits
An introductory course designed to familiarize students with major literary works in Italian within a chronological and cultural framework. Representative texts from the Italian-speaking world, providing an overview of Italian writngs that have shaped the lives of generations of readers. Frequent writing assignments in Italian to strengthen students' individual competencies. This core of texts, reviewed periodically by the department, serves as a foundation for advanced literature courses. (Not open to students who have completed Italian 18.)
Prerequisite or corequisite: Italian 15.50 or permission of the chairperson.

### 18.50 Contemporary Italy

3 hours; 3 credits
An exploration of the major features of contemporary Italy from 1939 to the present with particular attention to developing an understanding of the concepts of cultural identity and difference within the changing European context. Discussions and frequent writing assignments using a variety of approaches and supplementary materials from the Italian print, broadcast, and electronic media. Field trips to museums and cultural events. May be taken concurrently with or after Italian 4.8 or 11.1. (Not open to students who have completed Italian 50.)
Prerequisite: Italian 4 or 4.8 or permission of the chairperson.

### 18.75 Contemporary Italian Culture in America

3 hours; 3 credits
An exploration of the contemporary Italian-speaking community in the United States from 1945 to the present with particular attention to developing an understanding of the concepts of cultural identity. Discussions and frequent writing assignments using a variety of approaches and supplementary materials from the print, broadcast, and electronic media. Field trips to museums and cultural events. May be taken concurrently with or after Italian 4.8 or 11.1. (Not open to students who have completed Italian 50.) Prerequisite: Italian 4 or 4.8 or permission of the chairperson.

### 19.50 History of Italian Civilization

3 hours; 3 credits
A historical overview of the values, institutions, and cultural heritage of Italy from the origins to the midtwentieth century. Discussions and frequent writing assignments using a variety of approaches and supplementary materials from the Italian print, broadcast, and electronic media. Field trips to museums and cultural events. May be taken concurrently with or after Italian 4.8 or 11.1. (Not open to students who have completed Italian 50.)
Prerequisite: Italian 4 or 4.8 or permission of the chairperson.

### 20.50: Thematic Readings in Italian Poetry

3 hours; 3 credits
Representative selections from medieval times to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: Italian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 21.50 Thematic Readings in the Italian Novel

3 hours; 3 credits
Representative works from the age of Enlightenment to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: Italian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 22.50 Thematic Readings in Italian Short Fiction

3 hours; 3 credits
Representative stories and short novels from medieval times to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: Italian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 23.50 Thematic Readings in Italian Theater

## 3 hours; 3 credits

Representative works from the Renaissance to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: Italian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 24.50 Thematic Readings in the Italian Essay

3 hours; 3 credits
Representative works of Italian expository prose from the Renaissance to the present within a specific thematic and cultural context. Course description available in department office prior to registration.
Students may take the course twice provided the theme and content are different.
Prerequisite: Italian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 30.50 Italian Literature and Film

3 hours; 3 credits
The relationship between Italian literary works and the films they inspired. Course description available in department office prior to registration. (Not open to students who have completed Italian 21.) This course is the same as Film 21.2.
Prerequisite: Italian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 31.50 Women in Italian Literature

3 hours; 3 credits
The image of women as expressed in selected Italian literary works. Course description available in department office prior to registration.
Prerequisite: Italian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 32.50 Autobiographical Literature in Italian

3 hours; 3 credits
Autobiographical fiction and nonfiction in Italian literature. Memoirs, letters, diaries, journals, confessions.
Course description available in department office prior to registration.
Prerequisite: Italian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 33.50 Moral and Religious Themes in Italian Literature

## 3 hours; 3 credits

Religious beliefs and practices as expressed in selected Italian literary works. Course description available in department office prior to registration.
Prerequisite: Italian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 34.50 Historical and Social Visions in Italian Literature

3 hours; 3 credits
Italian history and/or society, past and present, as reflected in selected literary works. Course description available in department office prior to registration.
Prerequisite: Italian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 35.50 Italian Literature and the Arts

3 hours; 3 credits
The relationship between Italian literary works and the visual and/or performing arts. Outside lectures, visits to exhibitions and/or museums, attendance at musical and/or theatrical performances. Course description available in department office prior to registration.
Prerequisite: Italian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 40.50 Writings of a Major Italian Author

3 hours; 3 credits
An in-depth, monographic study concentrating either on the opus of a major Italian writer or on one of the masterpieces of Italian literature.
Prerequisite: Italian 11.1 or 11.12 or 17.50 and two courses from Tiers II and/or III, or permission of the chairperson.

### 41.50 Dante's Divina Commedia

3 hours; 3 credits
An in-depth study of selections from Dante's Divina Commedia. (Not open to students who have completed Italian 53.1
or 53.2.)
Prerequisite: Italian 17.50 and two courses from Tiers II and/or III, or permission of the chairperson.

## 70 Tutorial in Literature and Culture

1 hour conference, minimum 8 hours independent work§; 3 credits
Study of a special topic at an advanced level. Periodic reports or a final paper or examination.
Prerequisite: junior or senior standing and 12 credits in advanced Italian courses with an average of 3.0 or higher. Approval of topic by chairperson.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for the courses described below. Students may not register for more than six credits in honors courses in the department in one term and may not receive credit for more than four honors courses.

### 84.1 Seminar

1 hour conference, minimum 8 hours independent work§; 3 credits
Study of a literary topic, including but not limited to periods, genres, or major writers. Substantial paper in Italian. May not be taken concurrently with Italian 85.
Prerequisite: junior or senior standing and 15 credits in advanced Italian courses approved by the chairperson with an average of 3.5 or higher. Students may take this course for credit twice, but may not repeat topics.

## 85 Seminar and Senior Thesis

1 hour conference, minimum 8 hours independent work§; 3 credits
Research thesis, written in Italian, on a literary, linguistic, or cultural topic. May not be taken concurrently with Italian 84.1.
Prerequisite: senior standing and 18 credits in advanced Italian courses with an average of 3.5 or higher. Approval of the research topic by the instructor and the chairperson.

[^2]
## *4.1 Intensive Intermediate Japanese II

4 hours, 1 hour multimedia laboratory; 4 credits
Second in a two-semester intensive sequence for students who have completed Japanese 3.1 or its equivalent. Further refinement of oral fluency and writing in social interaction and in systematic vocabulary building. Expanded awareness of cultural diversity through study of literary and nonliterary texts and other media of communication. (Not open to heritage speakers or students who have completed Japanese 4.) Prerequisite: Japanese 3.1 or permission of the chairperson.

## Portuguese

*1.2 Intensive Elementary Portuguese I
5 hours, 1 hour multimedia laboratory; 4 credits
The first course in an intensive two-semester sequence for beginners and those who have one year or less of high school study. Development of reading, writing, speaking, listening, and cultural awareness through classroom interaction and practice, utilizing a variety of multimedia materials. Designed for students wishing to proceed at an accelerated pace. Credit given only upon completion of Portuguese 3.2. (Not open to heritage speakers or to students who have completed Portuguese 1, Portuguese 1.5, or more than one year of high school Portuguese.)
Prerequisite: none.

## *3.2 Intensive Elementary Portuguese II

5 hours, 1 hour multimedia laboratory; 4 credits
Second in the two-semester intensive sequence. Continued development of reading, writing, speaking, listening, and cultural awareness through extensive classroom interaction, practice, and a variety of multimedia materials. Designed to prepare students for Portuguese 4. (Not open to heritage speakers or to students who have completed Portuguese 1, 2, or 3.)
Prerequisite: Portuguese 1.2 or permission of the chairperson.
*4 Intermediate Language Skills for
Nonheritage Speakers
3 hours, 1 hour multimedia laboratory; 3 credits
Continued development of language skills and cultural understanding using a variety of authentic materials including film, video, and short literary texts. Class discussions, group activities, and team projects. Individual writing assignments with emphasis on accuracy and style. (Not open to heritage speakers.) Prerequisite: Portuguese 3.2, or the level 3 Regents examination with a passing grade, or four years of high school Portuguese, or permission of the chairperson.

## *4.5 Intermediate Conversation for the Professions for Nonheritage Speakers

2 hours, 2 hours multimedia laboratory; 2 credits
A supplementary course providing conversational practice in career-oriented situations such as interviews, telephone conversations, taking and leaving messages, providing and obtaining information. May be taken concurrently with or independently of Portuguese 4. (Not open to heritage speakers.)
Prerequisite: Portuguese 3.2 or permission of the chairperson.

## Russian

*1.1 Intensive Elementary Russian I
5 hours, 1 hour multimedia laboratory; 4 credits
First in a two-semester intensive sequence for beginners and those who have had one year or less of high school study. Introduction to phonetics and writing systems. Development of communicative skills and cultural awareness through extensive classroom interaction and a variety of multimedia materials. Credit given only upon completion of Russian 2.1. (Not open to heritage speakers or to students who have completed Russian 1 or more than one year of high school Russian.)
Prerequisite: none.

## *2.1 Intensive Elementary Russian II

5 hours, 1 hour multimedia laboratory; 4 credits
Second in a two-semester intensive sequence. Expanded acquisition of phonetics and writing systems.
Development of communicative skills and cultural awareness through extensive classroom interaction and a variety of multimedia materials. Designed to prepare students for Russian 3.1. (Not open to heritage speakers or to students who have completed Russian 1 or 2.)
Prerequisite: Russian 1.1 or permission of the chairperson.
*3.1 Intensive Intermediate Russian I
4 hours, 1 hour multimedia laboratory; 4 credits
First in a two-semester intensive sequence for students who have completed Russian 1.1 and 2.1 or the equivalent, or have had four years of high school study. Continued development of oral fluency and writing in social interaction and in systematic vocabulary building. Increased awareness of cultural diversity in areas where language is spoken. (Not open to heritage speakers or to students who have completed Russian 3.)
Prerequisite: Russian 2.1 or permission of the chairperson.

## *3.8 Basic Writing and Reading Skills for Heritage Speakers

3 hours, 1 hour multimedia laboratory; 3 credits
Fundamentals of writing and reading for students whose knowledge of Russian is limited to spoken communication. Emphasis on spelling, word order, and verb tenses, based on authentic literary and nonliterary texts. Practice in written self-expression.
Prerequisite: permission of the chairperson.

## *4.1 Intensive Intermediate Russian II

4 hours, 1 hour multimedia laboratory; 4 credits
Second in a two-semester intensive sequence for students who have completed Russian 3.1 or its equivalent. Further refinement of oral fluency and writing in social interaction and in systematic vocabulary building. Expanded awareness of cultural diversity through study of literary and nonliterary texts and other media of communication. (Not open to heritage speakers or students who have completed Russian 4.) Prerequisite: Russian 3.1 or permission of the chairperson.

## *4.8 Intermediate Writing and Reading Skills for

Heritage Speakers
3 hours, 1 hour multimedia laboratory; 3 credits
Further development of writing and reading skills for students with basic knowledge of the structure of Russian. Continued practice in reading and understanding authentic literary and nonliterary texts on a variety of levels.
Prerequisite: Russian 3.8 or permission of the chairperson.

## *7 Russian Civilization, with Emphasis on the Soviet Period

3 hours; 3 credits
Religion, education, and literature and the other creative arts in the Soviet Union in relation to their development in prerevolutionary Russia. Conducted in English.

## *9 Russian Literature in Translation

## 3 hours; 3 credits

Selected masterpieces of Russian literature. Background lectures. Readings and discussions in English.
Prerequisite: English 2 or permission of the chairperson.

### 11.1 Advanced Language Skills I

3 hours; 3 credits
Development of advanced language skills for nonheritage speakers; analytical practice and self-expression in the written and spoken language; use of authentic literary and nonliterary texts. (Not open to heritage speakers or students who have completed Russian 4.3.)
Prerequisite: Russian 4.1 or permission of the chairperson.

### 11.12 Advanced Language Skills II

3 hours; 3 credits
Continued practice in advanced written expression and in textual analysis for heritage and nonheritage speakers; composition modeled on selected literary texts.
Prerequisite: Russian 4.8 or 11.1 or permission of the chairperson.

### 11.31-11.37 Russian for Specific Purposes

3 hours; 3 credits
Acquisition of the language skills, terminology, and procedures necessary to function in one or more specialized areas where Russian is routinely used. Designed to familiarize students with common interactions within the professional environment and with problems arising from cross-cultural misunderstandings. Intensive practice in speaking and writing. Reading and discussion of authentic materials related to the topic. May be taken before or concurrently with Russian 60.02.
11.31 Russian for the Arts
11.32 Russian for Business
11.33 Russian for Criminal Justice
11.35 Russian for the Media
11.36 Russian for Social Sciences
11.37 Russian for Social Work

Prerequisite: Russian 11.12 or permission of the chairperson.

### 15.50 Understanding Texts in Russian

3 hours; 3 credits
Development of reading and analytical skills in Russian. Short, authentic texts, both literary and nonliterary, representing diverse contemporary styles and genres. Discussions and frequent writing assignments using a variety of approaches and supplementary materials available in the multimedia laboratory. May be taken concurrently with or after Russian 4.8 or 11.1.
Prerequisite: Russian 4.1 or 4.8 or permission of the chairperson.

### 17.50 Landmarks of Russian Literature

3 hours; 3 credits
An introductory course designed to familiarize students with major literary works in Russian within a chronological and cultural framework. Representative texts from the Russian-speaking world, providing an overview of writings that have shaped the lives of generations of readers. Frequent writing assignments in Russian to strengthen students' individual competencies. This core of texts, reviewed periodically by the department, serves as a foundation for advanced literature courses.
Prerequisite: Russian 15.50 or permission of the chairperson.

### 18.50 Contemporary Russia

3 hours; 3 credits
An exploration of the major features of contemporary Russian society and the Russian-speaking parts of the world, which arose due to the expansion of the Soviet state, from 1917 to the present, with particular attention to developing an understanding of the concepts of cultural identity and difference within the changing European and Central Asian context. Discussions and frequent writing assignments using a variety of approaches and supplementary materials from the Russian print, broadcast, and electronic media. Field trips to museums and cultural events. May be taken concurrently with Russian 4.8 or 11.1. Prerequisite: Russian 4.1 or permission of the chairperson.

### 19.50 History of Russian Civilization

## 3 hours; 3 credits

A historical overview of the values, institutions, and cultural heritage of Russia and East-Slavic cultures from their origins to the mid-twentieth century. Discussions and frequent writing assignments using a variety of approaches and supplementary materials from Russian broadcast and electronic media. Field trips to museums and cultural events. May be taken concurrently with or after Russian 4.8 or 11.1.
Prerequisite: Russian 4.1 or permission of the chairperson.

### 20.50 Thematic Readings in Russian Poetry

3 hours; 3 credits
Representative selections from medieval times to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: Russian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 21.50 Thematic Readings in the Russian Novel

3 hours; 3 credits
Representative works from the great age of the Russian novel to the present, within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: Russian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 22.50 Thematic Readings in Russian Short Fiction

3 hours; 3 credits
Representative stories and short novels from early times to the present within a specific thematic and cultural context. Course description available in the department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: Russian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 23.50 Thematic Readings in Russian Theater

3 hours; 3 credits
Representative drama and theater from early times to the present within a specific thematic and cultural context. Course description available in the department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: Russian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 24.50 Thematic Readings in the Russian Essay

3 hours; 3 credits
Representative works of Russian expository prose from the Middle Ages to the present within a specific thematic and cultural context. Course description available in department prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: Russian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 30.50 Russian Literature and Film

3 hours; 3 credits
The relationship between Russian literary works and the films they inspired. Course description available in department office prior to registration.
Prerequisite: Russian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 31.50 Women in Russian Literature

3 hours; 3 credits
The image of women as expressed in selected Russian literary works. Course description available in department office prior to registration.
Prerequisite: Russian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 32.50 Autobiographical Literature in Russian

3 hours; 3 credits
Autobiographical fiction and nonfiction in Russian literature. Memoirs, letters, diaries, journals, confessions.
Course description available in department office prior to registration.
Prerequisite: Russian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 33.50 Moral and Religious Themes in Russian Literature

3 hours; 3 credits
Religious beliefs and practices as expressed in selected Russian literary works. Course description available in department office prior to registration.
Prerequisite: Russian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 34.50 Historical and Social Visions in Russian Literature

3 hours; 3 credits
Russian history and/or society, past and present, as reflected in selected literary works. Course description available in department office prior to registration.
Prerequisite: Russian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 35.50 Russian Literature and the Arts

## 3 hours; 3 credits

The relationship between Russian literary works and the visual and/or performing arts. Outside lectures, visits to exhibitions and/or museums, attendance at musical and/or theatrical performances. Course description available in department office prior to registration.
Prerequisite: Russian 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 40.50 Writings of a Major Russian Author

3 hours; 3 credits
An in-depth, monographic study concentrating either on the opus of a major Russian writer or on one of the masterpieces of Russian literature.
Prerequisite: Russian 11.1 or 11.12 or 17.50 and two courses from Tiers II and/or III, or permission of the chairperson.

### 41.50 Tolstoy's War and Peace

3 hours; 3 credits
An in-depth study of Tolstoy's War and Peace.
Prerequisite: Russian 17.50 and two courses from Tiers II and/or III, or permission of the chairperson.

## 70 Tutorial in Literature and Culture

1 hour conference, minimum 8 hours independent work§; 3 credits
Study of a special topic at an advanced level. Periodic reports and a final paper or examination.
Prerequisite: junior or senior standing and 12 credits in advanced Russian courses with an average of 3.0 or higher. Approval of topic by chairperson.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for the courses described below. Students may not register for more than six credits in honors courses in the department in one term and may not receive credit for more than four honors courses.

### 84.1 Seminar

1 hour conference, minimum 8 hours independent work§; 3 credits
Study of a literary topic, including but not limited to periods, genres, or major writers. Substantial paper in Russian. May not be taken concurrently with Russian 85.
Prerequisite: junior or senior standing and 15 credits in advanced Russian courses approved by the chairperson with an average of 3.5 or higher. Students may take this course for credit twice, but may not repeat topics.

## 85 Seminar and Senior Thesis

1 hour conference, minimum 8 hours independent work§; 3 credits
Research thesis, written in Russian, on a literary, linguistic, or cultural topic. May not be taken concurrently with Russian 84.1.
Prerequisite: senior standing and 18 credits in advanced Russian courses with an average of 3.5 or higher. Approval of the research topic by the instructor and the chairperson.

## Spanish

## *1 Basic Language Skills I

3 hours, 1 hour multimedia laboratory; 3 credits
The first in a three-semester introductory sequence for beginners and those who have had one year or less of high school study. Emphasis on basic social functions, simple conversation, readings, and writing. Introduction to the cultures where Spanish is spoken. (Not open to heritage speakers or to students who have completed Spanish 1.5 or more than one year of high school Spanish.)

## *1.2 Intensive Elementary Spanish I

5 hours, 1 hour multimedia laboratory; 4 credits
First in a two-semester intensive sequence for beginners and those who have had one year or less of high school study. Development of reading, writing, speaking, listening, and cultural awareness through extensive classroom interaction, practice, and a variety of multimedia materials. Designed for students wishing to proceed at an accelerated pace. Credit given only upon completion of Spanish 3.2. (Not open to heritage speakers or to students who are enrolled in or have completed Spanish 1 or 1.5 or more than one year of high school Spanish.)

## *2 Basic Language Skills II

3 hours, 1 hour multimedia laboratory; 3 credits
Second in a three-semester introductory sequence. Continued emphasis on basic social functions, simple conversations, readings, and writing. Narration and description of past and future events. Increased understanding of the cultures where Spanish is spoken. (Not open to heritage speakers or to students who have completed Spanish 1.5.)
Prerequisite: Spanish 1, or two years of high school Spanish, or permission of the chairperson.

## *3 Basic Language Skills III

3 hours, 1 hour multimedia laboratory; 3 credits
Third in a three-semester introductory sequence. Further emphasis on basic social functions and practice in longer, more complex conversations, readings, and writing on a broader range of familiar topics.
Communication of needs, ideas, and emotions. Continued study of cultures where Spanish is spoken. (Not open to heritage speakers or to students who have completed Spanish 3.7.)
Prerequisite: Spanish 2, or three years of high school Spanish without passing the level 3 Regents examination, or permission of the chairperson.

## *3.2 Intensive Elementary Spanish II

5 hours, 1 hour multimedia laboratory; 4 credits
Second in a two-semester intensive sequence. Continued development of reading, writing, speaking, listening, and cultural awareness through extensive classroom interaction, practice, and a variety of multimedia materials. Designed to prepare students for Spanish 4. (Not open to heritage speakers or to students who are enrolled in or have completed Spanish 1, 1.5, 2, 3, or 3.7.)
Prerequisite: Spanish 1.2 or permission of the chairperson.

## *3.4 Fundamentals of Reading and Writing for Nonheritage Speakers

2 hours recitation, 1 hour multimedia laboratory; 2 credits
Review and further development of intermediate-level reading and writing skills with special attention to grammar and style. An optional transitional course designed to prepare students for Spanish 4. May be taken concurrently with Spanish 3.6. (Not open to heritage speakers or to students who have recently completed four years of high school Spanish or are enrolled in or have completed Spanish 3.2.) Prerequisite: Spanish 3, or a passing grade on the level 3 Regents examination, or a significant time lag in language study at this level, or permission of the chairperson.

## *3.6 Basic Conversation Workshop

1 hour recitation, 2 hours multimedia laboratory; 1 credit
A supplementary course providing additional practice speaking Spanish on everyday topics using authentic materials from a variety of contemporary media such as newspapers, magazines, radio, television, and film. For nonheritage speakers who have completed Spanish 3, 3.2, or their equivalent. May be taken concurrently with or independently of Spanish 3.4. (Not open to heritage speakers.)
Prerequisite: Spanish 3 or 3.2, or a passing grade on the level 3 Regents examination, or four years of high school study, or permission of the chairperson.

## *3.8 Basic Writing and Reading Skills for Heritage Speakers

3 hours recitation, 1 hour multimedia laboratory; 3 credits
Fundamentals of writing and reading for students whose knowledge of Spanish is limited to spoken communication. Emphasis on writing and the distinctions among various levels of dialect and language.
Prerequisite: permission of the chairperson.
*4 Intermediate Language Skills for Nonheritage Speakers
3 hours, 1 hour multimedia laboratory; 3 credits
Continued development of language skills and cultural understanding using a variety of authentic materials including film, video, and short literary texts. Class discussions, group activities, and team projects. Individual writing assignments with emphasis on accuracy and style. (Not open to heritage speakers.) Prerequisite: Recent completion of Spanish 3, or the level 3 Regents examination with a passing grade, or four years of high school Spanish, or Spanish 3.2 or 3.4, or permission of the chairperson.

## *4.5 Intermediate Conversation for the Professions for Nonheritage Speakers

2 hours, 2 hours multimedia laboratory; 2 credits
A supplementary course providing conversational practice in career-oriented situations such as interviews, telephone conversations, taking and leaving messages, providing and obtaining information. May be taken concurrently with or independently of Spanish 4. (Not open to heritage speakers.)
Prerequisite: Spanish 3.2, 3.4, or 3.6, or permission of the chairperson.

## *4.8 Intermediate Writing and Reading Skills for Heritage Speakers

3 hours, 1 hour multimedia laboratory; 3 credits
Further development of writing and reading skills for students with basic knowledge of the structure of Spanish. Continued practice in reading and understanding authentic literary and nonliterary texts on a variety of levels.
Prerequisite: Spanish 3.8 or permission of the chairperson.

## *9.1 Spanish-American Literature in Translation

3 hours; 3 credits
Selected masterpieces of Spanish-American literature. Background lectures. Reading and discussion in English.
Prerequisite: English 2 or permission of the chairperson.

### 11.1 Advanced Language Skills I

3 hours; 3 credits
Development of advanced language skills for nonheritage speakers; analytical practice and self-expression in the written and spoken language; use of authentic literary and nonliterary texts. (Not open to heritage speakers or students who have completed Spanish 4.3.)
Prerequisite: Spanish 4 or 4.1 or permission of the chairperson.

### 11.12 Advanced Language Skills II

3 hours; 3 credits
Continued practice in advanced written expression and in textual analysis for heritage and nonheritage speakers; composition modeled on selected literary texts.
Prerequisite: Spanish 4 or 4.1 or permission of the chairperson.

### 11.2 Tutorial in Writing

1 hour; 1 credit
Development of proficiency in written expression with attention to the particular needs of the specific student.
Prerequisite: Spanish 11.1 or 12.1.

### 11.31-11.37 Spanish for Specific Purposes

3 hours; 3 credits
Acquisition of the language skills, terminology, and procedures necessary to function in one or more specialized areas where Spanish is routinely used. Designed to familiarize students with common interactions within the professional environment and with problems arising from cross-cultural misunderstandings. Intensive practice in speaking and writing. Reading and discussion of authentic materials related to the topic. May be taken before or concurrently with Spanish 60.02.
11.31 Spanish for the Arts
11.32 Spanish for Business
11.33 Spanish for Criminal Justice
11.35 Spanish for the Media
11.36 Spanish for Social Sciences
11.37 Spanish for Social Work

Prerequisite: Spanish 11.12 or permission of the chairperson.

### 12.1 Spanish Composition

3 hours; 3 credits
Practice in composition and translation. Problems in style.
Prerequisite: Spanish 4 or 4.1 or permission of the chairperson.

### 15.50 Understanding Texts in Spanish

## 3 hours; 3 credits

Development of reading and analytical skills in Spanish. Short, authentic texts, both literary and nonliterary, representing diverse contemporary styles and genres. Discussions and frequent writing assignments using a variety of approaches and supplementary materials available in the multimedia laboratory. May be taken concurrently with or after Spanish 4.8 or 11.1.
Prerequisite: Spanish 4 or 4.8 or permission of the chairperson.

### 17.50 Landmarks of Spanish and Latin American Literatures <br> \section*{3 hours; 3 credits}

An introductory course designed to familiarize students with major literary works in Spanish within a chronological and cultural framework. Representative texts from the Spanish-speaking world, providing an overview of Spanish and Latin American writings that have shaped the lives of generations of readers. Frequent writing assignments in Spanish to strengthen students' individual competencies.
This core of texts, reviewed periodically by the department, serves as a foundation for advanced literature courses. (Not open to students who have completed Spanish 18 or 19.1.)
Prerequisite or corequisite: Spanish 15.50 or permission of the chairperson.

### 18.50 Contemporary Spain

3 hours; 3 credits
An exploration of the major features of contemporary Spain from 1939 to the present with particular attention to developing an understanding of the concepts of cultural identity and difference within the changing European context. Discussions and frequent writing assignments using a variety of approaches and supplementary materials from the Spanish print, broadcast, and electronic media. Field trips to museums and cultural events. May be taken concurrently with or after Spanish 4.8 or 11.1. (Not open to students who have completed Spanish 50 or 51.)
Prerequisite: Spanish 4 or 4.8 or permission of the chairperson.

### 18.75 Contemporary Latin America Cultures

## 3 hours; 3 credits

An exploration of the contemporary Latin American world from 1898 to the present with particular attention to developing an understanding of the concepts of multicultural identity in the Americas. Discussions and frequent writing assignments using a variety of approaches and supplementary materials from the print, broadcast, and electronic media. Field trips to museums and cultural events. May be taken concurrently with or after Spanish 4.8 or 11.1. (Not open to students who have completed Spanish 51.)
Prerequisite: Spanish 4 or 4.8 or permission of the chairperson.

### 19.50 History of Spanish Civilization

## 3 hours; 3 credits

A historical overview of the values, institutions, and cultural heritage of Spain from its origins to the midtwentieth century. Discussions and frequent writing assignments using a variety of approaches and supplementary materials from the Spanish print, broadcast, and electronic media. Field trips to museums and cultural events. May be taken concurrently with or after Spanish 4.8 or 11.1. (Not open to students who have completed Spanish 50 or 51.)
Prerequisite: Spanish 4 or 4.8 or permission of the chairperson.

### 19.75 History of Latin American Cultures

## 3 hours; 3 credits

A historical overview of the cultural heritage of Latin America from the Pre-Columbian era, the conquest and colonial periods, to independence in the nineteenth century and the Spanish-American War of 1898. The creation of the multiple New World identities that emerged in the region from these historical events. Discussions and frequent writing assignments using a variety of approaches and supplementary materials from the print, broadcast, and electronic media. Field trips to museums and cultural events. May be taken concurrently with or after Spanish 4.8 or 11.1. (Not open to students who have completed Spanish 51.) Prerequisite: Spanish 4 or 4.8 or permission of the chairperson.

### 20.50 Thematic Readings in Spanish Poetry

3 hours; 3 credits
Representative selections from medieval times to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 20.75 Thematic Readings in Latin American Poetry

## 3 hours; 3 credits

Representative selections from colonial times to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 21.50 Thematic Readings in the Spanish Novel

3 hours; 3 credits
Representative works from the Golden Age to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 21.75 Thematic Readings in the Latin American Novel

## 3 hours; 3 credits

Representative novels from colonial times to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 22.50 Thematic Readings in Spanish Short Fiction

## 3 hours; 3 credits

Representative stories and short novels from medieval times to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 22.75 Thematic Readings in Latin American Short Fiction

## 3 hours; 3 credits

Representative stories and short novels from colonial times to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 23.50 Thematic Readings in Spanish Theater

3 hours; 3 credits
Representative works from the Golden Age to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 23.75 Thematic Readings in Latin American Theater

3 hours; 3 credits
Representative plays from colonial times to the present within a specific thematic and cultural context. Course description available in department office prior to registration. Students may take the course twice provided the theme and content are different.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 24.50 Thematic Readings in the Spanish Essay

3 hours; 3 credits
Representative works of Spanish expository prose from the Middle Ages to the present within a specific thematic and cultural context. Course description available in department office prior to registration.
Students may take the course twice provided the theme and content are different.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 24.75 Thematic Readings in the Latin American Essay

## 3 hours; 3 credits

Representative works of Latin American expository prose from colonial times to the present within a specific thematic and cultural context. Course description available in department office prior to registration.
Students may take the course twice provided the theme and content are different.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 30.50 Hispanic Literatures and Film

3 hours; 3 credits
The relationship between Spanish and/or Latin American literary works and the films they inspired. Course description available in department office prior to registration.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 31.50 Women in Hispanic Literatures

3 hours; 3 credits
The image of women as expressed in selected Spanish and/or Latin American literary works. Course description available in department office prior to registration.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 32.50 Autobiographical Literatures in Spanish

3 hours; 3 credits
Autobiographical fiction and nonfiction in Spanish and/or Latin American literatures. Memoirs, letters, diaries, journals, confessions. Course description available in department office prior to registration. Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 33.50 Moral and Religious Themes in Hispanic Literatures

3 hours; 3 credits
Religious beliefs and practices as expressed in selected Spanish and/or Latin American literary works.
Course description available in department office prior to registration.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 34.50 Historical and Social Visions in Hispanic Literatures

3 hours; 3 credits
Spanish and/or Latin American history and/or society, past and present, as reflected in selected literary works. Course description available in department office prior to registration.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 35.50 Hispanic Literatures and the Arts

3 hours; 3 credits
The relationship between Spanish and/or Latin American literary works and the visual and/or performing arts. Outside lectures, visits to exhibitions and/or museums, attendance at musical and/or theatrical performances. Course description available in department office prior to registration.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 40.50 Writings of a Major Spanish Author

3 hours; 3 credits
An in-depth, monographic study concentrating either on the opus of a major Spanish writer or on one of the masterpieces of Spanish literature.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 and two courses from Tiers II and/or III, or permission of the chairperson.

### 40.75 Writings of a Major Latin American Author

3 hours; 3 credits
An in-depth, monographic study concentrating either on the opus of a major Spanish-American writer or on one of the masterpieces of Spanish-American literature.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 and two courses from Tiers II and/or III, or permission of the chairperson.

### 41.50 Cervantes' Don Quijote de la Mancha

3 hours; 3 credits
An in-depth study of Don Quijote de la Mancha. (Not open to students who have completed Spanish 53.) Prerequisite: Spanish 17.50 and two courses from Tiers II and/or III, or permission of the chairperson.

### 43.75 Contemporary Caribbean Literature in Spanish

3 hours; 3 credits
The literary production of the Spanish-speaking Caribbean since the early twentieth century. (Not open to students who have completed Spanish 49 or 59.1 topic "Caribbean Literature in Spanish.")
Prerequisite: Spanish 17.50 or permission of the chairperson.

## 70 Tutorial in Literature and Culture

Minimum of 14 hours conference meetings and independent work§; 3 credits
Study of a special topic at an advanced level. Periodic reports and a final paper or examination.
Prerequisite: junior or senior standing and 12 credits in advanced Spanish courses with an average of 3.0 or higher. Approval of topic by chairperson.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for the courses described below. Students may not register for more than six credits in honors courses in the department in one term and may not receive credit for more than four honors courses.

### 84.1 Seminar

1 hour conference, minimum 8 hours independent work§; 3 credits
Study of a literary topic, including but not limited to periods, genres, or major writers. Substantial paper in Spanish. May not be taken concurrently with Spanish 85.
Prerequisite: junior or senior standing and 15 credits in advanced Spanish courses approved by the chairperson with an average of 3.5 or higher. Students may take this course for credit twice, but may not repeat topics.

## 85 Seminar and Senior Thesis

1 hour conference, minimum 8 hours independent work§; 3 credits
Research thesis, written in Spanish, on a literary, linguistic, or cultural topic. May not be taken concurrently with Spanish 84.1.
Prerequisite: senior standing and 18 credits in advanced Spanish courses with an average of 3.5 or higher. Approval of the research topic by the instructor and the chairperson.

## Brooklyn College Summer Institute for Teachers in Madrid, Spain

## *1.5 Elementary Spanish for Teachers of Other Languages

3 hours, 2 hours multimedia laboratory; 3 credits
Fundamentals of the Spanish language for teachers with a background and experience in second-language acquisition. Essential grammar, authentic materials, self-expression. Intensive individual practice in multimedia laboratory. Offered only at the Brooklyn College Summer Institute for Teachers in Madrid, Spain.

## *3.5 Intermediate Spanish for Teachers of Other Languages

3 hours, 2 hours multimedia laboratory; 3 credits
Intermediate Spanish language for teachers with a background and experience in second-language acquisition. Review of grammar, short literary texts, written and oral expression. Intensive individual practice in multimedia laboratory. Offered only at the Brooklyn College Summer Institute for Teachers in Madrid, Spain
Prerequisite: Spanish 1.5 or permission of the chairperson.

### 60.50 Spain as a Cultural Crossroad in the Middle Ages and Renaissance

3 hours, minimum of 6 hours fieldwork and excursions; 6 credits
A consideration of the complex cultural heritage of medieval and Renaissance Spain. Turbulent relations versus peaceful coexistence between and among Christians, Moslems, and Jews. Birth of a nation and consecration of a language. Influence of Africa, European countries, and the New World. Study of history, literature, art, architecture, and music enriched by visits to museums. Excursions to cities and castles. All written work to be done in Spanish.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 61.50 The Golden Age of Spanish Literature and the Arts

3 hours, minimum of 6 hours fieldwork and excursions; 6 credits
An examination of the cultural heritage of the Spanish Golden Age through a comparative study of representative masterpieces of Renaissance and baroque literature, art, architecture, and music. Spanish life under the rule of the House of Austria (1515-1700). Economic prosperity and decline, Reformation and Counter-Reformation, and the exploration and colonization of the Americas as a backdrop for various works. Excursions. Visits to museums. All written work to be done in Spanish.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 62.50 From Reason to Revolution in Spanish History, Literature, and the Arts during the Lifetime of Francisco de Goya <br> 2 hours, minimum of 2 hours fieldwork and excursions; 3 credits <br> An examination of a major period of social upheaval and cultural transition in Europe and the Americas, documented in Spain. The influence of France; the Napoleonic invasion and subsequent War of Independence. The struggle between liberalism and absolutism in Spain and between colonial dependency and freedom in the Americas. The life and works of Goya as a historical, social, and cultural backdrop for the study of neoclassicism, romanticism, and costumbrismo in literature and the arts. Visits to museums. Excursions. All written work to be done in Spanish. <br> Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

63.50 City and Society in the Realistic Novels of Benito Pérez Galdós and Leopoldo Alas ("Clarín") 2 hours, minimum of 2 hours fieldwork and excursions; 3 credits
An on-site exploration of the city and its inhabitants in the final quarter of the nineteenth century as major components of the narrative fiction of Spain's two most important realistic novelists. Visits to important locations and museums. Excursions. All written work to be done in Spanish.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 64.50 The Emergence of Modern Spain as Conceived and Captured by Writers and Artists Prior to the Civil War

2 hours, minimum of 2 hours fieldwork and excursions; 3 credits
An integrated examination of the historical, ethical, and aesthetic concerns of Spanish intellectuals and creative artists in the cultural renaissance that took place during the early decades of the twentieth century as expressed in narrative fiction, poetry, painting, music, and film. Visits to museums. Excursions. All written work to be done in Spanish.
Prerequisite: Spanish 11.1 or 11.12 or 17.50 or permission of the chairperson.

### 65.50 The Image of Spain in Contemporary Spanish Culture and Society

2 hours, minimum of 2 hours fieldwork and excursions; 3 credits
An on-site examination of the image contemporary Spaniards hold of themselves as expressed in literature, the press, and the arts. Unity versus diversity in geography, society, politics, culture, and language. Visits to museums, newspaper offices, and the parliament. Excursions. All written work to be done in Spanish. Prerequisite: Spanish 17.50 or permission of the chairperson.

### 66.50 Concurrent Workshop in Written and Oral Self-Expression

3 hours, 1 hour conference; 3 credits
Further enhancement of intermediate and advanced communication skills for personal and professional development and in conjunction with materials studied in a linked content course. Individualized attention according to level of oral and written proficiency of each student. Frequent writing assignments and revisions, journals, oral reports, final portfolio. Offered only at the Brooklyn College Summer Institute in Madrid, Spain, and only in conjunction with a previously specified content course. Students may take the course twice with permission of department chairperson but may not repeat topics.
Prerequisite: Permission of the chairperson.

## Music

Conservatory office: 422 Whitehead Hall
Telephone: 951-5286, 951-5287
Director: Nancy Hager
Assistant Director, CLAS and SGS: Philip Rupprecht
Assistant Director, Division of Graduate Studies: Bruce MacIntyre
Professors: Atlas, Hager, Hedwig, Kawasaki, Lang, León, MacIntyre, Shelden;
Associate Professors: Barrett, Hisama, Palmquist;
Assistant Professors: Rupprecht, Taylor, Washington.
The Conservatory of Music offers the following undergraduate degree programs: B.A. in music; B.Mus. in performance; B.Mus. in composition; and, in cooperation with the School of Education, a B.A. for music teacher (K-12). The B.A. degree program includes courses in ear training, harmonic and contrapuntal techniques, analysis, history, and performance. Students in the B.Mus. program also take these courses, with additional concentration either in composition or performance. Admission to the B.Mus. program is based solely on an audition and interview. Interested students should contact the Conservatory of Music early in their junior or senior year of high school.

Individual vocal and instrumental instruction for majors is offered by professionals widely recognized in their fields. Those working toward a B.A. or B.Mus. in composition degree receive two terms of instruction, and students in the B.Mus. in performance program may receive instruction each term they are enrolled. The conservatory sponsors the chorus and chamber chorus, opera workshop, opera theater, orchestra, wind ensemble, and brass, woodwind, contemporary music, jazz, and percussion ensembles. Concerts by these organizations and individual recitals by students and faculty members total more than 100 performances a year.

## Core curriculum

The Conservatory of Music participates in the college's core curriculum through Core Studies 2.2.
Students who have completed Music 11.1 are exempt from Core Studies 2.2.

## Placement in music courses

Admission to Music 6.1 through 11.4, 69.1, 79.1, and ensemble courses Music 70 through 78 is only by placement examination given before registration. Dates and times for examinations are available in the conservatory office.
Music majors should demonstrate a minimum keyboard proficiency when they enter the program. Students who do not demonstrate minimum proficiency may be assigned to Music 69.1 and 69.2 (one credit each), which are taken in the first two terms.

## Admission to degree programs in music

An audition is required of all prospective music majors before they are admitted to a degree program in music. In addition, students in the bachelor of arts degree program for music teacher (K-12) must be interviewed by the program coordinator. Students should indicate their intention to major in music on their application for admission to the college.

## B.A. degree program in music HEGIS code 1005

Program requirements (49 credits plus foreign language study or proficiency)
All of the following: Music 6.1, 7.1, 11.1.
Music 6.2, 7.2, 11.2.
Music 6.3, 7.3, 11.3.
Music 6.4, 7.4, 11.4.
Music 43 or 43.1 or 44 ; and 45 or 46 ; and 79.1, 79.2.
Two credits in ensemble performance from Music 70 through 78 as assigned by the Conservatory of Music.

One seminar in music numbered in the 90s or a suitable advanced course in another department or program, approved in advance by the director.
All music courses offered to satisfy the requirements for a major in music must be completed with a grade of $C$ or higher.

## Bachelor of music degree program in performance HEGIS code 1004

Program requirements ( 62 credits plus foreign language study or proficiency)
All of the following: Music 6.1, 7.1, 11.1.
Music 6.2, 7.2, 11.2.
Music 6.3, 7.3, 11.3.
Music 6.4, 7.4, 11.4.
Music 43 or 43.1 or 44 ; and 45 or 46; and 79.1, 79.2, 79.3, 79.4, 79.5, 79.6.
Six credits in ensemble performance from Music 70 through 78 as assigned by the Conservatory of Music. In addition to the course listings above, an approved recital, and approval of the faculty are required for the bachelor of music degree.
A successful jury examination in performance must be completed at the conclusion of each semester of Music 79 (Performance). Students taking Music 79.3 will present to the faculty a longer performance jury, at which time their overall progress in the program will be evaluated, and permission to continue in the program granted or denied.
All music courses offered to satisfy the requirements for a major in music must be completed with a grade of $C$ or higher.

## Performance faculty

Brass
Aurelia, Bonvissuto, Braverman, Brubaker, Hedwig, Howard, Jolley, Powell, Rojas.
Brooklyn College Chorus
MacIntyre.
Chamber Chorus
MacIntyre.
Conducting
Barrett, León.
Contemporary Music Ensemble
León.
Guitar
Frandsen, Smith.
Harp
Cutler.
Opera Theater
Barrett.
Orchestra
Barrett.
Percussion Ensemble
Lang.
Piano
Biegel, Rogers.
Strings
Baer, Feldman, Hirsh, Kang, Kawasaki, Lee, Reichert, Tanaka.
Wind Ensemble
Shelden.
Timpani and percussion
Lang.
Voice
Barrett, Birnbaum, Bonazzi, Cultice, Dunn, Woodruff.
Woodwinds
Botti, Goldberg, Hindell, Jones, Lucarelli, Morosco, Moses, Neidich, Shelden, Taylor.

## Bachelor of music degree program in composition <br> HEGIS code 1004.10

Program requirements (67 credits plus foreign language study or proficiency)
All of the following: Music 6.1, 7.1, 11.1.
Music 6.2, 7.2, 11.2.
Music 6.3, 7.3, 11.3.
Music 6.4, 7.4, 11.4.
Music 25.1, 25.2, 25.3, 25.4, 25.5, 25.6.
Music 36 ; and 43 or 43.1 or 44 ; and 45 or 46 ; and $79.1,79.2$.
Two credits in ensemble performance from Music 70 through 78 as assigned by the Conservatory of Music. In addition to the courses listed above, a faculty approved portfolio and approval of the Conservatory faculty are required for the bachelor of music degree. The portfolio will consist of representative works from required (Music 25.1 through Music 25.6), elective, and honors composition courses.
Students must submit a portfolio of work for review by a composition jury at the end of each semester of Music 25 (Composition). A special jury for students in Music 25.2 includes evaluation of overall progress in the program, on the basis of which permission to continue in the composition program is granted or denied. All music courses offered to satisfy the requirements for a major in music must be completed with a grade of $C$ or higher.

## Program prerequisite

Students who do not demonstrate the performing proficiency required for admission to Music 79.1 must prepare to demonstrate proficiency in an audition not later than the beginning of their junior year.

## Program recommendations

Music majors should complete Music 6.1 and 7.1 in the lower-freshman term.
Students planning to obtain New York State music teacher certification (K-12) should consult a Conservatory of Music counselor in their first term.

## B.A. degree program for music teacher (K-12)

The student-teaching sequence of courses in secondary school music education is described in the "Education" section in this Bulletin.
The Conservatory of Music is in the process of changing the music education curriculum to comply with new regulations recently approved by the New York State Education Department. Students seeking New York State teacher certification (music, $\mathrm{K}-12$ ) should consult the coordinator of music education for current certification and degree requirements.

Music concentration for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher (K-6); special education teacher.

The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs and who elect a concentration in music must complete all of the following courses with a grade of $C$ or higher: One course from Music 1.4, 1.5, or 7.1; one course from Music 70 through 78; one course from Music 60, 66, or 69.1; two courses from Music 3, 10.1, 20.3, 20.4, 44, or 50; and one course from Music 58.1, 58.2, or 58.3. Additional courses in performance, history and repertoire, and theory may be elected on the basis of the student's interests and strengths. A placement examination is required for theory and history/repertoire courses.

## Recommendations for prospective graduate students

Prospective graduate students in music should fulfill the foreign language requirement in French, German, or Italian.

## Division of Graduate Studies

The Conservatory of Music offers the following graduate programs: master of arts degree program in music; master of arts degree program for music teacher (K-12); master of music degree program in performance; master of music degree program in composition. Some courses may be creditable toward the CUNY doctoral degree. For information, students should consult the conservatory's assistant director for graduate studies. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirement
of no fewer than 18 credits in advanced courses for majors in the conservatory.
§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## No reading knowledge of music is required for the following courses.

## *1.4 Fundamentals of Music

3 hours; 3 credits
Introduction to music beginning with notation, reading in treble and bass clefs, scale constructions, intervals, simple chord progressions, basic cadences, elementary ear training, and use of a musical score in following performances and recordings.

## *1.5 Basic Music Skills

3 hours; 3 credits
Introduction to musical instruments commonly used in beginning instruction. Voice, recorder, keyboard, and classroom percussion instruments. Music notation.

## *3 Music in New York City

2 hours lecture and 3 field hours per week; 3 credits
Exploration of music performance in the music institutions and diverse cultural resources of New York City. Students will attend musical performances and carry out field documentation of a local music culture or institution. This course is the same as American Studies 51.
Prerequisite: Core Studies 2.2 or permission of the director.

## *10.1 African American Music

3 hours; 3 credits
African American music from its African roots to the present. Synthesis of tradition and distinct African elements in American musical culture. This course is the same as Africana Studies 24.3.

## *20.3 Opera

3 hours; 3 credits
A study of opera through live performance, videotape, and film. Required listening and reading, and attendance at opera performances.
Prerequisite: Core Studies 2.2 or Music 11.1.

## *20.4 History of Jazz

3 hours; 3 credits
Origin, early development, and history of jazz to the present. Required reading and listening.
Prerequisite: Core Studies 2.2 or permission of the director.

## *50 Music of the United States

3 hours; 3 credits
Music in the United States from a historical perspective, including folk, popular, jazz, and concert hall traditions. Interaction of European, African, and various ethnic styles in America. Relationship of music to select movements in American theater, dance, and art. This course is the same as American Studies 50. Reading knowledge of music is the minimum prerequisite of the following courses. Additional prerequisites are in the course descriptions.

### 6.1 Introductory Studies in Musicianship: Ear Training

2 hours recitation, 2 hours laboratory; 2 credits
Intensive training in sight-reading and dictation. Study in bass and treble clefs of diatonic melodies, rhythms through quadruple subdivisions of the beat with syncopation, chords (functions and types), and intervals.
Prerequisite: placement examination.
Corequisite: Music 7.1; and Music 69.1 or the minimum piano requirement for music majors.

### 6.2 Eighteenth-Century Studies: Ear Training

2 hours recitation, 2 hours laboratory; 2 credits
Continuation of Music 6.1. Musical language and repertory of the pre-Classical and Classical eras. Two-part and harmonic dictation. The C-clef.
Prerequisite: Music 6.1 and 7.1.
Corequisite: Music 7.2; and Music 69.2 or the minimum piano requirement for music majors.

### 6.3 Nineteenth-Century Studies: Ear Training

2 hours recitation, 2 hours laboratory; 2 credits
Continuation of Music 6.2. Musical language and repertory of the Romantic era.
Prerequisite: Music 6.2 and 7.2; and Music 69.2 or the minimum piano requirement for music majors.
Corequisite: Music 7.3.

### 6.4 Twentieth-Century Studies: Ear Training

2 hours recitation, 2 hours laboratory; 2 credits
Continuation of Music 6.3. Musical language and repertory of the modern era.
Prerequisite: Music 6.3 and 7.3.
Corequisite: Music 7.4.

### 7.1 Introductory Studies in Musicianship:

Theory of Music
3 hours; 3 credits
Introduction to melodic structure, rhythmic and metric organization, harmony, and voice-leading.
Development of basic writing skills.
Prerequisite: placement examination.
Corequisite: Music 6.1; and Music 69.1 or the minimum piano requirement for music majors.

### 7.2 Eighteenth-Century Studies: Theory of Music

3 hours; 3 credits
Continuation of Music 7.1. Harmonic and contrapuntal vocabulary and techniques of the pre-Classical and Classical eras. Application to writing after appropriate models.
Prerequisite: Music 6.1 and 7.1.
Corequisite: Music 6.2; and Music 69.2 or the minimum piano requirement for music majors.

### 7.3 Nineteenth-Century Studies: Theory of Music

3 hours; 3 credits
Continuation of Music 7.2. Harmonic and contrapuntal vocabulary and techniques of the Romantic era.
Application to writing after appropriate models.
Prerequisite: Music 6.2 and 7.2; and Music 69.2 or the minimum piano requirement for music majors. Corequisite: Music 6.3.

### 7.4 Twentieth-Century Studies: Theory of Music

3 hours; 3 credits
Continuation of Music 7.3. Harmonic and contrapuntal vocabulary and techniques of the modern era. Application to writing after appropriate models.
Prerequisite: Music 6.3 and 7.3.
Corequisite: Music 6.4.

### 11.1 Music History and Score Analysis I: Introductory Studies; Plainsong and Early Polyphony

 3 hours; 3 creditsTechniques of score analysis as a tool for the perception of musical styles and forms in Western art music. Aural approach to selected non-Western traditions. Introduction to a basic music repertoire; historical eras; sources and techniques for writing about music. Plainsong and early polyphony. (Not open to students who have completed Music 8.1 or 9.1.)
Prerequisite: Music 6.1 and 7.1 and English 1, and two core studies courses (Core Studies 2.1 and 4 are recommended); or permission of the director.

### 11.2 Music History and Score Analysis II: Ars Nova through Middle Baroque

 3 hours; 3 creditsWestern music from the fourteenth through the seventeenth centuries. Major genres, forms, styles, composers, cultural features. Score analysis. (Not open to students who have completed Music 41 or 42 .) Prerequisite: Music 6.1, 7.1, and 11.1; or permission of the director.
11.3 Music History and Score Analysis III: High Baroque through Early Romanticism 3 hours; 3 credits
Western music in the eighteenth and early nineteenth centuries. Major genres, forms, styles, composers, cultural features. Score analysis. (Not open to students who have completed Music 8.2 and 9.2.) Prerequisite: Music 11.2 or permission of the director.

### 11.4 Music History and Score Analysis IV: Later Romanticism to the Present

3 hours; 3 credits
Western music from the mid-nineteenth century to the present. Major genres, forms, styles, composers, cultural features. Score analysis. (Not open to students who have completed any of the following: Music 8.3, 8.4, 9.3, 9.4.)

Prerequisite: Music 11.3 or permission of the director.

### 25.1 Composition I

2 hours lecture, 1 hour recitation, at least 6 hours independent work§; 3 credits
Original writing in various forms and media. (Not open to students who are enrolled in or have completed Music 86.1.)
Prerequisite: Music 69.2 or the minimum piano requirement for music majors; and permission of the director.

### 25.2 Composition II

2 hours lecture, 1 hour recitation, at least 6 hours independent work§; 3 credits Continuation of Music 25.1.
Prerequisite: Music 25.1 and permission of the director.

### 25.3 Composition III

2 hours lecture, 1 hour recitation, at least 6 hours independent work§; 3 credits Continuation of Music 25.2.
Prerequisite: Music 25.2 and permission of the director.

### 25.4 Composition IV

2 hours lecture, 1 hour recitation, at least 6 hours independent work§; 3 credits Continuation of Music 25.3.
Prerequisite: Music 25.3 and permission of the director.

### 25.5 Composition V

2 hours lecture, 1 hour recitation, at least 6 hours independent work§; 3 credits
Continuation of Music 25.4.
Prerequisite: Music 25.4 and permission of the director.

### 25.6 Composition VI

2 hours lecture, 1 hour recitation, at least 6 hours independent work§; 3 credits
Continuation of Music 25.5.
Prerequisite: Music 25.5 and permission of the director.

### 26.1 Introduction to Electro-Acoustic Music

3 hours; 3 credits
Introduction to the tools of electro-acoustic music, including basic studio techniques, computer music, MIDI, and live electronic performance. Practical experience in composing in this medium and exposure to important works in this repertoire. (Not open to students who have completed Music 26.)
Prerequisite: permission of the director.

### 26.2 Electro-Acoustic Music

3 hours; 3 credits
In-depth investigation of electronic music making, with special attention to tape composition, digital sound synthesis, MIDI software applications, live sound processing, and related performance techniques.
Advanced practical experience and opportunities to compose in this medium.
Prerequisite: Music 26 or 26.1 or permission of the director.

## 27 Advanced Musicianship: Jazz

3 hours; 3 credits
Work in advanced ear-training, harmonic function, chordal progression, blues patterns, and vocabulary of jazz; aural recreations 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: Music 6.4 and 7.4, or permission of the director.

### 31.5 Orchestration

3 hours; 3 credits
Scoring for strings, winds, full orchestra, and concert band.
Prerequisite: Music 6.3 and 7.3; and either 8.3 and 9.3 , or 11.3.

### 32.2 Techniques for Recording Music

## 3 hours; 3 credits

Special problems and techniques of audio recording as they relate to the professional musician. Audio engineering with analog and digital systems. (Not open to students who completed Music 49.1 in spring, 1991, or summer, 1993.)
Prerequisite: permission of the director.

## 35 Conducting I

3 hours; 3 credits
Principles of conducting based on analysis of representative orchestral and choral compositions. Instruction and training in baton technique and rehearsal techniques. Students attend rehearsals of the conservatory's performing organizations.
Prerequisite: Music 6.3 and 7.3 ; and either 8.3 and 9.3, or 11.3.

### 35.2 Conducting and Rehearsal Techniques

3 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. Field observations and fieldwork in the public schools.
Prerequisite: Music 6.3, 7.3 , and 11.2; 61.1 or 62.1 ; and 63,64 , and 65 ; or permission of the director. Corequisite: Music 51.

## 36 Advanced Ear Training

3 hours; 3 credits
Development of advanced skills in sight-reading and dictation.
Prerequisite: Music 6.4, 7.4 and 11.4.

## 43 American Music

3 hours; 3 credits
Exploration of distinctive American repertories from a cultural
perspective. Concert music, African-American traditions, experimental innovations, the role of women.
Relationships to the European past, composers, and audiences; the impact of technology, the effects of pluralism.
Prerequisite: Music 6.4, 7.4, and 11.4; or permission of the director.

### 43.1 The Jazz Tradition

3 hours; 3 credits
Jazz history from its origins to the present. Analysis of recordings, arrangements, and transcriptions.
Cultural, economic, and sociological issues that have influenced the development of jazz. Connections between jazz and the aesthetic and philosophical principles of African American artistic expression.
Prerequisite: Music 6.4, 7.4, and 11.4; or permission of the director.

## 44 Music of the World's People

3 hours; 3 credits
Cross-cultural studies of world music repertories. Development of new perspectives on music and its role in diverse societies. Emphasis on the ways in which musicians acquire and exercise their art and on the uses and meanings of music.
Prerequisite: Music 6.4, 7.4, 11.4, and Core Studies 9; or permission of the director.

## 45 Linear Analysis of Tonal Music

3 hours; 3 credits
Study of voice-leading and harmony in selected works from the eighteenth and nineteenth centuries. Concept of structural levels; techniques of prolongation and embellishment; sources of continuity and coherence.
Prerequisite: Music 6.4, 7.3, and 11.3; or permission of the director.

## 46 Analysis of Twentieth-Century Music

3 hours; 3 credits
Analytic approaches to the study of twentieth-century music. The emphasis is on methods and projects that enhance hearing. Expanded tonality, circular progressions, symmetry, motives and sets, concepts of orders: rhythm, timbre,
texture, form.
Prerequisite: Music 6.4, 7.4, and 11.4; or permission of the director.

### 49.1 Special Topics

1 hour, 1 credit
Special topic, problem, figure, style, form, or genre not otherwise covered in the regular courses of the curriculum. Topics vary and reflect the special interests of students and faculty.
Prerequisite: permission of the director.

### 49.2 Special Topics

2 hours; 2 credits
Special topic, problem, figure, style, form, or genre not otherwise covered in the regular courses of the curriculum. Topics vary and reflect the special interests of students and faculty.
Prerequisite: permission of the director.

### 49.3 Special Topics

3 hours; 3 credits
Special topic, problem, figure, style, form, or genre not otherwise covered in the regular courses of the curriculum. Topics vary and reflect the special interests of students and faculty.
Prerequisite: permission of the director.

## 51 Music Education Colloquium

1 hour; 0 credit
A colloquium for music education majors. Guest speakers, student and faculty presentations, discussions of current topics in music education. Required of music education majors for six semesters. Field observations and teaching in the public schools. Non-graded course.

## 52 Introduction to Music Education

2 hours; 1 credit
Overview of the music education profession: philosophy, history, pedagogical approaches, standards and practices of the profession, current issues, and practical applications. Field observations in the public schools.
Corequisite: Music 51.

## 57 Teaching Music Concepts

1 hour; 1 credit
Overview of approaches to teaching music elements and aspects common to all instrumental instruction (tone quality, pitch, rhythm, etc.) emphasizing musicianship. Course is paired with an instrumental workshop in the Music 61-66 series that entails field observations and fieldwork in the public schools. Prerequisite: Music 6.1 and 7.1 ; or permission of the director.
Corequisite: Music 51; and 61.1, 62.1, 63, 64, 65, or 66.1.

### 58.1 Music in the Elementary Schools

3 hours, including fieldwork; 3 credits
Techniques, methods, and materials used in teaching music in the elementary schools including instruction for prekindergarten 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. Includes observation and supervised teaching in public schools.
Prerequisite: Music 6.2, 7.2, and 52.
Corequisite: Music 51.

### 58.2 Music in the Secondary Schools

3 hours, including fieldwork; 3 credits
Techniques, methods, and materials used in teaching music in the 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 observation and supervised teaching in public schools.
Prerequisite: Music 6.2, 7.2, and 52, or permission of the director.
Corequisite: Music 51.

### 58.3 Music in Special Education

3 hours, including fieldwork; 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 observation.

## 59 The School Music Program: Choral, instrumental, and General

2 hours, including fieldwork; 2 credits
Organization and structure of overall musical program (preK-12), including curriculum, technology, inclusion, legal and governmental aspects, relationships with parents, administrators, teachers, structure of the New York City and state educational systems, budgets, funding, evaluation, assessment, etc.
Prerequisite: Music 58.1 or 58.2; or permission of the director.
Corequisite: Music 51.

## Performance courses

## 60 Voice Production

2 hours; 1 credit
Principles of singing, breath support, tone placement, phrasing, enunciation, diction. Practice in singing
simple songs. Individual and group instruction.
Prerequisite: Music 6.2 and 7.2 and 11.2 or permission of the director.

### 61.1 String Class: Violin and Viola

3 hours; 1 credit
Tuning, bowing, and positions for violin and viola. Practice in reading simple compositions. For beginners. No previous knowledge of a stringed instrument required.
Prerequisite: ability to read music and permission of the director.

### 62.1 String Class: Violoncello and Bass Viol

3 hours; 1 credit
Tuning, bowing, and positions for bass viol and violoncello. Practice in reading simple compositions. For beginners. No previous knowledge of a stringed instrument is required.
Prerequisite: ability to read music and permission of the director.

## 63 Woodwind Class

3 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. Prerequisite: ability to read music and permission of the director.

## 64 Brass Class

3 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. Prerequisite: ability to read music and permission of the director.

## 65 Percussion Class

3 hours; 1 credit
Principles of percussion technique. Practice in reading simple compositions. For beginners. No previous knowledge of a percussion instrument is required.
Prerequisite: ability to read music and permission of the director.

### 66.1 Fretted Instrument Workshop

3 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.

### 69.1 Keyboard Workshop I

1 hour recitation, a minimum of 5 hours independent practice; 1 credit
Reading bass and treble clefs. Major and minor scales, simple chord progressions and their application, block chord pieces, simple dances. Sight-reading and prepared pieces. (Not open to students who satisfy the minimum piano requirement for music majors.)
Prerequisite: placement examination.

### 69.2 Keyboard Workshop II

1 hour recitation, a minimum of 5 hours independent practice; 1 credit
Continuation of Music 69.1. Harmonic sequences. Sight-reading a simple block-chord piece. Playing a prepared piece at the level of Bach's Anna Magdelena Book or Bartok's Mikrokosmos, Book 2.
Prerequisite: Music 69.1.

### 69.3 Functional Keyboard Skills

2 hours recitation, a minimum of 5 hours independent practice; 1 credit
Functional keyboard skills applicable to music education settings in public schools. Includes accompanying, harmonizing, improvising, aural keyboard skills, and keyboard performance in different music styles and genres.
Prerequisite: Familiarity with electronic keyboards and MIDI applications, Music 69.1 and 69.2, or permission of the director.
Corequisite: Music 51.
Music 70 through 78 may be taken for credit each term the student is enrolled. 70 Opera Workshop
3 hours; 1 credit
Study and performance of scenes from operas. Fundamentals of operatic techniques, coordination of singing and stage movement.
Prerequisite: audition.

## 71 Chorus

3 hours; 1 credit
Study and performance of standard choral literature for mixed voices.
Prerequisite: audition.

### 71.1 Chamber Chorus

3 hours; 1 credit
Study and performance of chamber chorus literature for mixed voices.
Prerequisite: audition.

## 72 Percussion Ensemble

3 hours; 1 credit
Study and performance of music for percussion.
Prerequisite: audition.

## 74 Chamber Music

3 hours; 1 credit
Playing of sonatas, trios, quartets, and various ensembles of stringed and wind instruments with and without pianoforte.
Prerequisite: audition.

### 74.1 Contemporary Music Ensemble

3 hours; 1 credit
Study and performance of contemporary music.
Prerequisite: audition.

### 74.2 Brass Ensemble

3 hours; 1 credit
Study and performance of music for brass ensemble.
Prerequisite: audition.

### 74.3 Woodwind Chamber Music

3 hours; 1 credit
Study and performance of music for woodwind chamber ensembles.
Prerequisite: audition.

### 74.5 Small Ensemble Jazz

3 hours; 1 credit
Study and performance of music for small jazz combo, including practical experience with jazz improvisation techniques and styles. May be repeated.
Prerequisite: audition.

## 75 Orchestra

3 hours; 1 credit
Study and performance of literature for orchestra.
Prerequisite: audition.

### 75.1 String Orchestra

3 hours; 1 credit
Study and performance of literature for string orchestra.
Prerequisite: audition.

## 76 Wind Ensemble

3 hours; 1 credit
Study and performance of literature for band.
Prerequisite: audition.

## 78 Jazz Ensemble

3 hours; 1 credit
Study and performance of old and new jazz literature.
Prerequisite: audition.

### 79.1 Performance I

2 hours lecture, 1 hour recitation, at least 8 hours independent work§; 3 credits
Intermediate and advanced performance in voice or on an instrument. One weekly repertoire class and one hour individual instruction.
Prerequisite or corequisite: all of the following: candidacy for the B.A. or B.Mus. degree in music, Music 6.1, 7.1, Music 69.1 or the minimum piano requirement for music majors, permission of the director.

Corequisite: an ensemble course (Music 70 through 78) as assigned through audition and permission of the director.

### 79.2 Performance II

2 hours lecture, 1 hour recitation, at least 8 hours independent work§; 3 credits
Continuation of Music 79.1. Students must continue in voice or on the instrument studied in Music 79.1.
Prerequisite or corequisite: all of the following: candidacy for the B.A. or B.Mus. degree in music, Music 6.2, 7.2, and 11.2; Music 69.2 or the minimum piano requirement for music majors, permission of the director. Corequisite: an ensemble course (Music 70 through 78) as assigned through audition and permission of the director.

### 79.3 Performance III

2 hours lecture, 1 hour recitation, at least 8 hours independent work§; 3 credits
Continuation of Music 79.2. Students must continue in voice or on the instrument studied in Music 79.2.
Prerequisite or corequisite: all of the following: candidacy for the B.A. or B.Mus. degree in music, Music 6.3, 7.3, and 11.1; permission of the director.

Corequisite: an ensemble course (Music 70 through 78) as assigned through audition and permission of the director.

### 79.4 Performance IV

2 hours lecture, 1 hour recitation, at least 8 hours independent work§; 3 credits
Continuation of Music 79.3. Students must continue in voice or on the instrument studied in Music 79.3.
Prerequisite or corequisite: all of the following: candidacy for the B.A. or B.Mus. degree in music, Music 6.4, 7.4, and 11.2; permission of the director.

Corequisite: an ensemble course (Music 70 through 78) as assigned through audition and permission of the director.

### 79.5 Performance V

2 hours lecture, 1 hour recitation, at least 8 hours independent work§; 3 credits
Continuation of Music 79.4. Students must continue in voice or on the instrument studied in Music 79.4.
Prerequisite: candidacy for the B.A. or B.Mus. degree in music, Music 11.3 and Music 79.4 and permission of the director.
Corequisite: an ensemble course (Music 70 through 78) as assigned through audition and permission of the director.

### 79.6 Performance VI

2 hours lecture, 1 hour recitation, at least 8 hours independent work§; 3 credits
Continuation of Music 79.5. Students must continue in voice or on the instrument studied in Music 79.5.
Prerequisite: candidacy for the B.A. or B.Mus. degree in music, Music 11.4 and Music 79.5 and permission of the director.
Corequisite: an ensemble course (Music 70 through 78) as assigned through audition and permission of the director.

## Honors courses

Students with superior records and the recommendation of a Conservatory of Music faculty member may apply to the director to register for the courses described below. Students may not register for more than six credits in honors courses in the program in one term.

## 83.1, 83.2 Independent Research in Music History I, II

Minimum of 9 hours conference and independent work§; 3 credits
Independent research in music history supervised by a faculty member. Thesis or report.
Prerequisite: completion of an approved program of advanced music courses and permission of the director.

### 84.1 Advanced Performance I

Minimum of 10 hours conference and independent work§; 3 credits
Preparation and presentation of a public performance. Students must continue in voice or on the instrument studied in Music 79.6.
Prerequisite: Music 79.6 and permission of the director.
Corequisite: an ensemble course (Music 70 through 78) as assigned through audition and permission of the director.

### 84.2 Advanced Performance II

Minimum of 10 hours conference and independent work§; 3 credits Continuation of Music 84.1. Students must continue in voice or on the instrument studied in Music 84.1. Prerequisite: Music 84.1 and permission of the director.
Corequisite: an ensemble course (Music 70 through 78) as assigned through audition and permission of the director.

## 85.1, 85.2 Independent Research in Music Education I, II

Minimum of 9 hours conference and independent work§; 3 credits
Independent project or research in music education supervised by a faculty member. Thesis, report, or project.
Prerequisite: Completion of an approved program of advanced music courses and permission of the director.

### 86.1 Advanced Composition I

Minimum of 9 hours conference and independent work§; 3 credits
Individual work in advanced music composition in extended form. Required composition of an original work. Prerequisite: Completion of an approved program of advanced music courses and permission of the director.

### 86.2 Advanced Composition II

Minimum of 9 hours conference and independent work§; 3 credits
Continuation of Music 86.1.
Prerequisite: Music 86.1 and permission of the director.

### 86.5 Advanced Conducting I

Minimum of 9 hours independent work§, class meetings,
and conference; 3 credits
Prerequisite or corequisite: all of the following: candidacy for the B.A. or B.Mus. degree in music, Music 6.3 7.3 , and either 8.3 and 9.3 , or 11.1 ; permission of the director.

Corequisite: an ensemble course (Music 70 through 78) as assigned through audition and permission of the director.

### 86.6 Advanced Conducting II

Minimum of 9 hours independent work§, class meetings, and conference; 3 credits
Continuation of Music 86.5.
Prerequisite: Music 86.5 and permission of the director.

### 87.1 Independent Research in Non-Western Music I

Minimum of 9 hours conference and independent work§; 3 credits
Independent research in non-Western music supervised by a faculty member. Weekly conference. Thesis or report.
Prerequisite: completion of an approved program of advanced music courses, including Music 77, and permission of the director.

### 88.1 Music Internship

3 hours; 1 credit
Supervised on- or off-campus work at least one day per week in an office or classroom of a business, educational facility, or other agency providing professional experience in music, music performance, 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 88.1, 88.2, and 88.3 toward a degree. Prerequisite: Music 6.3, 7.3, 11.3; junior or senior standing; permission of the director. Permission requires the submission of letters from two faculty members attesting o the student's capacity to complete successfully the proposed internship project.

### 88.2 Music Internship

6 hours; 2 credits
Supervised on- or off-campus work at least one day per week in an office or classroom of a business, educational facility, or other agency providing professional experience in music, music performance, 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 88.1, 88.2, and 88.3 toward a degree. Prerequisite: Music 6.3, 7.3, 11.3; junior or senior standing; permission of the director. Permission requires the submission of letters from two faculty members attesting to the student's capacity to complete successfully the proposed internship project.

### 88.3 Music Internship

9 hours; 3 credits
Supervised on- or off-campus work at least one day per week in an office or classroom of a business, educational facility, or other agency providing professional experience in music, music performance, 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 88.1, 88.2, and 88.3 toward a degree. Prerequisite: Music 6.3, 7.3, 11.3; junior or senior standing; permission of the director. Permission requires the submission of letters from two faculty members attesting to the student's capacity to complete successfully the proposed internship project.

## Seminars

## 90 Seminar in Advanced Analysis

Minimum of 9 hours independent work§, seminar meetings, and conference; 3 credits
Investigation of selected works from varied analytic standpoints. Independent research in special areas.
Assigned projects. Students may take this course for credit twice but may not repeat topics.
Prerequisite: Music 6.4 and 7.4 and either 11.4; or 44 or 45.

## 91 Seminar in Music History

Minimum of 9 hours independent work§, seminar meetings, and conference; 3 credits Investigation of a period or problem in music history. Independent research in special areas. Assigned projects. Students may take this course for credit twice but may not repeat topics.
Prerequisite: Music 11.4 or permission of the director.

## 92 Seminar in Style Criticism

Minimum of 9 hours independent work§, seminar meetings, and conference; 3 credits Investigation of principles of evaluation in music. Comparative studies of styles and trends. Critical study of selected compositions. Independent research in special areas. Assigned projects. Students may take this course for credit twice but may not repeat topics.
Prerequisite: Music 6.4 and 7.4 and 11.4.

## 93 Seminar in Contemporary Music

Minimum of 9 hours independent work§, seminar meetings, and conference; 3 credits
Examination of changing concepts during the twentieth century through detailed study of selected major works. Independent research, conferences, and seminar projects. Students may take this course for credit twice but may not repeat topics.
Prerequisite: Music 6.4 and 7.4 and 11.4.

## 94 Seminar in American Music

3 hours; 3 credits
Studies in the development of folk, popular, religious, and art music in North America from the time of the first European settlers. Selected topics. Independent research, conferences, and seminar projects.
Students may take this course for credit twice but may not repeat topics.
Prerequisite: Music 11.4 or permission of the director.

### 94.1 Seminar in Jazz History

3 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 11.4 or permission of the director.

## 95 Seminar in Performance Practice

3 hours; 3 credits
Study of documents and vocal and instrumental techniques relating to the authentic performance practice of music from the seventeenth through the twentieth century. Topic to be announced. Students may take this course for credit twice but may not repeat topics.
Prerequisite: Music 79.6 or permission of the director.
The following courses are inactive and will be offered only if there is sufficient demand:
*30.3 Music of Beethoven
32.1 Preparing Music Manuscripts
33.2 Instrument Repair: Woodwinds
33.5 The Mechanism and Maintenance of the Piano
35.1 Conducting II

73 Collegium Musicum
75.2 Theater Orchestra

77 Ensemble in Non-Western Music

## Philosophy

Department office: 3308 Boylan Hall
Telephone: 951-5311, 951-5312
Chairperson: Emily Michael
Deputy Chairperson, SGS: Edward Kent
Professors: Adler, Funk, Koslow, Levy, Michael, Rosenthal, Steinberg;
Associate Professor: Kent;
Assistant Professor: Saka.

## Core curriculum

The Department of Philosophy participates in the college's core curriculum through Core Studies 10.
B.A. degree program in philosophy

HEGIS code 1509
Department requirements (25-38 credits)

## Option I: Philosophy

Recommended for students planning graduate study in philosophy and for others for whom a broad background in philosophy is desirable.
All of the following: Philosophy 11.1, 12.1, 23, 26, 27.
Philosophy 13 or 33.
One additional Philosophy Department course other than Core Studies 10, Philosophy 1.1, and 2.

## Option II: Philosophy and Law

Recommended for students planning careers involving public affairs, law, or planning and management.
All of the following: Philosophy 20, 21, 23, 26, 43.
Philosophy 10 or 13.
Philosophy 6 or 14 or 15.1 or 24.

## Option III: Philosophy and Other Fields

Recommended for students interested in acquiring a knowledge of philosophy that also contributes to the understanding of another field.
All of the following: Philosophy 11.1 or $12.1,26$ or 27,21 or 23,10 or 13 or 33.
At least 12 credits in courses taken in a single department or program outside the Philosophy Department. The department or program chosen to fulfill this requirement is referred to below as the student's field of concentration.
One course from each of the following groups, a), b), and c) below. The course chosen from each group may not be used to satisfy any other Option III requirement.
a) Philosophic foundations of the field of concentration: Philosophy 16, 17, 18, 19, 20, 22, 22.1, 28, 29, 42, 43, 44, 45, 46, 47, 48.
b) An additional history of philosophy course relevant to the field of concentration: Philosophy 11.1, 11.2,
12.1, 12.2, 12.3, 48, 50, 54.

An approved course in the history of thought given in another department of the college may be substituted for this requirement.
c) Applied ethics relevant to the field of concentration: Philosophy 6, 14, 15.1, 15.2, 24, 24.1.

## Option IV: Philosophy and Business

Recommended for students planning careers in business.
Philosophy 14 and 23.
One course from each of the following groups, a), b), c), d), and e):
a) Philosophy 10 or 13.
b) Philosophy 12.3, 19, 26, or 27.
c) Philosophy 11.1, 12.1, 12.2, 20, or 48.
d) Philosophy 21 or 43.
e) Philosophy 6, 24, 15.1, or 50.

One of the following groups, either Marketing/Management
or Finance:
Marketing/Management:
All of the following: Business 40.3 or Psychology 12.7; Business 50.1, 50.2, 50.7.
Finance:
Accounting 1 and either Business 30.2 or Economics 30.2. Two of the following: Economics 70.1, Business 70.2 or 70.3 .

## Department honors

To qualify for honors in philosophy, a student must complete at least three credits of honors work in philosophy with a grade of B- or higher and must have an academic index of 3.50 or higher in all philosophy courses completed.

## Minor in philosophy

At least 12 credits, in at least four advanced electives in philosophy, with a grade of $C$ or higher.

Philosophy concentration for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher (K-6); special education teacher.
The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs and who elect a concentration in philosophy must complete all of the following, with a grade of $C$ or higher in each course: Philosophy 18 or $21 ; 11.1$ or 12.1 or 20 or $48 ; 10$ or 13 or $33 ; 6$ or 15.2 or 23 .

## Recommendation for prospective graduate students

Prospective graduate students in philosophy should develop reading comprehension in at least one of the following languages: French, German, Greek, Latin.

## Division of Graduate Studies

The Philosophy Department offers graduate courses for students in other fields. For information, students should consult the department chairperson. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirements of no fewer than 21 credits in advanced courses for majors in this department.
§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## *1.1 Introduction to the Problems of Philosophy

3 hours; 3 credits
Survey of basic philosophical problems and different solutions proposed by philosophers. Such topics as the nature and scope of knowledge, meaning and verification, the existence of God, determinism and free will, the mind-body problem, and the nature of moral judgments. (Not open to students who are enrolled in or have completed Philosophy 1.2 or 2 or Core Studies 10.)

## *2 Landmarks in Philosophy

3 hours; 3 credits
Selections from works of such major Western philosophers as Plato, Aristotle, Augustine, Aquinas, Maimonides, Descartes, Hume, Kant, Marx, Russell from at least three of the following periods: ancient, medieval, modern, contemporary. (Not open to students who are enrolled in or have completed Philosophy 1.1 or 1.2 or Humanities 10.4.)

## 6 Ethics and Society

3 hours; 3 credits
Critical consideration of issues in social ethics. Discussion of such topics as racism and sexism, economic justice, civil disobedience, capital punishment, environmental pollution, nuclear power and weaponry, abortion, euthanasia, freedom of information, the right to privacy.

## 9 Virtue: Ideals of Human Goodness

3 hours; 3 credits
Comparative and critical analysis of contrasting ideals of human virtue and prescriptions for its attainment.
Focus on philosophic and literary texts representing several different cultures and historical periods.
Prerequisite: Core Studies 10.

## 10 Reasoning

3 hours; 3 credits
Examination and development of reasoning skills. Informal logic. Topics such as meaning, definition, the analysis of arguments, fallacies. Use of examples in reasoning to apply principles studied. Legal reasoning, support for claims about public policy, scientific and philosophical arguments.

### 10.5 Reasoning and Rationality

3 hours; 3 credits
Theoretical investigation of reasoning and rationality. Advanced treatment of some topics in logic and critical thinking, including missing premises, the principle of charity, pragmatics, fallacies, contrasts between inductive and deductive logic, and scientific reasoning. Study of logics-modal, epistemic, paraconsistent-besides classical. Puzzles in social choice reasoning-Prisoner's Dilemma. Study of a relevant historical work or author such as Aristotle's writings on logic and rhetoric. Debates in cognitive science on rationality, rules in reasoning, or change of belief.

### 11.1 Ancient Philosophy

4 hours; 4 credits
Development of metaphysics, epistemology, and ethics in ancient thought. Influence on medieval and modern thought. Emphasis on Plato and Aristotle. (Not open to students who have completed Philosophy 11.)

### 11.2 Medieval Philosophy

3 hours; 3 credits
The development of epistemology, metaphysics, and ethics in medieval thought. Free choice of the will; the existence and properties of God; the nature of truth and human knowledge; the problem of universals. Jewish, Arabic, and Christian thought. Such medieval philosophers as Augustine, Abelard, Anselm, Maimonides, Aquinas, Scotus, Ockham. (Not open to students who have completed Philosophy 41.)

### 12.1 Modern Philosophy

4 hours; 4 credits
Development of metaphysics, epistemology, and ethics since the Renaissance. Emphasis on Descartes, Spinoza, Locke, Leibniz, Berkeley, Hume, and Kant. (Not open to students who have completed Philosophy 12.)

### 12.2 Nineteenth-Century Philosophy

## 3 hours; 3 credits

Critical examination of nineteenth-century philosophical movements and of such philosophers as Hegel, Schopenhauer, Kierkegaard, Nietzsche, and Marx. The empirical tradition, including such philosophers as J.S. Mill and Brentano, may also be explored. (Not open to students who have completed Philosophy 49.)

### 12.3 Contemporary Philosophy

3 hours; 3 credits
Such major trends in analytic philosophy as logical atomism, logical positivism, and ordinary language analysis. Critical examination of the writings of such exponents of these approaches as Russell, Moore, Ayer, Ryle, Austin, and Wittgenstein. (Not open to students who have completed Philosophy 55.)
Prerequisite: a Philosophy Department course or Core Studies 10.

## 13 Introductory Formal Logic

3 hours; 3 credits
An introduction to modern sentential and predicate logic. Among the topics are validity, consistency and proof, formal analysis of sentences and arguments in natural language. (Not open to students who are enrolled in or have completed Philosophy 33.)

## 14 Moral Issues in Business

3 hours; 3 credits
Basic approaches to moral reasoning and their application to such issues as justice and economic systems; corporate responsibility to society, the environment, and developing nations; and the duties of businesses to their employees, their customers, and their competitors.
Prerequisite: a Philosophy Department course or one course in economics or Core Studies 10.

### 15.1 Environmental Ethics

## 3 hours; 3 credits

Ethical aspects of human treatment of the natural environment, including the moral basis for pollution control, wilderness preservation, energy and resource conservation, protection of endangered species, and sustaining the earth's ecological diversity. Major theories of environmental ethics and their valuational foundations will be examined critically.
Prerequisite: a Philosophy Department course, or Core Studies 10, or permission of the chairperson.

### 15.2 Philosophy and Feminism

3 hours; 3 credits
Philosophical feminism. Critical examination of current issues in feminist scholarship. Issues of discrimination, equality, and difference; women in relation to science, epistemology, and political and moral philosophy.
Prerequisite: Core Studies 10, or one philosophy course, or permission of the chairperson.

## 16 Philosophy of Biology

3 hours; 3 credits
Intensive study of selected areas in the philosophy of biology including the origin of life: teleological, functional, and mechanistic explanations; the theory of evolution and the neo-Darwinian synthesis; reductionism, genetics, and hierarchies; taxonomy and the species problem; and sociobiology. This course is the same as Biology 6.
Prerequisite: Core Studies 8.1 or its equivalent, or Core Studies 10, or a philosophy course, or permission of the chairperson.

### 16.1 Ethical Issues in Biology

3 hours; 3 credits
Study of selected issues in current biological research with special attention to the moral and ethical considerations involved. This course is the same as Biology 13.6.
Prerequisite: Core Studies 8.1; and either Core Studies 10 or Philosophy 6.

## 17 Physics and Its Philosophies

3 hours; 3 credits
Development of philosophical points of view in physics from ancient times to the present. Interplay of ideas from science, philosophy, and the world views of various societies.
Prerequisite: Core Studies 7.2 or its equivalent.

## 18 Philosophy of Education

3 hours; 3 credits
Critical analysis of concepts of education; major philosophies of education; aims of education; social issues and education. (Not open to students who have completed Education 18.)
Prerequisite: a Philosophy Department course or Core Studies 10.

## 19 Philosophy of Language

3 hours; 3 credits
Survey of the main topics in the philosophy of language. Different approaches to the description of language. Types of grammar. Acquisition and use of language. Classification, definition, and meaning. Place of linguistic data in philosophical arguments.
Prerequisite: a Philosophy Department course or Core Studies 10.

## 20 Political Philosophy

4 hours; 4 credits
History of theories of the underlying principles of law and social organization. Principles of just distribution; rule of men versus rule of law; natural law and social contract theories; social justice versus individual liberty. Such philosophers as Plato, Aristotle, Hobbes, Locke, Rousseau, Kant, Hegel, Marx, Mill, Thoreau, Rawls, and Nozick are discussed. (Not open to students who have completed Philosophy 39.)
Prerequisite: one course in philosophy or Core Studies 10.

## 21 Social Philosophy

4 hours; 4 credits
Philosophical theories of society and human nature. Analysis of such social concepts as authority, law, rights, the state, justice, the common good, liberty, and sovereignty. Methods of justifying political principles. Social ideals and general theory of value. (Not open to students who have completed Philosophy 40.)

Prerequisite: a Philosophy Department course or Core Studies 10.

## 22 Philosophy of Art

3 hours; 3 credits
Nature and value of art and aesthetic experience. Aesthetic theories examined abstractly and with reference to the living arts. Methods and criteria for forming aesthetic judgments.
Prerequisite: a Philosophy Department course or Core Studies 10.

### 22.1 Philosophy of Literature

3 hours; 3 credits
A critical examination of the philosophical dimensions of various theories of literature and literary criticism.
Prerequisite: Core Studies 10, or a course in philosophy or literature, or permission of the chairperson.

## 23 Foundations of Ethics

4 hours; 4 credits
Systematic study of the nature and grounds of moral judgments. Methods of justifying moral standards.
Analysis of moral concepts. Ethical theories of classical and contemporary writers critically examined.
Prerequisite: a Philosophy Department course or Core Studies 10.

## 24 Moral Problems in Medicine

3 hours; 3 credits
Analysis and discussion of problems concerning the physician-patient relationship, life and death, medicine on a social scale.
Prerequisite: a Philosophy Department course, or Core Studies 10, or permission of the chairperson.

### 24.1 Ethical Issues in the Electronic Mass Media

3 hours; 3 credits
Analysis and discussion of ethical issues related to television and radio. Case histories and role playing provide value judgments concerning entertainment, information, and advertising functions of mass media. This course is the same as Television and Radio 23.
Prerequisite: Television and Radio 6.5; Philosophy 6 or Core Studies 10.

## 25 Theory of Value

3 hours; 3 credits
Analysis of normative and evaluative concepts. Logic of justifying value judgments. Role of value in deliberation and decision making. Recent developments in the theory of value.
Prerequisite: a Philosophy Department course or Core Studies 10.

## 26 Epistemology: Theory of Knowledge

4 hours; 4 credits
Classical and contemporary theories of the nature of knowledge and belief. Discussion of skepticism, rationalism, empiricism, coherentism, foundationalism. Analysis of such concepts as probability, certainty, perception, evidence, truth.
Prerequisite: a Philosophy Department course or Core Studies 10.

## 27 Metaphysics

4 hours; 4 credits
Classical and contemporary theories of being and reality. Analysis of such concepts as particular, quality, relation, personal identity, free will and determinism, universals, substance, mind, matter, space, and time. Possibility of metaphysical knowledge. The relationship between metaphysics and other disciplines. Prerequisite: a Philosophy Department course or Core Studies 10.

## 28 Philosophy of Mind

3 hours; 3 credits
Philosophic analysis of such mental and psychological concepts as intention, want, belief, emotion, will, desire, pleasure, imagination, and thought. Such contemporary problems as the identity thesis, behaviorism, the analysis of mental acts, and the intentionality thesis.
Prerequisite: a Philosophy Department course or Core Studies 10.

## 29 Philosophy and Artificial Intelligence

3 hours; 3 credits
Such contemporary issues in philosophy of psychology as the mind-machine analogy, the artificial intelligence model of the human mind, intentionality, representation, consciousness, concept formation, free will, behaviorism, mechanism. Discussion and evaluation of contemporary work in the field. This course is the same as Computer and Information Science 32.1 and as Psychology 57.2.
Prerequisite: Core Studies 5 or a course in computer and information science, and Core Studies 10 or a course in philosophy; or permission of the chairperson of the offering department.

## 33 Symbolic Logic

3 hours; 3 credits
Symbolic methods of modern deductive logic and their application to language. Metalogical techniques for the study of logistic systems. Alternative logics. Probability calculus. Higher functions. Type theory. Godelean incompleteness.

## 34 Philosophy of Logic

3 hours; 3 credits
Philosophical problems of formal logic: logical truth, entailment, meaning and reference, ontology, logical and semantical paradoxes, semantic categories, relation of formal logic to natural languages.
Prerequisite: Philosophy 33 or permission of the chairperson.

## 42 Philosophy of Science

3 hours; 3 credits
Logical structure of mathematics and of the natural sciences. Explanation in the physical sciences.
Cognitive status of scientific laws and theories.
Prerequisite: a Philosophy Department course or Core Studies 10.

## 43 Philosophy of Law

3 hours; 3 credits
Basic legal concepts and philosophical problems relating to law. General legal theory; human and legal rights; legal responsibility; punishment; justice; property; judicial reasoning; the legal enforcement of morals.
Prerequisite: a Philosophy Department course or Core Studies 10.

## 44 Philosophy of Religion

3 hours; 3 credits
Philosophical interpretations of the data of religious experience. Religion and magic, science, ethics, and world views. Religious language. Criteria of religious knowledge.
Prerequisite: a Philosophy Department course or Core Studies 10.

## 45 Oriental Philosophy

3 hours; 3 credits
Development of Indian thought in the Vedic hymns, the Upanishads, the Bhagavadgita, Jainism, Buddhism, and the darshana. Chinese thought through the ancient, medieval, and modern periods.
Prerequisite: a Philosophy Department course or Core Studies 10.

## 46 Philosophy of the Social Sciences

3 hours; 3 credits
Logic of social scientific inquiry. Behaviorism, functionalism, historicism, methodological individualism, and structuralism. Analysis of such basic social scientific concepts as culture, group, norm, person, action, and ideology. Values in the social sciences.
Prerequisite: a Philosophy Department course or Core Studies 10.

## 47 Philosophy of History

## 3 hours; 3 credits

Philosophical problems involved in the study of history. Nature of historical knowledge and of explanation in history. Concept of progress in history. Historical inevitability. Meaning of history. Place of moral judgments in historical writing. Vico, Hegel, Marx, Tolstoy, Collingwood, Toynbee, Hempel, Berlin, Popper.
Prerequisite: a Philosophy Department course or Core Studies 10.

## 48 American Philosophy

3 hours; 3 credits
Critical study of major philosophers and philosophical movements in American philosophy. Such authors as Peirce, James, Dewey, Royce, C.I. Lewis, Whitehead.
Prerequisite: a Philosophy Department course or Core Studies 10.

## 50 Philosophical Foundations in Marxism

## 3 hours; 3 credits

Philosophical problems in Marxism. Early and later writings of Marx. Relationship of Marx to Hegel. Marx's concepts, methodology, theories of history and knowledge. Twentieth- century Marxists such as Lukács, Habermas, Korsch, Althusser, Marcuse.
Prerequisite: a Philosophy Department course or Core Studies 10.

## 54 Existentialism and Phenomenology

3 hours; 3 credits
Phenomenological-existentialist critique of positivism, psychologism, and traditional humanism and the counter-claim to a deeper and more philosophical interpretation of man and his "being in the world."
Readings from such philosophers as Husserl, Heidegger, Sartre, and Merleau-Ponty.
Prerequisite: a Philosophy Department course or Core Studies 10.

### 60.1 Special Topics

3 hours; 3 credits
Special topic, problem, figure, or school of thought in philosophy not otherwise covered in the regular courses of the curriculum. Topics vary and reflect special interests of students and faculty. Course description may be obtained in the department office before registration.
Prerequisite: a Philosophy Department course or Core Studies 10.

## 79 Philosophy Research and Writing

Minimum of 9 hours of conference and independent work§; 3 credits
Intensive study of an area of philosophy. Approved reading, research, and writing assignments, and final examination.
Prerequisite: two Philosophy Department courses and permission of the instructor and of the chairperson. Seminars

### 70.1 Seminar in the History of Philosophy

3 hours and independent work§; 4 credits
A period in history of philosophy, a school of philosophy, or an individual philosopher. Course description may be obtained in the department office before registration.
Prerequisite: completion of a program, approved by the chairperson, of advanced Philosophy Department courses and permission of the chairperson.

### 75.1 Seminar in the Problems of Philosophy

3 hours and independent work§; 4 credits
A philosophical problem or set of connected problems. Course description may be obtained in the department office before registration.
Prerequisite: completion of a program, approved by the chairperson, of advanced Philosophy Department courses and permission of the chairperson.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for courses described below. Students may not register for more than six credits in honors courses in the department in one term.

## 84.1, 84.2 Seminar I, II

Minimum of 9 hours conference and independent work§; 3 credits
An advanced problem in philosophy selected by the instructor and students. Thesis or final examination. Prerequisite: completion of a program, approved by the chairperson, of advanced Philosophy Department courses and permission of the chairperson.

## 84.3, 84.4 Seminar I, II

3 hours; 3 credits
An outstanding philosophic thinker selected by the instructor and students. Thesis or final examination. Prerequisite: completion of a program, approved by the chairperson, of advanced Philosophy Department courses and permission of the chairperson.

### 84.7 Interdepartmental Humanities Seminar

3 hours; 3 credits
A significant recurrent theme in Western literature and philosophy. Course description may be obtained in the department office before registration. Reports and term paper. Offered jointly by the Departments of Philosophy, Classics, English, and the Comparative Literature Program. This course is the same as Classics 84.7, Comparative Literature 84.7, English 84.7.
Prerequisite: a grade of $B$ or higher in six credits in advanced courses in the major field and permission of the instructors and the chairperson.

### 88.1 Independent Study I

Minimum of 9 hours conference and independent work§; 3 credits
Independent study in a major area of philosophy supervised by a faculty member. Approved reading. Final examination.
Prerequisite: completion of a program, approved by the chairperson, of advanced Philosophy Department courses and permission of the instructor and the chairperson.

### 88.2 Independent Study II

Minimum of 9 hours conference and independent work§; 3 credits
Independent study of an outstanding philosophic thinker or group of related thinkers. Approved reading. Final examination.
Prerequisite: completion of a program, approved by the chairperson, of advanced Philosophy Department courses and permission of the instructor and the chairperson.

## 89 Independent Study for

## Comprehensive Honors Examination

Minimum of 9 hours conference and independent work§; 3 credits
Independent study for a comprehensive examination in the student's major field supervised by a faculty member. Approved reading. Examination.
Prerequisite: completion of a program, approved by the chairperson, of advanced Philosophy Department courses and permission of the instructor or the chairperson.

# Physical Education and Exercise Science 

Department office: 107 Roosevelt Hall
Telephone: 951-5514, 951-5515, 951-5516
Chairperson: Charles Tobey
Deputy Chairperson, CLAS and SGS: Michael Hipscher
Deputy Chairperson, Division of Graduate Studies: Donald Michielli
Professors: Dunbar, Kennedy, Kleinman, Margolis, Michielli, Tobey; Associate Professor: Schoenberg;
Assistant Professors: Sgherza, Smith;
Lecturer: Hipscher.
Note: The B.A. and B.F.A. degree programs in dance, formerly sponsored by the Conservatory of Music, have been discontinued. Certain dance courses have been retained and transferred to the Department of Physical Education and Exercise Science. Course descriptions are provided below after the description of physical education courses.
The Department of Physical Education and Exercise Science offers two degree programs: 1) B.S. in Physical Education with four focus areas (adaptive physical education, athletic training, exercise science, and recreation) and 2) B.S. degree program for physical education teacher ( $\mathrm{K}-12$ ). The department also offers a minor in physical education.
Students majoring in the Department of Physical Education and Exercise Science must complete the departmental core requirements and either the requirements of at least one focus area or the degree program in teacher education. Careful course selection may permit the student to meet the requirements in more than one focus area.

## Department core requirements

All majors must complete the following:
a. Physical Education 1, 2, 4.4, 13, 22.71, 22.75, 23, 30, 51, 75.
b. One course in dance chosen from the following:

Physical Education 17.11, 17.14, 17.21, 18.11, 18.14, 18.21, 47.1, Dance 9 series, 16 series. Students selecting the Recreation Focus Area must select
Physical Education 17.11.
C. Competency in aquatics.

Competency may be demonstrated by either of the following:
(i) Completion of any aquatics course number 17.23 or higher or the equivalent.
(ii) Successful completion of the departmental swimming test. Consult the department office for application deadlines, test components, and test administration dates. The test is administered only once per semester.
d. Competency in gymnastics.

Competency may be demonstrated by either of the following:
(i) Completion of Physical Education 1.4.
(ii) Successful completion of the departmental gymnastics test. Consult the department office for application deadlines, test components, and test administration dates. The test is administered only once per semester.

## B.S. degree in physical education HEGIS code 0835

Department requirements ( $4611 / 42-62$ credits, including the core requirements above)
All of the requirements in at least one of the following focus areas: $\mathrm{A}, \mathrm{B}, \mathrm{C}$, or D .
A. Focus Area: Adaptive Physical Education (for students who plan to work with people who are physically or mentally challenged).
All of the following:
a. Physical Education 22.1, 52.1, 52.2, 52.3.
b. At least one course selected from Physical Education 24, 35, 36, 37.Ï
c. At least two courses selected from Physical Education 31.2, 31.3, 31.4, 32.3, 55, 56.
d. At least one course selected from Physical Education 31.1, 32.2, 32.4, 33, 34, 47.1 (if not used to fulfill departmental core dance requirement above), 53, 57.1, 58.
e. At least one additional course selected from the Physical Education series 18 and 19, 31.1, 31.2, 31.3, $31.4,32.2,32.3,32.4,33,34,35,36,37,38,47.1,49.2,53,55,56,57.1,58$.
f.Psychology 1 or 2.

Department recommendations: Health and Nutrition Sciences 25.1, 32; Physical Education 78; Psychology 20 or 30; Speech 12.
B. Focus Area: Athletic Training (for students who plan to work in sports medicine and athletic training).

All of the following:
a. Physical Education 22.1, 22.4, 26, 30.1.
b. At least two courses selected from Physical Education 31.2, 31.3, 31.4, 32.3, 55, 56.
c. At least one course selected from Physical Education 31.1, 32.2, 32.4, 33, 34, 47.1 (if not used to fulfill departmental core dance requirement above), 53, 57.1, 58.
d. At least one additional course selected from the Physical Education series 18 and 19, 31.1, 31.2, 31.3, 31.4, 32.2, 32.3, 32.4, 33, 34, 35, 36, 37, 47.1, 49.2, 53, 55, 56, 57.1, 58.
e. Physical Education 21 or Psychology 1 or 2.

Department recommendation: Physical Education 52.2; Health and Nutrition Science 4 or 25.1 or 29. A course in nutrition is required for NATA (National Athletic Trainers Association) certification.
C. Focus Area: Exercise Science (for students who plan to work in areas related to exercise science or fitness).
All of the following:
a. Physical Education 22.2 and 30.1.
b. At least one course selected from Physical Education 31.2, 31.3, 31.4, 32.3, 55, 56.
c. At least one course selected from Physical Education 31.1, 32.2, 32.4, 33, 34, 47.1 (if not used to fulfill departmental core dance requirement above), 53, 57.1, 58.
d. Health and Nutrition Sciences 29.
e. Physical Education 21 or Psychology 1 or 2.
f. Chemistry 1 or 1.1 and 1.2, or 5 .*
g. Biology 3 and 4.*
*Completion of the requirements in sections (f) and (g) serves as a substitution for Core Studies 7.1 and 8.1 , thus reducing the student's College Core requirement by 4 credits.

Department recommendations: Individuals completing this program will have met the educational eligibility requirements for certification by the American College of Sports Medicine as a Health/Fitness Instructor, Health/Fitness Director, and Preventative and Rehabilitative Exercise Specialist. Practical experience and written and practical examinations are also required for these certifications. Additionally, this focus area provides a good undergraduate background in Exercise Science for individuals preparing for graduate work in exercise physiology, medicine, physical and occupational therapy, physician's assistant, and other health-related professions. Students interested in these fields should consult with a pre-health career counselor about courses required for particular programs.
D. Focus Area: Recreation (for students who plan to work in areas related to recreation).

All of the following:
a. Physical Education 7, 16, 20, 22.1, 35, 38, 52.2, 70, 79.1, 79.2.
b. At least two courses selected from Physical Education 31.2, 31.3, 31.4, 32.3, 55, 56.
c. At least two courses selected from Physical Education 31.1, 32.2, 32.4, 33, 34, 47.1 (if not used to fulfill departmental core dance requirement above), 53, 57.1, 58.
Department recommendations: Health and Nutrition Sciences 6.1 and 40; Physical Education 78.
B.S. degree program for physical education teacher (K-12)

HEGIS code 0835
Department requirements ( $6611 / 42-73$ credits)
School Physical Education (for students who plan to teach physical education (K-12) or coach in New York public schools and obtain New York State teacher certification).
Students must complete the department core requirements (above) and all of the following:
a. Physical Education 22.2, 38.
b. At least one course selected from Physical Education 24, 35, 36, 37.
c. At least three courses selected from Physical Education 31.2, 31.3, 31.4, 32.3, 55, 56.
d. At least two courses selected from Physical Education 31.1, 32.2, 32.4, 33, 34, 47.1 (if not used to fulfill departmental core dance requirement above), 53, 57.1, 58.
e. At least one course from each of the following groups:
(1) Physical Education 17.11, 17.14, 17.21, 18.11,
18.14, 18.21.
(2) Dance 9 or Dance 16 series.

Students may use one of the above courses taken to fulfill the department core requirement in dance, to fulfill the requirement of one group.
f. At least one additional course selected from the Physical Education series 18 and 19, 31.1, 31.2, 31.3, $31.4,32.2,32.3,32.4,33,34,35,36,37,47.1,49.2,53,55,56,57.1,58$, or from Dance 9 , 10, or 16 series (if not used to fulfill the departmental dance requirements).
g. Education 16, 34, $62.13,63.3,65.13,69$. Students must apply to the School of Education for admission to Education 65.13 and must fulfill the following requirements to register: completion of 12 credits in advanced theory courses in the Department of Physical Education and Exercise Science, at Brooklyn
College; completion of Education 16, 34, 62.13, 63.3, 69, with the grade of $C$ or higher; an average of 2.8 or higher in physical education courses; and a grade point average (GPA) of 2.50 or higher.
Department recommendations: Physical Education 78; Health and Nutrition Sciences 6.1, 12, 29, $35,39$.
Students should begin the education sequence in the junior year. Students should complete Physical Education 22.2 before applying for admission to Education 65.13.

## Requirements for a minor in physical education

Physical Education 1 or 2 and a program of 12 credits of advanced courses in physical education, each completed with a grade of $C$ or higher, including at least one course each from a) and b) and c) and d).
a) Physical Education 11, 13, 21, 22.71
b) Physical Education 24, 35, 36, 37
c) Physical Education 52.1, 52.2, 52.3
d) Physical Education 31.1, 31.2, 31.3, 31.4, 32.2, 32.3, 32.4, 33, 47.1, 49.1, 49.2, 53, 55, 56, $57.1,58$.

## Requirements for a minor in exercise science

Physical Education 22.71 or Health and Nutrition Sciences 22.71; Physical Education 22.75; and any two of the following: Physical Education 11, 13, 21, 23, 30, 30.1. Each of these courses must be passed with a grade of $C$ or higher.

## Requirement for readmitted students

Students who are readmitted to Brooklyn College after a term or more of absence must meet the requirements for degrees in effect at the time of readmission.

## Department honors

To qualify for honors in physical education, a major must maintain a scholastic index of at least 3.50 in all advanced work in the major; and satisfactorily complete the following: Physical Education 82 and 83; or Physical Education 82 or 83 plus honors work in an advanced elective in the department. In addition, the student must have the recommendation of the Physical Education Department.

## Division of Graduate Studies

The Department of Physical Education and Exercise Science offers a master of science in physical education with areas of concentration in sports management and the psychosocial aspects of physical activity, a master of science in exercise science and rehabilitation, and a master of science in education program for physical education teacher ( $\mathrm{K}-12$ ).
For information, students should consult the department's deputy for graduate study. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 18 credits in advanced courses for majors in this department.
$\dagger$ No more than eight credits in courses in physical education marked ( $\dagger$ ) may be counted toward the bachelor of arts degree by students who are not physical education majors.
§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## *0.1 Special Topics in Physical Education and Exercise Science

3 hours; 3 credits
A special topic in physical education or exercise science not covered in the regular curriculum. Topics vary and reflect the interests of students and faculty. Course description may be obtained in the department office before registration. Students may take this course for credit twice, but may not repeat topics.

## *0.2 Special Topics in Physical Education and Exercise Science

1 hour; 1 credit
A special topic in physical education or exercise science not covered in the regular curriculum. Topics vary and reflect the interests of students and faculty. Course description may be obtained in the department office before registration. Students may take this course for credit twice, but may not repeat topics.

## *0.4 Special Topics in Physical Education and Exercise Science

2 hours; 2 credits
A special topic in physical education or exercise science not covered in the regular curriculum. Topics vary and reflect the interests of students and faculty. Course descriptions may be obtained in the department office before registration. Students may take this course for credit twice, but may not repeat topics.

## *0.6 Special Topics in Physical Education Activities

4 hours; 2 credits
A special topic in activities not covered in the regular curriculum. Topics vary and reflect the interests of students and faculty. Course description may be obtained in the department office before registration. Students may take this course for credit twice, but may not repeat topics.

## *1 Philosophical Perspectives of Physical Education

3 hours; 3 credits
Introduction to the historical and philosophical development of physical education. (Not open to students who have completed Health and Physical Education (W) 15.)

## *†1.4 Stunts and Gymnastics

3 hours; 11/2 credits
Fundamental techniques and skills in calisthenics, tumbling, and with heavy apparatus.
Prerequisite: candidacy for the B.S. degree with a major in physical education or permission of the
chairperson.

## *2 Behavioral Perspectives

2 hours; 2 credits
Effect of movement activity on people as individuals and as members of society. Theoretical examination of sociological and psychological aspects of physical education, sport, and dance.

## *†4.4 Fundamentals of Physical Conditioning

3 hours; 11/2 credits
Principles of physical conditioning of athletes and nonathletes. Practical experience in the development of strength, flexibility, endurance, and fitness. Investigation of rationale underlying sound conditioning programs. (Not open to students who have completed Physical Education 2.4.)

Prerequisite: candidacy for the B.S. degree with a major in physical education or permission of the chairperson.
*6 The Olympic Games
2 lecture hours; 2 credits
The history, philosophy, ideals, and objectives of the Olympic movement. Training and development of the Olympic athlete. Controversies, politics, and drama surrounding the games from the time of the ancient Greeks to the present. (Not open to students who completed Physical Education 0.1, spring, 1980, or fall, 1980.)

## *7 Foundations of Recreation

3 hours; 3 credits
The effect of leisure on people, from a historical and philosophical perspective. Availability of recreation, park, and conservation facilities and services in light of technological, economic, political, and social changes. Recreation as a social institution in the urban environment.

## *8 Theory of Exercise and Fitness

3 hours; 3 credits
Application of principles of fitness and diet to the development of exercise programs with emphasis upon the particular needs of the individual student.
Prerequisite: two semesters of science (biology, chemistry, or physics) at high school or college.

## 11 Movement Perspectives

3 hours; 3 credits
Consideration of various theoretical aspects of physical education, sports, and dance. Theory and practice through movement.

## 13 Motor Learning and Human Performance

3 hours; 3 credits
Factors that affect the learning and performance of motor skills. Motor-learning principles, motor ability traits, transfer of motor skills, proactive and retroactive inhibition, and motivation.

## 14 Coaching

2 hours; 2 credits
The relationship of sport and athletics to physical education. The coach as an individual, professional, and specialist. Understanding of the training required to become a coach.
Prerequisite: two physical education courses or at least a season of coaching or competitive sport experience.

### 15.1 Individual Sports Skills

3 hours;11/2 credits
Techniques of archery, badminton, and foil fencing. (Not open to students who are enrolled in or have completed two or more of the following courses: Physical Education 17.2, 17.3, 17.7, 18.2, 18.3, 18.7, 19.2, $19.3,19.7$, or the equivalent of the courses.)
Prerequisite: candidacy for the B.S. degree with a major in physical education or permission of the chairperson.

## 16 Administration of Intramural and School Recreation Programs

2 hours; 2 credits
Comprehensive study of the history, current problems, present status, and objectives of the intramural movement. Principles, policies, and procedures concerning organization, supervision, and administration. Prerequisite: sophomore or junior or senior standing.

[^3]```
\dagger18 series Intermediate Skills in Movement Activity
2 hours; 1 credit
Intermediate techniques and skills in individual and dual sports, team sports, gymnastics, aquatic sports,
and rhythmic movement activities. Students may be required to provide equipment or supplies for these
courses.
\dagger18.2 Archery.
\dagger18.3 Badminton.
\dagger18.7 Fencing.
\dagger18.11 Folk and Square Dance.
\dagger18.14 Israeli Folk Dance.
\dagger18.20 Self-defense.
\dagger18.21 Social Dance.
\dagger18.22 Softball.
\dagger18.23 Swimming.
\dagger18.25 Tennis.
\dagger18.27 Volleyball.
\dagger18.28 Wall Sports.
\dagger18.29 Yoga.
\dagger18.33 Basketball (men).
\dagger18.35 Body Conditioning.
\dagger18.38 Soccer.
\dagger18.44 Team Handball.
Prerequisite: adequate preparation for the intermediate course. Students should consult the department
about preparation required for each activity.
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## $\dagger 19$ series Advanced Techniques in Movement Activity

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2 hours; 1 credit
Advanced techniques and skills in individual and dual sports, team sports, gymnastics, aquatic sports, and rhythmic movement activities. Students may be required to provide equipment or supplies for these courses.
\(\dagger 19.3\) Badminton.
\(\dagger 19.7\) Fencing.
\(\dagger 19.23\) Swimming.
\(\dagger 19.25\) Tennis.
\(\dagger 19.27\) Volleyball.
\(\dagger 19.28\) Wall Sports.
Prerequisite: adequate preparation for the advanced course. Students should consult the department about preparation required for each activity.
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## 20 Camping Leadership

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2 hours; 2 credits
Techniques of camp counseling. Program construction for the short-term and long-term camper. Organization and leadership for in-city day camps. Planning for successful family and individual camping experiences.
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## 21 Psychology of Sport and Physical Activity

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3 hours; 3 credits
Analysis of psychological variables in sport and physical activity. Examination of broad issues and studies in sport psychology with special emphasis on their practical application.
Prerequisite: Physical Education 2, or six credits in Psychology, or permission of the chairperson.
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### 22.1 Field Experience I

2 hours; 1 credit
Experience in an area of the student's expressed professional objective in which the student participates and observes behavior in a setting outside the college community. A student who has had community
experience in another course, such as Physical Education 70, may ask to be excused. It is recommended that this course be taken in the sophomore year.
Prerequisite: candidacy for a B.S. degree with a major in physical education and sophomore standing.

### 22.2 Field Experience II

2 hours; 1 credit
In-service experience in an area of the student's expressed professional objective, within the college setting. Students should consult a counselor before registration.
Prerequisite: all of the following: candidacy for a B.S. degree with a major in physical education, junior or senior standing, permission of the chairperson, a department average of 2.70 or higher in physical education courses, a scholastic index of 2.00 or higher.

### 22.4 Field Experience III

4 hours; 2 credits
In-service experience in athletic training, within the college setting. Students should consult a counselor before registration.
Prerequisite: Physical Education 26 and candidacy for a B.S. degree with a major in physical education and sophomore standing.

### 22.71 Human Physiology

3 hours; 3 credits
Application of physiological concepts to health and life. The mechanisms and control systems that allow for functional harmony. Systemic approach to the physiology of bone, muscle, nerve, special senses, circulation, respiration, digestion, metabolism, the endocrine glands, and reproduction. This course is the same as Health and Nutrition Sciences 22.71. (Not open to students who are enrolled in or have completed Biology 6.1 or 6.2.)
Prerequisite: one of the following: Biology 1, 3, Chemistry 0.4, 1, 1.5, 5, Core Studies 7.1, 8.1.

### 22.75 Human Anatomy

2 hours lecture, 2 hours laboratory; 3 credits
Structure of systems in the human body. Macroscopic dissection of a mammalian specimen. (Not open to students who are enrolled in or have completed Biology 6.1 or 6.2 or 22.7 or 24.2 or Health and Physical Education 22.7 or Health Science 22.75.)

## 23 First Aid and Safety

4 hours; 3 credits
Theory and practice of cardiopulmonary resuscitation and first aid. Safety procedures in school and community. Incidence and prevention of accidental injuries. This course is the same as Health and Nutrition Sciences 14. (Not open to students who are enrolled in or have completed Physical Education 44.1, 44.2, or 45 .)

## 24 Physical Education in the Elementary School

3 hours; 3 credits
For teachers and prospective teachers of physical education on the preschool or elementary school level. Developments and trends in physical education such as games, dances, rhythmic activities, stunts, and other motor activities for the preschool level through the eighth grade. Directed and problem-solving methods of teaching physical education permitting individual development in accordance with personal ability and potential. Intended for physical education majors.
Prerequisite: sophomore or junior or senior standing. Physical Education 35 or one course in education is recommended.

## 26 Health Aspects and Techniques for the Athletic Trainer

3 hours; 3 credits
Comprehensive guide for medical and health supervision of school and college sports activities for the athletic trainer and physical educator. Procedures of examining with team physician training, conditioning, reconditioning, evaluating, and treating the athlete. Study of physical examination, legal implications in school athletics, common injuries in sports, health hazards associated with specific sports, and reconditioning the injured athlete.
Prerequisite: Physical Education 22.71 and 22.75 or the equivalent.

## 27 Advanced Athletic Training

2 hours lecture, 2 hours laboratory; 3 credits
Advanced concepts and techniques of athletic training; recognition, evaluation, and management of athletic injuries.
Prerequisite: Physical Education 26.

## 30 Physiology of Exercise

2 hours lecture, 2 hours laboratory; 3 credits
Physiological factors involved in bodily movement and performance of work. Such phenomena as responsive changes in circulation and respiration coincident with exercise, and adaptation to environmental conditions. Efficiency, physical fitness, coordination, and fatigue.
Prerequisite: Physical Education 22.71 and 22.75 or the equivalent.

### 30.1 Exercise Testing and Prescription

2 hours lecture, 2 hours laboratory; 3 credits
Maximal and sub-maximal tests for the evaluation of cardiovascular fitness. Laboratory and field procedures for the measurement of body composition, muscular strength, endurance, and power. Risk assessment and stratification. Interpreting test results and developing exercise prescriptions for healthy adults. Assessing progress.
Prerequisite: Physical Education 4.4, 22.71, 22.75, 30.
Prerequisite or corequisite: Physical Education 75.

## $\dagger 31.1$ Theory and Practice of Combative Sports

1 hour lecture, 2 hours activity; 2 credits
Theory and practice of wrestling and selected martial arts. Organization and conduct of programs in these sports on appropriate levels. Techniques of coaching.

## $\dagger$ 31.2 Theory and Practice of Basketball

1 hour lecture, 2 hours activity; 2 credits.
Theory and practice of basketball and modified forms of the game. Participation in team formations. Organization and conduct of programs. Coaching techniques.
Prerequisite: Physical Education 17.33 or the equivalent.

## $\dagger 31.3$ Theory and Practice of Football

1 hour lecture, 2 hours activity; 2 credits
Theory and practice of football, six-player football, touch football, and other modified forms of the game.
Participation in offensive and defensive formations. Organization and conduct of programs. Techniques of coaching.
Prerequisite: Physical Education 17.39 or the equivalent.

## $\dagger 31.4$ Theory and Practice of Soccer

1 hour lecture, 2 hours activity; 2 credits
Theory and practice of soccer and modified forms of the game. Organization and conduct of programs and games. Techniques of coaching.
Prerequisite: Physical Education 17.38 or the equivalent.

## $\dagger$ 32.2 Theory and Practice of Dual Games

1 hour lecture, 2 hours activity; 2 credits
Theory and practice in tennis and badminton. Participation in planned contests. Organization and conduct of programs. Techniques of coaching.
Prerequisite: Physical Education 15.1; or Physical Education 17.3 and 17.25; or the equivalent of the courses.

## $\dagger$ 32.3 Theory and Practice of Baseball

1 hour lecture, 2 hours activity; 2 credits
Theory and practice of baseball, softball, indoor baseball, and related games. Team play, organization and conduct of programs. Techniques of coaching.
Prerequisite: Physical Education 17.22 or the equivalent.

## $\dagger$ 32.4 Theory and Practice of Track and Field

1 hour lecture, 2 hours activity; 2 credits
Theory and practice of track and field. Organization and conduct of programs and meets. Techniques of coaching.
Prerequisite: Physical Education 17.26 or the equivalent.
$\dagger 33$ Theory and Practice of Gymnastics and Tumbling
1 hour lecture, 2 hours activity; 2 credits
Advanced men's gymnastics, tumbling, pyramid building, hand-to-hand balancing, and gymnastic games.
Techniques of coaching. (Not open to students who are enrolled in or have completed Physical Education
53.)

Prerequisite: Physical Education 1.4 or 17.13 or the equivalent.

## $\dagger 34$ Swimming and Diving

1 hour lecture, 2 hours activity; 2 credits
Form and style in swimming and diving. Techniques of coaching. Organization and conduct of programs.
Prerequisite: Physical Education 18.23 or the equivalent.

## $\dagger 35$ Group Games

1 hour recitation, 2 hours activity; 2 credits
Group games of low organization adaptable for children of elementary school age. Emphasis on development of skill, techniques, and methods of organizing and conducting such activities.

## 36 Movement Activities in Early Childhood

1 hour lecture, 2 hours laboratory; 2 credits
Movement skills and related physical education activities for children in nursery through third grade.

## 37 Skill Activity in the Upper Elementary Grades

1 hour lecture, 2 hours laboratory; 2 credits
Physical education activities for upper elementary grade children in grades three through six. Individualsport, dual- sport, and team-sport skills.

## $\dagger 38$ Officiating at Team Games

1 hour lecture, 2 hours activity; 2 credits
Principles and practice in rules and regulations of sports. Practice in officiating at intramurals.
Prerequisite: Physical Education 31.2 and 56; or the equivalent.
The following courses, "Emergency Care" and "Emergency Care Practicum," include the curricular material required by the Department of Health of the State of New York for the preparation of certified Emergency Medical Technicians. Upon successful completion of both classes, and following the attainment of a passing grade on the State Health Department practical examination and final written examination, students will be eligible for certification.

### 44.1 Emergency Care

4 hours; 4 credits
Techniques of emergency medical care considered to be within the responsibility of the emergency medical technician.
Prerequisite: certification in cardiopulmonary resuscitation and first aid by one of the following: American Red Cross, American Heart Association, National Safety Council, New York City Regional Emergency Medical Service Council; and department permission.
Corequisite: Physical Education 44.2.

### 44.2 Emergency Care Practicum

4 hours laboratory including supervised practice,
1 hour fieldwork; 21/2 credits
Development of emergency care skills. Supervised fieldwork in a hospital emergency room.
Prerequisite: certification in cardiopulmonary resuscitation and first aid by one of the following: American
Red Cross, American Heart Association, National Safety Council, New York City Regional Emergency Medical Service Council; and department permission.
Corequisite: Physical Education 44.1.

## 45 Leadership in Emergency Care

1 hour lecture, 2 hours laboratory; 2 credits
Organization and administration of cardiopulmonary resuscitation and first aid programs. Analysis and testing of emergency care skills. Fulfills the minimum requirements for American Red Cross Instructor Certification in Community First Aid and Safety.
Prerequisite: American Red Cross Certification in Community First Aid and Safety or New York State Department of Health Emergency Medical Technicians Certification or the equivalent.

## $\dagger$ 47.1 Theory and Practice of Folk Dancing

1 hour lecture, 2 hours activity; 2 credits
Theory and practice of fundamental and traditional folk dance steps and patterns. Techniques for various age groups; integration of cultural background of folk dances of different nations.
Prerequisite: one of the following: Physical Education 17.11, 18.11, 17.14, 18.14, the equivalent of one of these.

### 49.1 Lifeguarding

1 hour recitation, 2 hours activity, 2 hours supervised field experience; 3 credits
Skills and knowledge necessary to provide a safe aquatic environment at a lakefront or pool; entry level requirement for beach lifeguarding. Organizational and administrative practices. Supervised internship as lifeguard at Brooklyn College pool. Students successfully completing this course may be eligible to apply for American Red Cross Lifeguard certification.
Prerequisite: permission of the department chairperson; and a current American Red Cross certificate for first aid and for cardiopulmonary resuscitation; and the ability to swim continuously 500 yards.

### 49.2 Leadership in Aquatics

1 hour recitation, 2 hours activity; 2 credits
Organization and administration of aquatic programs in schools, community centers, and summer camps. Study of standards of safety and sanitation of swimming areas. Analysis and methods of teaching strokes, safety, skills, diving, and lifesaving techniques. Officiating. Fulfills the requirements of the Red Cross water safety instructor's certificate.
Prerequisite: the ability to swim the following strokes: front crawl, breast, side, and elementary back, and the ability to swim continuously 500 yards.

## 51 Applied Anatomy and Kinesiology

3 hours; 3 credits
Mechanical principles of human motion; macroscopic analysis of bones and muscles; joint leverage and limitations; type of muscular contraction and relations of muscular efficiency to posture; analysis of motor activities.
Prerequisite: Physical Education 11 and 22.75 or the equivalent of the courses.

### 52.1 Physical Education for the Emotionally Disturbed and Physically Disabled

3 hours; 3 credits
Physically disabling emotional and physical disorders.
Special services and programs to aid disabled people in developing their full potential; role of physical education in this development. Principles and methods of adapted physical education.
Prerequisite: one of the following: Physical Education 1, Education 48.1, 58.1, 60.1, permission of the chairperson.

### 52.2 Recreational Therapy

21/2 hours lecture, 1 hour fieldwork; 3 credits
Overview of recreational therapy programs and services for the disabled. Program planning for schools, institutions, and the community.
Prerequisite: Physical Education 7 or permission of the chairperson.

### 52.3 Activities for the Mentally Retarded

21/2 hours lecture, 1 hour fieldwork; 3 credits
Characteristics and needs of people who are mentally retarded. Physical education and recreational activities programs. Methods of teaching basic motor skills and movement perception.

## $\dagger 53$ Theory and Practice of Gymnastics

1 hour lecture, 2 hours activity; 2 credits
Theory and practice of gymnastics and self-testing activities. Techniques of coaching. (Not open to students who are enrolled in or have completed Physical Education 33.)
Prerequisite: Physical Education 1.4 or 17.13 or the equivalent.

## 54 Technique Analysis of Sports Activities

3 hours; 3 credits
An analysis in depth of selected sports activities.
Prerequisite: candidacy for a B.S. degree with a major in physical education; and a minimum of one intermediate-level Physical Education 18 course in each sport activity covered or permission of the chairperson; and Physical Education 51. Students should consult the department about specific required sports before registration.

## $\dagger 55$ Theory and Practice of Field Hockey

1 hour lecture, 2 hours activity; 2 credits
Theory and practice in field hockey. Techniques of coaching.
Prerequisite: Physical Education 17.8 or the equivalent.

## $\dagger 56$ Theory and Practice of Volleyball and Softball

1 hour lecture, 2 hours activity; 2 credits
Theory and practice in volleyball and softball. Techniques of coaching.
Prerequisite: Physical Education 17.22 and 17.27 or the equivalent of the courses.

## $\dagger 57.1$ Theory and Practice of Wall Sports

1 hour lecture, 2 hours activity; 2 credits
Theory and practice in wall sports, handball, paddleball, and squash. Techniques in coaching. (Not open to students who have completed Physical Education 57.)
Prerequisite: Physical Education 17.28 or the equivalent.

## $\dagger 58$ Theory and Practice of Archery and Fencing

1 hour lecture, 2 hours activity; 2 credits
Theory and practice in archery and fencing. Practice in organizing and conducting these activities.
Techniques of coaching.
Prerequisite: Physical Education 15.1; or Physical Education 17.2 and 17.7; or the equivalent of the courses.

## 70 Principles, Materials, and Leadership in Recreation

2 hours; 2 credits
Principles, methods and materials, leadership techniques, areas, and facilities. Their application to recreation and contribution to evaluation of the field.
Prerequisite: sophomore or junior or senior standing.

## 72 Research Processes in Physical Education

3 hours; 3 credits
Introduction to research techniques employed by specialists in diverse fields of exercise physiology, kinesiology, motor learning; psychology and sociology of sport. Tools of critical evaluation of research findings for application to teaching. Laboratory methods of research in physical education.
Prerequisite: junior or senior standing and permission of the chairperson.

## 75 Evaluation in Physical Education

3 hours; 3 credits
Elementary statistical techniques applied to tests and measurements. Historical background and evaluation of tests including those designated to measure health attitudes and knowledge, physical fitness, and neuromuscular proficiency. (Not open to students who are enrolled in or have completed Health Science 60.)

Prerequisite: candidacy for a B.S. degree with a major in physical education or permission of the chairperson; and junior or senior standing; and eight credits in advanced courses in the Department of Physical Education.

## 77.1, 77.2 Coaching Internship I, II

1 hour recitation, 6 hours fieldwork; 3 credits each term
Field experience for students specializing in coaching. Students are assigned as assistants in high school and college coaching programs. Coaching techniques, organization of practices and games, lesson plan development, behavioral objectives, styles and methods of coaching.
Prerequisite: junior or senior standing and permission of the chairperson.

## 78 Organization and Administration in Physical Education

3 hours; 3 credits
Policies in the organization, administration, and supervision of physical education and swimming programs. Administration of the physical education plant and intercollegiate athletics.
Prerequisite: candidacy for a B.S. degree with a major in physical education or permission of the chairperson; and junior or senior standing; and eight credits in advanced courses in the Department of Physical Education.

### 79.1 Recreation Field Experience I

1 hour recitation, 3 hours observation; 2 credits
Supervised field experience designed to give the student an introduction to actual field situations. Visits to recreation programs, public and private. Students work three hours each week in agencies approved by the chairperson.
Prerequisite or corequisite: Physical Education 70 or the equivalent.

### 79.2 Recreation Field Experience II

3 hours field work; 1 credit
Supervised leadership experience in community recreation programs.
Prerequisite or corequisite: Physical Education 79.1.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for the courses described below. Students may not register for more than six credits in honors courses in the department in one term.

## 82 Independent Study

6 hours conference and independent work§; 2 credits
Independent study and readings in an area of specialization in the profession of physical education.
Conferences. Report or term paper.
Prerequisite: senior standing and an index of 3.00 or higher in physical education courses and a scholastic index of 2.50 or higher and permission of the chairperson.

## 83 Directed Research

6 hours conference and independent work§; 2 credits
The structuring and completion of a research topic in any area in the field of physical education. Design, test, and evaluation of research data. Report or term paper.
Prerequisite: all of the following: Physical Education 72, senior standing, an index of 3.00 or higher in physical education courses, a scholastic index of 2.70 or higher, permission of the chairperson.

## Dance

### 1.3 Survey of Twentieth-Century Dance

3 hours; 3 credits
Study of twentieth-century dance. Required reading, films, demonstrations, concert attendance.

## 9.1, 9.2 Introduction to Modern Dance Technique I

4 hours; 2 credits each term
Introduction to the basic elements of modern dance technique. Dance 9.1 and 9.2 may each be taken twice for credit, but no more than 8 credits can be taken in any combination of Dance 9, 9.1, and 9.2.

## 10.1, 10.2 Introduction to Modern Dance Technique II

4 hours; 2 credits each term
Further exploration of the elements of modern dance technique. Dance 10.1 and 10.2 may be taken twice each for credit, but no more than 8 credits can be taken in any combination of Dance 10, 10.1, and 10.2.
Prerequisite: Dance 9.1 and 9.2 or the equivalent.

## 16.1, 16.2, 16.3, 16.4 Ballet

4 hours; 2 credits each term
Study of the technique of ballet.
Prerequisite for 16.3, 16.4: Dance 16.1 or the equivalent.

## 18.1, 18.2 Ethnic Styles in Dance I, II

## 1 hour lecture; 2 hours workshop; 2 credits each term

Concentrated study in an ethnic dance style such as the following: African, American Indian, Ceylonese, Chinese, East Indian, Hawaiian, Japanese, Javanese, Spanish. Intensive study of the cultural influences found in the particular dance form. The dance form as a performing art. Performance opportunities.

## +74.1, +74.2 Special Projects in Dance Production, I, II

Minimum of 9 hours participation in dance workshop and performance productions; 3 credits each term Organizational techniques in dance concert production, performance supervision, and choreography. Prerequisite: permission of the instructor.

## 84.1, 84.2 Independent Work in Dance

Minimum of 3 hours conference and independent work§; 1 credit each term Independent work and research in dance, dance production, and dance composition.
Prerequisite: permission of the instructor.

## 85.1, 85.2 Independent Work in Dance

Minimum of 6 hours conference and independent work§; 2 credits each term
Independent work and research in dance, dance production, and dance composition.
Prerequisite: permission of the instructor.

## 86.1, 86.2 Independent Work in Dance

Minimum of 9 hours conference and independent work§ in dance composition, production, or research; 3 credits each term
Prerequisite: permission of the instructor.

## 90 Seminar in Style Criticism

3 hours; 3 credits
Investigation of principles and influences in dance. Comparative studies of styles and trends. Critical study of selected works. The effect of other arts and cultures on choreography. Independent research. Assigned projects.
Prerequisite: permission of the instructor.

Students interested in dance should note that, in addition to the dance courses listed above, the Department of Physical Education and Exercise Science also offers:
17.11: Folk and Square Dance
18.11: Folk and Square Dance
17.14: Israeli Folk Dance
17.21: Ballroom Dancing
18.14: Israeli Folk Dance
47.1: Theory and Practice of Folk Dancing

Students should see the physical education course listings for descriptions.

## Physics

Department office: 3438 Ingersoll Hall
Telephone: 951-5418, 951-5419, 951-5420
Chairperson: Peter M. S. Lesser
Deputy Chairperson, CLAS: Joseph Gruenebaum
Deputy Chairperson, SGS: Ming-Kung Liou
Deputy Chairperson, Division of Graduate Studies: Ming-Kung Liou
Professors: Bond, Celenza, Franco, Halpern, Krieger, Lancman, Lesser, Liou, Pollak, Sahni, Schwartz, Shakin, Sobel, Tomkiewicz;
Associate Professor: Miyano;
Assistant Professor: Ghaemi;
Adjunct Professor: Gruenebaum.

## Core curriculum

The Department of Physics participates in the college's core curriculum through Core Studies 7.2.

## Courses for reentering students

A student who has credit for courses in physics at Brooklyn College that are no longer offered and who wants to take additional courses in physics, must consult a department counselor to determine which courses in the present numbering system are equivalent to those for which credit has already been earned.

## Recommendations for prospective physics majors

Prospective physics majors should consult a department counselor during the lower-freshman term about the recommended program of study.
Depending on their objectives, students follow one of the sequences of study outlined below.

## B.A. and B.S. degree programs in physics HEGIS code 1902

Sequence for students planning graduate work toward a Ph.D. degree in physics or astronomy.
Department requirements ( $6511 / 42$ credits)
To enroll in advanced physics courses, students must earn
a grade of $C$ or higher in the physics and mathematics prerequisites of the courses, unless they are excused from this requirement by the chairperson. A student who receives a grade of $D$ in a required physics or mathematics course must consult the chairperson before registering for another physics course. The student is usually advised to repeat the course.
All of the following: Physics 1.5, 2.5, 10.5, 16, 18, 19, 29, 61.2, 61.5, 62.6, 62.7, 67.1.
Chemistry 1 and 2.
Computer and Information Science 1.5 or 1.10 or 1.20.
Mathematics 3.3 and 4.3 and 5.3.
Mathematics 13.

## Sequence for students not planning graduate work toward a Ph.D. degree in physics or astronomy

This sequence is intended for premedical and predental students, for students preparing for teaching in secondary school, and for others for whom a broad background in physics is desirable.
Department requirements (52-5311/42 credits)
To enroll in advanced physics courses, students must earn a grade of $C$ or higher in the physics and mathematics prerequisites of the courses, unless they are excused from this requirement by the chairperson. A student who receives a grade of $D$ in a required physics or mathematics course must consult the chairperson before registering for another physics course. The student is usually advised to repeat the course.
a) Physics 1 or 1.5 ; and 2 or 2.5 .
b) All of the following: Physics 10.2, 10.5, 18, 19, 38 or 39, 67.1, 76.
c) Two physics courses numbered in the 40 s .
d) Two physics courses numbered between 50 and 65 . With the permission of the chairperson, either Physics 11.3 or 13.3 may be substituted for one of these courses.
e) Chemistry 1 and 2; or Chemistry 1.1, 1.2, and 2.
f) Mathematics 3.3 and 4.3.

## Additional requirements for a B.S. degree

Candidates for a B.S. degree with a major in physics must complete at least 60 credits in science and mathematics; 24 of these 60 credits must be completed in advanced courses in the Physics Department. These 24 credits must be completed at Brooklyn College with a grade of $C$ or higher in each course. The following courses may be applied toward the 60 credits in science and mathematics:
A) All courses in the departments of biology, chemistry, computer and information science, geology, mathematics, physics, and psychology.
B) Courses marked with a (•) symbol in the Department of Health and Nutrition Sciences.
C) Anthropology and Archaeology 2.4, 16, 24.1, 26.1, 26.2, 36, 85.3.

Core Studies 5, 7.1, 7.2, 8.1, 8.2.
Economics 30.2, 30.3, 31.1, 31.2.
Philosophy 13, 33, 42.
Physical Education 22.71, 22.75, 23, 30, 51.
Sociology 77.1.

## Division of Graduate Studies

The Physics Department offers master of arts degree programs in physics and physics teacher (grades 7 through 12). Some courses may be creditable toward the CUNY doctoral degree. For information, students should consult the department's deputy for graduate studies. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 18 credits in advanced courses for majors in this department.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## Workshops

No credit
Voluntary sessions for students enrolled in Physics 1, 1.5, 2, and 2.5 who need additional assistance. Emphasis on the solution of problems encountered in these courses.

## *0.11 Introduction to Astronomy

3 hours; 3 credits
Organization of the universe. Time and distance scales. Stars and stellar evolution. Galaxies. The evolutionary universe. Recommended for nonscience majors. (Not open to students who are enrolled in or who have completed Physics 0.6 or 31 or 32.)
Prerequisite: Core Studies 7.2 or its equivalent.

## *0.12 The Search for Life in the Universe

3 hours; 3 credits
The solar system. Exploration of the planets. Life in the solar system. The search for extraterrestrial intelligence. Interstellar communication and space travel. Recommended for nonscience majors. Physics
0.11 is not a prerequisite for Physics 0.12. (Not open to students who are enrolled in or who have completed Physics 0.6 or 31 or 32 .)
Prerequisite: Core Studies 7.2 or its equivalent.

## *0.17 A History of Ideas in Physics

3 hours; 3 credits
Development of philosophical points of view in physics from ancient times to the present. Interplay of ideas from science, philosophy, and the world views of various societies. (Not open to students who have completed Physics 36 or Philosophy 17.)
Prerequisite: Core Studies 7.2 or its equivalent.

## *0.3 Energy in a Technological Society

3 hours; 3 credits
The different forms of energy; conventional energy sources; nuclear power; engines; electrical energy; energy consumption; global resources and users; environmental effects; future energy sources.
Prerequisite: elementary algebra, or Course 1 of the New York State Sequential Mathematics Curriculum, or Mathematics 0.35 .

## *0.6 Survey of the Universe

4 hours; 4 credits
Introduction to astronomy for nonscience majors. Topics include the solar system, stars, galaxies, and cosmology. No mathematics or physics background necessary. (Not open to students who are enrolled in or have completed any of the following: Physics $0.11,0.12,1,1.1,1.2,1.5,31,32$.

## *1 General Physics I

3 hours lecture, 1 hour recitation, 2 hours laboratory; 5 credits
Introduction to mechanics, heat, and sound. Intended for students interested in the biological sciences, medicine, or dentistry. (Not open to students who are enrolled in or have completed any of the following: Physics 1.1, 1.2, 1.5.)
Prerequisite: a grade of C or higher in Mathematics 2.9 or 2.92 or in any mathematics course numbered higher than 2.92; or placement in Mathematics 3.3 on the basis of the calculus placement test. Students who think they are insufficiently prepared in problem solving are advised to take Physics 1.1 and 1.2 instead of Physics 1.

## *1.1 General Physics IA

3 hours; 2 credits
Introduction to mechanics with more introductory material than is covered in Physics 1. Physics 1.1 and 1.2 constitute a two-term sequence intended for students who are not prepared for Physics 1. (Not open to students who are enrolled in or have completed Physics 0.7 or 1 or 1.5.)
Prerequisite: a grade of $C$ or higher in Mathematics 2.9 or 2.92 or in any mathematics course numbered higher than 2.92; or placement in Mathematics 3.3 on the basis of the calculus placement test.

## *1.2 General Physics IB

4 hours lecture, 2 hours laboratory; 4 credits
Continuation of Physics 1.1 and an introduction to heat and sound. Students who complete this course with a grade of $C$ or higher may register for Physics 2. (Not open to students who are enrolled in or have completed Physics 1 or 1.5.)
Prerequisite: a grade of C or higher in Physics 1.1.

## *1.5 General Physics I

3 hours lecture, 1 hour recitation, 2 hours laboratory; 5 credits
Introduction to mechanics and heat. Intended for students majoring in the physical sciences or engineering. (Not open to students who are enrolled in or have completed any of the following: Physics 1, 1.1, 1.2.)
Prerequisite or corequisite: Mathematics 4.3.

## *2 General Physics II

3 hours lecture, 1 hour recitation, 2 hours laboratory;
5 credits
Introduction to light, electricity, and modern physics. Intended for students interested in the biological sciences, medicine, or dentistry. (Not open to students who are enrolled in or have completed Physics 2.5.) Prerequisite: Physics 1 or 1.5 ; or Physics 1.2 with a grade of C or higher.

## *2.3 General Physics and the Computer

3 hours lecture, 3 hours laboratory; 4 credits
Introduction to basic concepts in electricity and magnetism with application to electronics and computer technology. Intended for students majoring in computer and information science.
Prerequisite: a grade of C or higher in Mathematics 2.9 or 2.92 or in any mathematics course numbered higher than 2.92; or placement in Mathematics 3.3 on the basis of the calculus placement test.

## *2.5 General Physics II

3 hours lecture, 1 hour recitation, 2 hours laboratory; 5 credits Introduction to wave phenomena, electricity, and magnetism. Intended for students majoring in the physical sciences or engineering. (Not open to students who are enrolled in or have completed Physics 2.)
Prerequisite: a grade of C or higher in Physics 1.5 and in Mathematics 4.3.
Prerequisite or corequisite: Mathematics 5.3.

To enroll in physics courses not marked (*), students must earn a grade of $C$ or higher in the physics and mathematics prerequisites of such courses unless excused from this requirement by the chairperson.

### 10.2 Techniques of Experimental Research

3 hours laboratory; 11/2 credits
Statistical properties of measurements; basic techniques for precision measurements of length, area, volume, mass, and time; precision measurements of temperature and pressure; transducers; vacuum techniques; laboratory project.
Prerequisite: Physics 2 or 2.5.

### 10.5 Introduction to Modern Physics

3 hours; 3 credits
Introduction to modern physics. Intended for students majoring in the physical sciences. (Not open to students who have completed Physics 14.1.)
Prerequisite: Physics 2.5; or Physics 2 and Mathematics 4.3.

### 11.3 Mechanics

4 hours; 4 credits
Vector treatment of static equilibrium of rigid bodies. Static analysis of trusses and other mechanical structures. Vector treatment of kinematics of particles and rigid bodies. Forces and motion. Analysis of rotational motion; moments of inertia. (Not open to students who are enrolled in or have completed Physics 11 or 11.1 or 61.2.)
Prerequisite: Physics 1.5 or permission of the chairperson.
Prerequisite or corequisite: Mathematics 5.3.

### 13.3 Electric Circuits

4 hours; 4 credits
Passive and active circuit elements. Voltage, current, and power. Kirchhoff's laws; mesh and node analysis. Thevenin's and Norton's theorems. Source-free and forced RL, RC, and RLC circuits. (Not open to students who are enrolled in or have completed Physics 13 or 13.1 or 61.5.)
Prerequisite: Physics 2.5.
Prerequisite or corequisite: Mathematics 13.

## 16 Introduction to Theoretical Physics

4 hours; 4 credits
Methods of theoretical physics applied to selected topics in mechanics, thermodynamics, electricity and magnetism, and wave phenomena.
Prerequisite: Physics 2.5.
Prerequisite or corequisite: Mathematics 13.

## 18 Analog Electronics Laboratory

4 hours; 2 credits
Experimental study of basic electrical measurements and instruments. Experiments in analog electronics and uses of electronic equipment.
Prerequisite: Physics 2 or 2.5 .

## 19 Digital Electronics Laboratory

3 hours; 11/2 credits
Experiments and design projects in digital electronics.
Prerequisite: Physics 18.

## 29 Electronics

3 hours; 3 credits
A.C. and D.C. circuit theory. Principles of semiconductors and transducers. Semiconductor circuits and analysis of these circuits. Instruments. (Not open to students who are enrolled in or have completed Physics 29.2.)
Prerequisite: Physics 2 or 2.5 .
Prerequisite or corequisite: Mathematics 5.3.

## 38 Astrophysics and Cosmology

3 hours; 3 credits
The nature of stars: physical properties, energy generation, and evolution. Structure, distribution, and evolution of galaxies. Cosmological models of the universe. Observational cosomology. The big bang, the early universe, and the age of the universe.
Prerequisite: Physics 2 or 2.5; Mathematics 3.3.

## 39 Physics in Medicine

3 hours; 3 credits
Blood flow. Sound waves and hearing, pulse echo-techniques. Electrocardiography. Optics of the eye. Xrays, CAT scanning. Nuclear radiation, emission tomography, MRI and PET scanning.
Prerequisite: Physics 2 and Mathematics 3.3, or Physics 2.5.

## 41 Historical and Biographical Studies in Physics

2 hours; 2 credits
Studies of the lives of individuals important to the history of physics; emphasis on the cultural background and time period in which they made their contributions; personal, psychological, and philosophical profiles examined when available.
Prerequisite: Physics 10.5 and 67.1.

## 42 Issues in Physics and Society

2 hours; 2 credits
A technical and quantitative study of one of these issues:

1) nuclear weapons, effects, proliferation, arms control;
2) nuclear energy, prospects in fission and fusion, environmental problems; 3) renewable energy sources, such as solar and wind power, energy storage; 4) the global environment, sources of pollution, greenhouse gases, climatic effects.
Prerequisite: Physics 10.5 and 67.1.

## 51 Topics in Condensed Matter Physics

3 hours; 3 credits
The nature of crystals; diffraction and periodicity; electrical properties of materials; semiconductors and semiconductor devices; interaction of light with solids; LED's and solid-state lasers; superconductivity; surfaces and interfaces.
Prerequisite: Physics 10.5 and 67.1.

## 52 Topics in Nuclear Physics

3 hours; 3 credits
Nucleons and nuclear forces; basic properties of nuclei; radioactive decay; fission, fusion, nuclear energy; interactions of radiation with matter; accelerators, nuclear reactions, nucleosynthesis; applications of nuclear physics to medicine and food processing; nuclear dating and trace element analysis; particle physics.
Prerequisite: Physics 10.5 and 67.1.

### 61.2 Analytical Mechanics

3 hours; 3 credits
Review of Newtonian mechanics; oscillatory motion and resonance; Hamiltonian and Lagrangian mechanics; two-body motion; kinematics and the inverse square law; rigid-body motion; normal modes.
Prerequisite: Physics 16.

### 61.5 Electromagnetic Theory

## 3 hours; 3 credits

Electrostatic and magnetostatic boundary value problems; systematic derivation of Maxwell's equations in vector notation; plane electromagnetic waves; spherical electromagnetic waves; application of Maxwell's equations to reflection, diffraction, dispersion, and scattering.
Prerequisite: Physics 16.

### 62.6 Atomic Physics and Quantum Mechanics I

3 hours; 3 credits
Development of the Schroedinger equation and principles of quantum mechanics. Solutions of the Schroedinger equation; the one-electron atom; perturbation theory; thermal radiation.
Prerequisite: Physics 2.5 and 10.5 and 16.

### 62.7 Atomic Physics and Quantum Mechanics II

## 3 hours; 3 credits

Further development of the principles of quantum mechanics with application to atomic, molecular, solidstate, and nuclear phenomena.
Prerequisite: Physics 62.6.

### 64.2 Statistical Physics

3 hours; 3 credits
Thermodynamic-state functions; Maxwell relations. Kinetic theory of an ideal gas; Maxwell distribution of velocities; collisions; Boltzmann H-theorem. Classical statistical mechanics; microcanonical ensemble, canonical ensemble; quantum statistical mechanics; Fermi and Bose statistics; electron gas; Bose gas; blackbody radiation.
Prerequisite: Physics 62.6.

### 64.5 Solid-state Physics

3 hours; 3 credits
Structure of crystals; x-ray, electron, and neutron diffraction; specific heat and lattice vibrations; alloys, ionic crystals, dielectrics; free-electron theory of metals; band theory of solids; insulators and semiconductors; pn junctions; diamagnetism, paramagnetism and ferromagnetism.
Prerequisite: Physics 62.6.

### 67.1 Advanced Laboratory I

4 hours; 2 credits
Advanced experiments in optics, electricity, electronics, and in atomic and nuclear physics.
Prerequisite: Physics 18.
Prerequisite or corequisite: Physics 19.

### 67.2 Advanced Laboratory II

4 hours; 2 credits
Continuation of Physics 67.1.
Prerequisite: Physics 67.1 and permission of the chairperson.

## Seminar

## 74.1, 74.2 Seminar I, II

3 hours; 3 credits
Group study of topics in physics or in its social, economic, moral, or ethical implications.
Prerequisite: permission of the chairperson.

## 76 Senior Project

6 hours conference and independent work; 2 credits
Independent project or set of related projects supervised by a faculty member. Projects may include original design and prototype of lecture demonstration equipment, physics museum display, new equipment or procedures for undergradaute instructional laboratories, or a written thesis. Emphasis on the communication of physics concepts and their application. Presentation of projects at a departmental seminar is required.
Prerequisite: Physics 10.5, 19, and 67.1.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for courses described below. Students may not register for more than six credits in honors courses in physics in one term. Permission to register for honors courses is usually given only to superior students in their senior year.

## 83.1, 83.2 Independent Research I, II

Minimum of 9 hours conference and independent work; 3 credits
Independent research supervised by a faculty member. Weekly conference. Thesis or report.
Prerequisite of 83.1: completion of an approved program of advanced Physics Department courses and permission of the instructor and the chairperson.
Prerequisite of 83.2: Physics 83.1 and permission of the instructor and the chairperson.

## 88.1, 88.2 Independent Study I, II

Minimum of 9 hours conference and independent work; 3 credits
Independent study supervised by a faculty member. Approved reading. Written examination.
Prerequisite of 88.1: completion of an approved program of advanced Physics Department courses and permission of the instructor and the chairperson.
Prerequisite of 88.2: Physics 88.1 and permission of the instructor and the chairperson.

## Political Science

Department office: 3413 James Hall
Telephone: 951-5306, 951-5307
Chairperson: Vincent Fuccillo
Deputy Chairperson, CLAS: Sally Bermanzohn
Deputy Chairperson, Division of Graduate Studies: Mark Ungar
Deputy Chairperson, Worker Education Program: Joseph Wilson
Professors: Farber, Kahan, Wilson;
Associate Professors: Currah, Fuccillo, London;
Assistant Professors: Bermanzohn, Ness, Robin, Ungar.

## Core curriculum

The Department of Political Science participates in the college's core curriculum through Core Studies 3.
B.A. degree program in political science

HEGIS code 2207
Department requirements (24-27 credits)

1. Political Science *1.51 or *1.7.
2. A total of seven courses chosen from the following fields in political science plus any prerequisite of the courses: American and urban politics; international politics; comparative politics; and political theory and methodology. At least one course must be chosen from each field. Political Science 20.11 and/or 20.12, if completed with a grade of $C$ or higher, may be counted in the field of American and urban politics. With permission of the chairperson, one special topics course chosen from Political Science 60.1 through 60.5 may be substituted for one of the seven courses.
3. One seminar chosen from Political Science 79.11 through 79.52.

## Requirements for a minor in political science

At least 12 credits of advanced electives in political science. Each course must be completed at Brooklyn College with a grade of $C$ or higher. Students are advised to consult with a departmental counselor to plan their minor.

## Requirements for an interdisciplinary minor in law and society

Courses in political science presented for this minor may not be counted toward the political science major. Twelve credits chosen from the courses of two or more departments as specified below. Each course must be completed with a grade of $C$ or higher.
Africana Studies 43, 43.2; Anthropology and Archaeology 34, 35; Classics 34; Political Science 21, 22, 26.2, 45.1; Sociology 43.5, 51.4.

## Department honors

Students who want to qualify for honors in political science must have an average of 3.50 or higher in all political science courses, except Political Science 1.51 or 1.6 or 1.7 , and a grade of $A$ in a seminar. All course work eligible for consideration for department honors must be taken at Brooklyn College.

## B.A. degree program for social studies teacher (7-12)

HEGIS code 2201.01
The student-teaching sequence of courses in secondary school social studies education is described in the "Education" section in this Bulletin.

Political science concentration for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher (K-6); special education teacher.

The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs and who elect a concentration in political science must complete all of the following courses with a grade of C or higher: Political Science $1.51 ; 1.7 ; 25$ or 38 or 75.2 ; at least three additional credits of political science electives.

## Recommendation for prospective graduate students

Prospective graduate students in political science should develop reading comprehension in at least one foreign language given at the college.

## Division of Graduate Studies

The Political Science Department offers a master of arts degree program in political science. Some courses may be creditable toward the CUNY doctoral degree.
For information, students should consult the department's deputy chairperson for graduate studies. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 18 credits in advanced courses for majors in this department. §Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## *1.51 Introduction to American Government

## 3 hours; 3 credits

Fundamental concepts, political principles, processes, and institutions of American government. Topics may include: constitutional foundations, civil liberties, the mass media, public opinion, special interest groups, political parties, elections, the presidency, Congress, and the courts.

## *1.7 Introduction to Politics

3 hours; 3 credits
Introduction to political science and contemporary issues. The concepts and uses of power, the nature and role of the state, the development and politics of identity, political economy, political change, the global financial order. Application to specific countries and problems.

## American and urban politics

## 21 Law and the Political Process

3 hours; 3 credits
Role of legal concepts in the American political system. Judicial behavior and administration.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 22 The Politics of Criminal Justice

3 hours; 3 credits
Policies, procedures, and institutions in criminal law administration. Operations of the criminal justice system and the political role of the system. Problem of the existence and continued growth of criminal behavior in all segments of American society; relation between a political system and the conduct of its citizens.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 23 Urban Life and Politics

3 hours; 3 credits
Introduction to the major approaches to the field of political science and to the controversies that surround this subject. Principal patterns of cultural, social, economic, and political life in urban settings. Interplay and impact of forces, events, behaviors, and practices that have shaped life in urban areas in the past and continue to do so in the present.
Prerequisite: two of the following courses: Core Studies 3, 4, and 9, or their equivalents.

## 25 Urban Government and Politics

3 hours; 3 credits
Structure, activities, and problems of contemporary urban government. Changing nature of federal, state, regional, and local relationships. Nature of decision-making process in an urban political environment. New York metropolitan area.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 26.1 Constitutional Law

3 hours; 3 credits
Relation of current trends and conflicts in the Supreme Court to the clash of fundamental ideas and values in American society. Cases involving economic issues and policies. Such general subjects as judicial review, jurisdiction and procedure of the court, and judicial recruitment and the nature of the judicial process.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 26.2 Civil Rights and Civil Liberties

3 hours; 3 credits
Relation of current trends and conflicts in the Supreme Court to the clash of fundamental ideas and values in American society. Cases involving civil liberties including such issues as freedom of speech, press, religion, and criminal justice and race relations.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 28 Power in the United States

3 hours; 3 credits
Structure of power of American society and its relation to political ideas, processes, and events at home and abroad. Power in the framework of fundamental technological transformations and worldwide revolutionary tendencies. Viability of the American political system; how it changes. (Not open to students who have completed Political Science 75.3.)
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 31 Women and Politics in the United States

3 hours; 3 credits
Women and politics in the context of the United States of America. Gaining the right to vote; the Equal Rights Amendment; women as political leaders; racial and ethnic diversity of U.S. women; the "gender gap." Policy issues including the feminization of poverty and social welfare. This course is the same as Women's Studies 39.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 32 Public Administration in the United States

3 hours; 3 credits
Executive action in American government. Institutional patterns of administrative process. Problems of organization and management.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 33 The American Presidency

3 hours; 3 credits
Nature and functions of the modern American presidency. Such problems as the selection process and the various roles of the president in the formulation and execution of public policy. (Not open to students who have completed Political Science 35.)
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 36 United States Congress and the Legislative Process

3 hours; 3 credits
Structure and functions of the American Congress and other legislative bodies and their roles in the formulation and execution of public policy. Their internal organization, bases of power, sources of conflict, processes of operation, and patterns of decision making. (Not open to students who have completed Political Science 35.)
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 37.1 American Political Parties

3 hours; 3 credits
Structures, function, organization, and leadership of American political parties and electoral behavior. (Not open to students who have completed Political Science 37.)
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 37.2 Interest Groups and Money in U.S. Politics

3 hours; 3 credits
Organization and operation of public and private interest groups and their relation to government and political parties. Analysis of urban, national, and transnational groups.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 38 Racial and Ethnic Politics in the United States

3 hours; 3 credits
Comparative analysis of the politics of racial and ethnic groups in American urban areas. Problems of assimilation and alienation. Direct action and protest movements. Political experience of African Americans and other ethnic groups.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 39 Political Opinion and Behavior

3 hours; 3 credits
Public opinion and political participation. Political socialization, attitude formation and change, political ideology, and voting behavior. Role of the mass media.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 75.2 Community Power and Politics

3 hours; 3 credits
Nature and distribution of power in American communities. Power and political change. Discussion of community power literature.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 75.4 Politics of the U.S. Labor Movement

3 hours; 3 credits
Examines the root causes of organized labor's decline and the consequences of this decline on working and living conditions, and prospects for labor's revitalization.
Analyzes the political economy of labor, labor's influence at the workplace in the representation of workers, labor leadership and democracy, and labor's political influence in politics. Explores community-labor coalition-building efforts with other actors.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 75.7 Politics of New York: Global City

3 hours; 3 credits
Current politics of globalization and its influence on the politics and economy of New York City. Examination of globalization on the political, legal, and regulatory decision-making processes of New York City.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 75.8 Politics and the Media

3 hours; 3 credits
Influence of the media on politics. Topics include the organization of the media, the news function, investigative journalism, campaign advertisements, ethical doctrines, First Amendment issues, and political and editorial policy. (Not open to students who have completed Political Science 78.7.)
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 75.9 Politics and the Environment

## 3 hours; 3 credits

Political context and public policy with regard to such issues as: global warming; acid rain; air, water, and land pollution; toxic waste removal; deforestation and ozone depletion. Political impact of environmental problems on American policy making. Issues of the environment as the basis of movements for social change in the United States and the world, and as a catalyst of a new postindustrial political order. (Not open to students who have completed Political Science 78.8.)
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## International politics

## 41 Basic Factors in International Politics

3 hours; 3 credits
Identification and analysis of such major theories, approaches, and organizing concepts as power, sovereignty, and national interests. Patterns of action and interaction in the international system. Interstate conflict and management.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 42 Foreign Policies of the Great Powers

3 hours; 3 credits
Comparative study of domestic and international factors influencing foreign policies of the most powerful states. Contemporary international issues emanating from conflicts between them. Techniques of resolution.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 45.1 International Law

3 hours; 3 credits
Structure, problems, and perspectives of the existing international legal system. Attitudes of Western, communist, and developing countries. Such problems as legal and illegal uses of force, intervention in internal conflict, and nationalization of foreign property. Future of international legal order.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 45.2 International and Regional Organizations

3 hours; 3 credits
Policies, authorities, and problems of international and regional organizations. The United Nations, regional alliances, and trade blocs. Examination of their interactions with contemporary political movements, forces, and interests. Analysis of their relationship with economic change, globalization, and the nation-state.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 46 United States in World Politics

3 hours; 3 credits
Changing role of the United States in world politics. Objectives of national strategy. Effect of technology and social revolution on political, military, and economic components of foreign policy.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 76.2 Security and Force in International Relations

3 hours; 3 credits
Uses and concepts of force and security in international and regional politics. History, strategies, and contemporary theories regarding the relationship between force and diplomacy, the role of political and economic changes, and new thinking about national and international security.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 76.3 International Politics of Developing Countries

3 hours; 3 credits
The Third World in international politics. Relations between the states of Africa and those of Asia and Latin America. (Not open to students who have completed Political Science 43.)
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 76.5 Globalization and International Political Movements

3 hours; 3 credits
Cross-national political and social movements. The changing roles of ideology, religion, culture, ethnicity, and identity in the contemporary world.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 76.6 Political Economy of International Relations

3 hours; 3 credits
Interaction of economic and political factors in determining international behavior. Impact of economic and political development on the international structure of power. Foreign aid, trade, and investment as instruments of national power. Problems of resources in international politics. Economic and political integration in the international system. The multinational corporation as an international actor. Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 76.7 Human Rights and World Politics

## 3 hours; 3 credits

Study of human rights problems and the international community's approaches to such problems.
Examination of the history of human rights, the functioning of human rights organizations and agencies, the relationship between human rights and political systems, and the patterns of rights violations against different ethnic, racial, religious, gender, and other groups.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## Comparative politics

### 47.1 Comparative Political Systems: Europe

3 hours; 3 credits
Comparative study of political institutions, processes, and behavior in selected West European political systems. (Not open to students who have completed Political Science 11.)
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 47.5 The Soviet and Post-Soviet Political System

3 hours; 3 credits
Historical and comparative study of political institutions and processes in the former USSR and its successor states. Marxist roots of Russian revolution. Causes and consequences of revolutionary degeneration and decline. Nature and contradictions of post-Soviet society.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 48 Politics of Developing Nations

3 hours; 3 credits
Theories of political development and modernization. Comparison of selected political systems in developing countries. Traditional structures, new social forces and elites, political institutions, and performance. African and Asian states.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 49.1 Latin American Political Systems

3 hours; 3 credits
Political processes and government structures. Diverse capabilities for adaptive decision making and performance in Latin American political systems. (Not open to students who are enrolled in or have completed Political Science 42 or 49 .)
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 49.2 Political Systems of Africa

3 hours; 3 credits
Political developments in the African states. Patterns before and after independence. Development of nationalism. Political integration, institution building, one-party systems, role of the military, and protest movements. Problems of regional and African unity. This course is the same as Africana Studies 12.4. (Not open to students who have completed Africana Studies 2.4 or Afro-American Studies 41.)
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 49.3 Politics of the Middle East

3 hours; 3 credits
Comparative analysis of modernization and integration in the Middle East region. Conflict between traditional and radical elements. Issues of stability, social justice, development, and nationalism. Countries studied include the Arab states, Israel, Iran, and Turkey.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 49.4 Political Systems of East Asia

3 hours; 3 credits
Political institutions and processes in China, Japan, and Korea. Social structure, ideology, political leadership, and differing patterns of development.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 49.5 Government and Politics of Israel

3 hours; 3 credits
Analysis of the political system of Israel. Patterns of politics; political institutions; major policy problems.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 49.6 Government and Politics of Puerto Rico

3 hours; 3 credits
Puerto Rican political systems. Constitutional structure and administrative systems. Contemporary political status and present political party structures. (Not open to students who have completed Puerto Rican Studies 56 or 61.)
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 49.8 Caribbean Political Systems

3 hours; 3 credits
Comparative approach to the government and politics of the contemporary Caribbean. Major states in the Caribbean: Cuba, Haiti, Dominican Republic, the Commonwealth Caribbean; and selected members of other territories. The political economy of these societies and the growth of mass movements. Foreign policies of various Caribbean states. This course is the same as Africana Studies 17.4.
Prerequisite: one of the following: Core Studies 3; Political Science 1.51, 1.7; Africana Studies 5, 17, 17.3.

### 77.2 Protest and Revolution

3 hours; 3 credits
Comparative study of protest and revolution in industrialized and Third World countries. Political, economic, and social conditions that stimulate protest and revolution. Ideological and organizational characteristics of revolutionary movements.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 77.5 Communist Political Systems

3 hours; 3 credits
Comparative study of the political process in such selected communist countries as China and Cuba, and former communist countries of the Soviet Union and Eastern Europe. General characteristics of communist systems in comparison with noncommunist systems.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## Political theory and methodology

## 50 Ancient and Medieval Political Thought

3 hours; 3 credits
Introduction to Western political thought. Major political theorists from Plato to Machiavelli. The nature of political community, the relationship between divine and political regimes, the beginnings of the shift toward secularism in governing, and the use of ancient Greek works of politics in nineteenth- and twentieth-century U.S. debates about justice.

Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 52 Modern Political Thought

3 hours; 3 credits
Methods and problems of political theory. Works of Hobbes, Locke, Rousseau, Marx, Mill, Nietzsche, and other political theorists of the modern era in the West, beginning with the Reformation in the sixteenth century and ending at the close of the nineteenth century. Freedom, justice, power, authority, and the social contract examined in relation to classical liberal, democratic, utilitarian, and Marxist schools of political thought.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 53 Contemporary Political Thought

3 hours; 3 credits
Examination of such ideologies as socialism, communism, fascism, and nationalism. Concepts of freedom, justice, power, domination, resistance, and equality. Other contemporary political theories include: feminist, antiracist, postcolonial, pluralist, democratic, and poststructuralist political theory.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 54 American Political Theory

## 3 hours; 3 credits

Recurring themes and perspectives that characterize the tradition of American political thinking. Issues for discussion and reading selections vary from term to term.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 55 Theory and Methodology in Political Science

3 hours; 3 credits
Various approaches to the study of politics considered from a critical perspective. Relationship between theory and method. Various methodological approaches and epistemological issues. Recommended only for majors. (Not open to students who have completed Political Science 15.)
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 56 Survey Research

3 hours; 3 credits
Fundamentals of survey methods. Consideration of research design, measurement problems, sampling, questionnaire construction, interviewing, and data collection.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 57 Statistics in Political Science

3 hours; 3 credits
Descriptive statistics. Introduction to probability theory and inferential statistics. Problems of sampling. Application of statistics to political science. (Not open to students who are enrolled in or have completed any of the following: Business 30.2, Economics 30.2, Sociology 19.1, 20, 20.1, Political Science 12.5, Psychology 40.1, 50, Mathematics 51.1.)
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## 59 Politics through Literature

3 hours; 3 credits
Contribution of literary sources to the study of politics. Political concepts and problems include political obligation, freedom, authority, revolutionary violence, and technology. Application of political criteria rather than aesthetic criteria to works by such authors as Melville, Faulkner, Orwell, Camus, Morrison, Allende, Naipaul, and Marshall.
Prerequisite: Core Studies 3.

### 78.1 Problems in Modern Democracy

3 hours; 3 credits
Intensive examination of problems in the theory and practice of twentieth-century democracy, such as: the problems confronted by mass movements; democratic regimes and societies attempting democratization; and the effects of statist, bureaucratic, and authoritarian social formations on democratic practices.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 78.2 Radical Political Thought

3 hours; 3 credits
Radical political thought, classical and contemporary. Critique of such dominant radical themes as anarchism, the role of violence, the authority of the state, privilege, and libertarianism. Readings from such theorists as Bakunin, Rousseau, Marx, Veblen, Mao, and Marcuse.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 78.3 Feminist Political Theory

3 hours; 3 credits
An overview of liberal, socialist, cultural, radical, and postmodern feminist political theories. Analysis of political concepts of identity, power, citizenship, and justice in relation to gender and sexuality. Topics include: the public/private split, the sameness/difference debate, notions of domination and resistance, and antiracist approaches to feminism. Policy issues include equal pay, reproductive freedom, and equal rights case law. This course is the same as Women's Studies 40.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 78.4 Technology, Politics, and Work

3 hours; 3 credits
Impact of technology on political processes and institutions. Influence of technology on the nature of power, authority, and legitimacy. Role of the mass media in politics. Study of mass organization. Implications of recent developments in behavior control.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 78.5 Politics and Sexuality

3 hours; 3 credits
Examination of the theory and practice of lesbian, gay, bisexual, and transgender politics. Political analysis of the legal regulation of sexuality and gender, the emergence of modern civil rights movements of sexual minorities, and the discourses of liberation, assimilation, and destabilization deployed in those movements. (This course is the same as Women's Studies 41.)
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7 or permission of the chairperson.

### 78.6 Politics of Fear

3 hours; 3 credits
Examines the role of fear in politics with a focus on the relationships between fear and the state, civil society, the workplace, and other private spheres. Readings from political theory (e.g., Hobbes, Arendt, Foucault), literature (e.g., Brecht, Solzhenitsyn, Kafka), and history. Focus on case studies from the U.S., Latin America, the former Soviet Union, and Nazi Germany.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

### 78.71 Counterrevolution

3 hours; 3 credits
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.
Prerequisite: Core Studies 3 or Political Science 1.51 or 1.7.

## Special topics

### 60.1 Special Topics

3 hours; 3 credits
Topics vary from term to term and reflect special interests of students and faculty. Course description may be obtained in the department office before registration.
Prerequisite: Political Science 1.51 or 1.7.

## Seminars

## Note: Preregistration for all seminars must take place in the department office.

### 79.11, 79.12 Seminar in American Politics

2 hours and independent work§; 3 credits
Intensive examination of aspects of the American political system. Topics are selected by the instructor and vary from term to term. Course description may be obtained in the department office before registration.
Substantial research paper.
Prerequisite: senior standing or permission of the chairperson; and Political Science 1.51 or 1.7.

### 79.21 Seminar in International Politics

2 hours and independent work§; 3 credits
Intensive examination of aspects of international politics. Topics are selected by the instructor and vary from term to term. Course description may be obtained in the department office before registration. Substantial research paper.
Prerequisite: senior standing or permission of the chairperson; and Political Science 1.51 or 1.7.

### 79.31 Seminar in Comparative Politics

2 hours and independent work§; 3 credits
Intensive examination of aspects of comparative politics. Topics are selected by the instructor and vary from term to term. Course description may be obtained in the department office before registration. Substantial research paper.
Prerequisite: senior standing or permission of the chairperson; and Political Science 1.51 or 1.7.

### 79.41 Seminar in Political Theory and Methodology

2 hours and independent work§; 3 credits
Intensive examination of aspects of political theory and methodology. Topics are selected by the instructor and vary from term to term. Course description may be obtained in the department office before registration. Substantial research paper.
Prerequisite: senior standing or permission of the chairperson; and Political Science 1.51 or 1.7.

### 79.51 Seminar in Urban Politics

2 hours and independent work§; 3 credits
Intensive examination of aspects of urban politics. Topics are selected by the instructor and vary from term to term. Course description may be obtained in the department office before registration. Substantial research paper.
Prerequisite: senior standing or permission of the chairperson; and Political Science 1.51 or 1.7. Internship courses

### 20.11 New York State Legislature Internship I

4 hours lectures and conferences; 4 credits
Theoretical approaches to public policy development through operation of the state government in a working-learning experience in the state legislature. Course conducted in Albany, New York. Intensive orientation by government officials under direction of program faculty. Forums, readings, and papers on current issues. (Not open to students who have completed Political Science 20.1, 20.2, or 20.3.)
Prerequisite: Political Science 1.51 or 1.7 ; and permission of the chairperson.
Corequisite: Political Science 20.12.

### 20.12 New York State Legislature Internship II

30 hours fieldwork; 8 credits
In-depth experience in the dynamics of actual public policy implementation in state government through direct involvement in legislative process. Course conducted in Albany, New York, and requires a workinglearning contract between the student and the legislative sponsor. Weekly 30-hour internship in legislative office working with staff. Practice and development of interpersonal skills and career goals. On-site evaluation, written assignments, and reports. (Not open to students who have completed Political Science 20.1, 20.2, or 20.3.)

Prerequisite: Political Science 1.51 or 1.7; and permission of the chairperson.

### 75.5 Urban Fieldwork I

At least 9 hours fieldwork plus conference and independent work§; 3 credits
Students spend at least nine hours a week in an approved urban-related field assignment. Required paper.
Prerequisite: junior or senior standing or permission of the chairperson.

### 75.6 Urban Fieldwork II

At least 9 hours fieldwork plus conference and independent work§; 3 credits
Students spend at least nine hours a week in an approved urban-related field assignment. Required paper. Prerequisite: junior or senior standing or permission of the chairperson; and Political Science 75.5.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for courses described below. Students may not register for more than six credits in honors courses in the department in one term.

## 83.1, 83.2 Independent Research I, II

Minimum of 9 hours of conference and independent work§; 3 credits
Independent research supervised by a faculty member. Approved topic. Fieldwork and library study.
Research paper. Not intended primarily for department honors.
Prerequisite: completion of an approved program of advanced Political Science Department courses and permission of the instructor and the chairperson.

## Tutorial courses

91, 92 Tutorial I, II<br>2 hours; 2 credits<br>Course content determined jointly by tutor and student.

## Psychology

Department office: 5315 James Hall
Telephone: 951-5947, 951-5601
Chairperson: R. Glen Hass
Deputy Chairperson, CLAS: David Owen
Deputy Chairperson, SGS: Alvin Snadowsky
Deputy Chairperson, Division of Graduate Studies: Benzion Chanowitz
Professors: Abramov, Erdelyi, Hainline, Hass, Lee, Levine, Macmillan, Meyers, Osman, Owen, Reber, Romer, Scarborough, Sclafani, Snadowsky, Solomon, Weissberg;
Associate Professors: Brannon, Chanowitz, Lepore, McMahan, Rall, Sapolsky, Weston;
Assistant Professors: Delamater, Halpert, Kurylo, McDonough.
B.A. and B.S. degree programs in psychology

HEGIS code 2001
Department requirements (a minimum of 29-31 credits)
All of the following: a) and b) and c) and d) and e).
a) Psychology 1.1, 40.1, and 57.
b) One of the following: Psychology 10 or 20 or 30 or 30.2.
c) One of the following: Psychology 53.1 or 56.1 or 57.1 or 58.1 or 60 or 65.1 .
d) Three additional advanced electives in psychology. No more than one of the following courses may be used to satisfy this requirement: Psychology 83.1, 83.2, 83.3, 83.4, 87.1, 87.2, 87.3, 87.4.
e) One additional course in psychology of at least three credits.

Advanced courses are any courses numbered 10 and above except those marked with an asterisk (*).

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Additional requirements for a B.S. degree
Candidates for a B.S. degree with a major in psychology must complete at least 60 credits in science and mathematics; 24 of these 60 credits must be completed in advanced courses in the Psychology Department. These 24 credits must be completed at Brooklyn College with a grade of C or higher in each course. Several departments have specific course requirements for a B.S. degree; these requirements are described under each department listing.
The following courses may be applied toward the 60 credits in science and mathematics:
A) All courses in the departments of biology, chemistry, computer and information science, geology, mathematics, physics, and psychology.
B) Courses marked with a (•) symbol in the Department of Health and Nutrition Sciences.
C) Anthropology and Archaeology 2.4, 16, 24.1, 26.1, 26.2, 36, 85.3 .
Core Studies 5, 7.1, 7.2, 8.1, 8.2.
Economics 30.2, 30.3, 31.1, 31.2.
Philosophy 13, 33, 42.
Physical Education 22.71, 22.75, 23, 30, 51.
Sociology 77.1 .
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## Department recommendations

Prospective psychology majors should consult a department counselor as early as possible. Majors and prospective majors should consult department counselors before each registration to plan individual programs.
Psychology majors are strongly advised to complete the Psychology 57 requirement no later than the lower-senior term.
For courses requiring permission of the chairperson as a prerequisite, permission should be obtained before registration.

Psychology concentration for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher (K-6); special education teacher.

The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs and who elect a concentration in psychology must complete a minimum of 12 credits of advanced electives in psychology with a grade of C or higher in each course.

## Requirements for a minor in psychology

At least 12 credits of advanced electives in psychology with a grade of $C$ or higher in each course. A minimum of nine of these credits must be completed at Brooklyn College. Psychology minors are urged to consult with departmental counselors to plan an appropriate sequence of courses.

## Recommendation for prospective graduate students

Prospective graduate students in psychology should develop reading comprehension in French, German, or Russian and acquire computer programming skills.

## Division of Graduate Studies

The Psychology Department offers a master of arts degree program in psychology that is the same as the first 30 credits of the CUNY doctoral degree program. For information, students should consult the department's deputy chairperson for graduate studies. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 18 credits in advanced courses for majors in this department.
§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## Introductory-level courses

## *0.1 Special Topics

3 hours; 3 credits each term
Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take this course for credit twice but may not repeat topics. Students and faculty may suggest topics to the chairperson.

## *1.1 Introductory Psychology

3 hours; 3 credits
An introduction to the major facts, principles, methods, and theories of psychology. Topics include the history of psychology, sensory and perceptual processes, learning and cognition, motivation and emotion, psychological development, clinical and abnormal psychology, and biological, social, and personality determinants of behavior. (Not open to students who have taken both Psychology 1 and 2.)

### 3.1 Sensitivity and Encounter Groups

1 hour; 1 credit
Survey of concepts, research efforts, problems, controversies, and the variety of approaches to sensitivity and encounter groups.

## *4 The American Urban Experience: Psychological Perspectives

## 3 hours; 3 credits

The influence of gender, ethnicity, race, and social class on manifestations of behavior, cognition, and emotional expression such as language, learning styles, intelligence, personal and group identities, conflicts, and peacemaking in the national urban experience. Social policy implications of the way that psychological research is performed and psychological theories are structured.
Prerequisite: two of the following courses: Core Studies 3,4 , and 9 , or their equivalents.

## *9.1, *9.2 Fieldwork in Psychology

1 hour seminar, 6 hours fieldwork; 3 credits
Field-based experience in a specified broad area of psychology, complementing theory and research presented in classroom and laboratory-based courses. An initial involvement in some of the broad psychological issues in the specified area and the ways in which a wide variety of workers address these. Readings, journal keeping, and a written project summary required of students. (Students may receive credit for both Psychology 9.1 and 9.2, but only for projects in different broad areas.)
Prerequisite: Psychology 1 or 1.1 or 2 , and permission of the instructor.

## Social psychology

*10 Social Psychology
3 hours; 3 credits
Basic concepts and research findings in social psychology. Areas covered include social perception, attitude organization and change, interpersonal processes, group structure and processes, intergroup relations, socialization. (Not open to students who have completed Psychology 31.)
Prerequisite: Psychology 1.1 or 2.
12 Introduction to Industrial and Organizational Psychology
3 hours; 3 credits
Major areas of industrial psychology. Topics include personnel selection and placement; work motivation, attitudes, and morale; organizational structure and change; conflict resolution; communication and decision behavior; consumer behavior. (Not open to students who are enrolled in or have completed Psychology 12.1 or 12.2 except with permission of the chairperson.)

Prerequisite: Psychology 10 or 31.

### 12.1 Psychological Issues in Organizational Theory

3 hours; 3 credits
Introduction to major theories in the analysis of private and public organizations. Primary focus on the relationship between psychological issues and systems views of organizations. Topics: individual, group, and organizational functioning; leadership and authority; the organization and its environment.
Prerequisite: Psychology 10 or permission of the chairperson.

### 12.2 Organizational Diagnosis and Intervention

3 hours; 3 credits
An evaluation of methods of organizational diagnosis and intervention. Organizations, both private and public, suffer psychological problems which can be seen as analogs of the problems of individuals. The course focuses on methods of clinical diagnosis and intervention/therapy for groups and organizations. Psychoanalytic and psychodynamic approaches are stressed.
Prerequisite: Psychology 10 or permission of the chairperson.

### 12.6 Human Factors and Technology

3 hours; 3 credits
The application of psychological knowledge of human sensory, perceptual, memory, thought, and motor characteristics to the design of machines, tools, and the workplace.
Prerequisite: Psychology 1 or 1.1.

### 12.7 Personnel Management

3 hours; 3 credits
Managerial labor policies. Factors affecting productive efficiency and morale of workers. Methods and policies of apprenticeship, recruitment, dismissal, criteria of employee selection, wage payment, and work standards. Problems of monotony and work schedules. Welfare policies. This course is the same as Business 40.3. (Not open to students who have completed Economics 40.3.)
Prerequisite: Economics 10.1 or Psychology 10.

### 13.2 Interpersonal Perception

## 3 hours; 3 credits

Dynamics of interpersonal perception, attribution, attraction.
Prerequisite: Psychology 10 or 31.

### 13.3 Psychology of Prejudice

3 hours; 3 credits
Prejudice and discrimination from a social psychological perspective. Topics include normality of prejudgment, phenomena of group differences, psychological and sociocultural theories of prejudice and discrimination, effects of discrimination, analyses of current manifestations of prejudice, selected strategies for change.
Prerequisite: Psychology 10 or 31.

### 13.41 Environmental Psychology

3 hours; 3 credits
The development of environmental psychology as a discipline over the last twenty years. Theoretical perspectives and methodologies, with an emphasis on their application in urban environments. Examination of the cross-disciplinary nature of the field, both in its origins and its role in psychology, architecture, planning, and design. (Not open to students who have completed Psychology 13.4.)
Prerequisite: Psychology 1.1 or 2 or permission of the chairperson.

### 13.5 Interpersonal Power, Conflict, and Strategies

3 hours; 3 credits
Interaction from the viewpoint of power relations and conflict. Conflict resolution and such interpersonal strategies as ingratiation and conformity.
Prerequisite: Psychology 10 or 31.

### 14.1 Small Groups

3 hours; 3 credits
Detailed survey of small-group interaction. Methods of study, leadership, problem solving, other aspects of group dynamics.
Prerequisite: Psychology 10 or 31.

### 14.2 Practicum in Group Processes

2 hours lecture, 4 hours laboratory; 4 credits
Theoretical examination of group cohesiveness, conformity, norms and standards, power and influence processes, performance of group functions, structural properties of groups. Participants in laboratory sessions work to create a miniature society to observe and analyze the small group as a social system. Prerequisite: Psychology 10 or 31; and permission of the chairperson.

### 15.2 Field Experience in the Social Psychology of the Courtroom

2 hours lecture, 3 hours fieldwork; 3 credits
Role of social psychologist in the courtroom; conduct of research relevant to the court; participant observation in the criminal justice system. Research on juries, criminal identification, treatment of the mentally ill and their legal rights, use of psychological methods in rehabilitation efforts in prisons. Students assigned to fieldwork or research teams.
Prerequisite: Psychology 10 or 31; and permission of the chairperson.

## 19 Seminar in Social Psychology

2 hours and independent work§; 3 credits
Readings and evaluation of current research in selected areas of psychology. (Not open to students who have completed Psychology 79.1.)
Prerequisite: Psychology 10 and permission of the chairperson.

## Developmental psychology

## *20 Introductory Child Psychology

3 hours; 3 credits
Principal features of the psychological development of children. Lectures, discussions, class period observations. (Not open to students who are enrolled in or have completed Psychology 25 or Education 27.1.)

Prerequisite: Psychology 1.1 or 2.

## *20.1 Special Topics in Developmental Processes

3 hours; 3 credits
Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take Psychology 20.1 for credit twice, but may not repeat topics.
Prerequisite: Psychology 20 or 25 or Home Economics and Consumer Studies 40.

### 20.5 Psychology of Adolescence

3 hours; 3 credits
Principal features of the psychological development of adolescents. (Not open to students who have completed Education 27.2.)
Prerequisite: Psychology 20 or 25 or Home Economics and Consumer Studies 40.

### 20.6 Psychology of Aging

3 hours; 3 credits
Principal psychological and behavioral changes in the aging process.
Prerequisite: Psychology 20 or 25 or Home Economics and Consumer Studies 40.

## *20.9 Human Life Cycle

3 hours; 3 credits
Study of the person throughout the life span. Emphasis on the physical, cognitive, and social development of the individual. (Not open to students who have completed Psychology 20, 25, 29.1, or Education 27.1.) Prerequisite: Psychology 1.1 or 2 and permission of the chairperson.

## 22 Cognitive Development

3 hours; 3 credits
Theories and experimental evidence relating to development of cognitive processes in children. Language acquisition, perceptual development, symbolic thinking, memory, classification skills, interplay between social and cognitive processes. Independent project.
Prerequisite: Psychology 20 or 25 or Home Economics and Consumer Studies 40.

## 23 Social and Personality Development of Children

## 3 hours; 3 credits

Origins and processes in the development of social behavior and personality in the child.
Prerequisite: Psychology 20 or 25 or Home Economics and Consumer Studies 40.

## 24 Psychology of the Family

3 hours; 3 credits
The family as a psychosocial system; the family life cycle; functional and dysfunctional family interactions and their consequences. Critical review of models of family therapy. Review of empirical evidence and research techniques appropriate to the study of the family.
Prerequisite: one of the following: Psychology 20 or 25 or Home Economics and Consumer Studies 40 or Health and Nutrition Sciences 31; and Psychology 30.

### 24.5 Psychological Disorders of Childhood

3 hours; 3 credits
Introduction to the diagnosis, origin, and treatment of psychological problems and disturbances of early childhood. Topics include developmental crises, psychoneuroses, early psychotic disorders.
Prerequisite: Psychology 20; and Psychology 23 or 30.

### 27.1 Field Experience in Child Psychology

1 hour lecture, 6 hours fieldwork; 3 credits
Fieldwork and observation of children in a variety of group settings. (Not open to students who have completed Psychology 27.)
Prerequisite: Psychology 20 and permission of the chairperson.

## 29 Intensive Fieldwork with a Seminar in

Child Psychology
A total of 15 hours recitation, 60 hours supervised fieldwork, and 135 hours unsupervised fieldwork; 6 credits Intensive training in work with emotionally disturbed children in a professional residential summer camp setting. Students spend one week in training and nine weeks working over eighty hours weekly with emotionally disturbed or learning disabled children ages seven to fourteen. Close professional supervision, frequent small group discussion, and individual consultation. Seminar topics include: causes, manifestations, diagnosis, treatment alternatives, cultural influences, and career counseling. This course requires nine weeks in residence at Ramapo-Anchorage Camp in Rhinebeck, New York.
Prerequisite: Psychology 2 and three additional credits in psychology and permission of the instructor.

## Personality and behavior pathology

## *30 Abnormal Psychology I

3 hours; 3 credits
Major forms of behavior pathology. Their sociobiological origins and development and their relationship to personality. (Not open to students who have completed Psychology 28.)
Prerequisite: Psychology 1.1 or 2.

### 30.1 Abnormal Psychology II

3 hours; 3 credits
Intensive study of topics in behavior pathology. Contemporary theory and research. Such areas as models of mental illness, the role of the family in psychopathology, current approaches to etiology and treatment.
Prerequisite: Psychology 28 or 30.

## *30.2 Introduction to Personality

3 hours; 3 credits
Fundamental approaches, concepts, research findings in the study of personality. Personality assessment; emotions, motivation, cognition, processes of personality change. (Not open to students who have completed Psychology 9.)
Prerequisite: Psychology 1.1 or 2.

## *31.1 Special Topics in Personality and Psychopathology

3 hours; 3 credits
Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take Psychology 31.1 for credit twice, but may not repeat topics.
Prerequisite: Psychology 28 or 30.

### 32.1 Fundamentals of Psychotherapy

3 hours; 3 credits
Critical examination of various psychotherapeutic approaches and study of the basic psychological processes involved. A critique of theory and method including individual, group, and family therapy. Role of insight in behavior change. Objectives of treatment. Rationale of such specific psychotherapeutic techniques as use of interpretation, role of insight in behavior change, role playing.
Prerequisite: Psychology 28 or 30.

### 32.2 The Counseling Process: Theory and Technique

3 hours; 3 credits
Investigation of the dynamics of the cooperative relationship between counselor and client; review of the literature on the counseling process; study and demonstration of the techniques of counseling; examination of critical issues in counseling.
Prerequisite: Psychology 30 and 30.2 and permission of the chairperson.

### 33.1 Field Experience in Psychopathology

2 hours lecture, 6 hours supervised fieldwork; 4 credits
Application of behavior pathology theory in a clinic or hospital.
Prerequisite: Psychology 28 or 30; and Psychology 30.1 or 32.1 ; and permission of the chairperson.

## 34 Psychology of Individual Differences

## 3 hours; 3 credits

Extensive examination of empirical studies dealing with the nature of race, sex, age, socioeconomic class differences. Significant psychological characteristics and traits. Methodology of these studies critically evaluated. Exploration of biological and cultural factors influencing differences; relation to their origin and the degree to which they are modifiable.
Prerequisite: Psychology 1 or 1.1 or 2.

### 34.1 Psychological Study of Women

3 hours; 3 credits
Survey of theory and research. Sex roles and stereotypes. Development of sex differences. Psychological consequences of socialization. Theories of female personality. Ways in which psychotherapists view women. Women's movement as a social psychological phenomenon. (Not open to students who have completed Psychology 8.)
Prerequisite: Psychology 1.1 or 2.

### 34.2 Psychology of Masculinity

## 3 hours; 3 credits

Socialization and acquisition of the male sex role, gender identity, and sex-role learning; norms and stereotypes of masculinity; physical and hormonal factors; effects of role on mental and physical health. Prerequisite: Psychology 1.1 or 2 or Health and Nutrition Sciences 35 or Health Science 35.

### 34.5 Psychology of Feelings and Emotions

## 3 hours; 3 credits

Psychological principles of emotional experience and expression. Recognition of emotional expression and cognitive and motivational bases of emotions. Development of emotions. Physiological correlates of emotions.
Prerequisite: Psychology 1 or 1.1 or 2.

## 35 Tests and Measurements

3 hours lecture, 4 hours laboratory; 5 credits
Introduction to principles and methods underlying construction and evaluation of psychological tests. Laboratory practice in administration and interpretation of selected tests. (Not open to students who have completed Psychology 52.5.)
Prerequisite: Psychology 28 or 30; and Psychology 40.1 or 50.

## 36 Theories of Personality

3 hours; 3 credits
Discussion and critical evaluation of major theories of personality. Related methods of assessment and research. (Not open to students who have completed Psychology 76.)
Prerequisite: Psychology 9 or 30 or 30.2; and Psychology 40.1.

### 36.1 Psychoanalysis: Theory and Research

3 hours; 3 credits
Critical examination of the theoretical and empirical foundations of Freud's psychoanalysis. The unconscious, sex and aggression, psychological structure, the mechanisms of defense, "twilight phenomena" (dreams, fantasy, psychological errors, art, wit, symptoms), psychohistory therapy. Prerequisite: Psychology 9 or 30 or 30.2.

## 37 Hypnosis and Related Phenomena

3 hours; 3 credits
The nature and mechanism of hypnosis and associated phenomena. Altered states of consciousness and related occurrences in daily life. Critical study in context of modern scientific psychology of behavioral, cognitive, and emotive experiences produced by hypnotic procedures. This is not a training course in the practice of hypnosis.
Prerequisite: Psychology 1 or 1.1 or 2.

## Statistics and mathematical psychology

### 40.1 Statistical Methods in Psychological Research

3 hours lecture, 2 hours laboratory; 4 credits
Basic descriptive and inferential statistics including the elements of experimental design. (Not open to students who are enrolled in or have completed any of the following: Business 30.2, Economics 30.2, Sociology 19.1, 20, 20.1, Political Science 12.5, 57, Psychology 50, Mathematics 51.1.)
Prerequisite: Psychology 1 or 1.1 or 2.

## Learning, perceptual, and cognitive processes

### 50.2 Behavior Therapy

3 hours; 3 credits
A critical review of that approach to therapy that seeks to change dysfunctional behavior through the systematic application of experimentally derived principles. Topics include the nature of behavior therapy, relaxation and systematic desensitization, assertion training, modeling, contingency management, extinction procedures, aversive procedures, cognitive approaches, ethical considerations in the use of behavior therapy techniques.
Prerequisite: Psychology 1 or 1.1; and 32.1.

### 53.1 Learning

3 hours; 3 credits
Basic principles of animal and human learning as developed through the experimental method. Topics selected from: classical conditioning and instrumental learning; punishment and reward; avoidance and reward omission; extinction; generalization and discrimination; motivation of behavior; verbal learning and transfer; general theories of learning; short and long-term memory; and motivation. (Not open to students who have completed Psychology 72.1.)
Prerequisite: Psychology 1 or 1.1.

## 55 Parapsychology: A Critical Examination

3 hours; 3 credits
Critical overview of parapsychology including ESP, clairvoyance, telekinesis, and other claims of the paranormal. Emphasis is on the scientific status of such claims and the manner in which they fit or fail to fit within existing scientific psychology.
Prerequisite: Psychology 1 or 1.1.

### 56.1 Perception

3 hours; 3 credits
Emphasizes seeing and hearing, how these senses provide us with, and limit our information about, the world, and how sensory messages are integrated into perceptions of real objects and events. Topics include sensory psychophysics, space-perception, movement, illusions, influence of emotional and motivational states, age-related changes, and effects of past experience and perceptual expectations. (Not open to students who have completed Psychology 73.1.)
Prerequisite: Psychology 1 or 1.1.

## 57 Experimental Psychology

2 hours lecture, 4 hours laboratory; 4 credits
Basic principles of experimental psychology and experimental methodology. A variety of specific content areas in psychology, including those within social psychology, learning, perception, and cognitive psychology. Laboratory replication of classic experiments from these content areas. (Not open to students who have completed any of the following pairs of courses: Psychology 18.1 and 18.2; Psychology 53.1 and 53.2; or Psychology 56.1 and 56.2.)

Prerequisite: Psychology 40.1.

### 57.1 Cognitive Psychology

3 hours; 3 credits
Psychology of memory, problem solving, decision making, language, imagery, and other cognitive processes. General overview of the field, including information-processing models, studies of thinking, the question of artificial intelligence, strategies for improving memory, and other similar areas.
Prerequisite: Psychology 1 or 1.1.

### 57.2 Philosophy and Artificial Intelligence

3 hours; 3 credits
Such contemporary issues in philosophy of psychology as the mind-machine analogy, the artificial intelligence model of the human mind, intentionality, representation, consciousness, concept formation, free will, behaviorism, mechanism. Discussion and evaluation of contemporary work in the field. This course is the same as Computer and Information Science 32.1 and as Philosophy 29.
Prerequisite: Core Studies 5 or a course in Computer and Information Science, and Core Studies 10 or a course in philosophy; or permission of the chairperson of the offering department.

### 58.1 Psychology of Language

3 hours; 3 credits
Multidisciplinary approach to the study of language. Contributions of linguists, anthropologists, clinicians, philosophers that have helped reshape how psychologists deal with language.
Prerequisite: Psychology 1 or 1.1.

## Biopsychological processes

## 60 Comparative Psychology

3 hours; 3 credits
Evolutionary study of animal and human behaviors. Emphasizes psychobiological determinants of behaviors in naturalistic settings. Topics include evolution of behavior, sociobiology, mating systems, aggression, territoriality and population control. (Not open to students who have completed Psychology 41.) Prerequisite: Psychology 1 or 1.1.

### 60.1 Special Topics in Biopsychology

3 hours; 3 credits
Focus on one of the major areas of comparative or physiological psychology. Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take this course for credit twice, but may not repeat topics.
Prerequisite: Psychology 1 or 1.1.

### 65.1 Introduction to Physiological Psychology

3 hours; 3 credits
Neural and hormonal mechanisms underlying behavior. Sensory processes, motivation, emotion, sexual behavior, sleep, learning, and memory. (Not open to students who have completed Psychology 47 or 48 .) Prerequisite: Psychology 1 or 1.1.

### 65.2 Drugs and Behavior

3 hours; 3 credits
Effects of drugs on behavior. Major psychotropic drugs (e.g., stimulants, depressants, psychedelics, narcotics, and tranquilizers) and their effects on neural activity, animal behavior, and human behavior using an experimental and clinical approach.
Prerequisite: Psychology 47 or 48 or 65.1 or permission of the chairperson.

## History, systems, and advanced general psychology

## 70 History of Psychology

3 hours; 3 credits
Historical development of contemporary psychology including origin of systematic approaches, structuralism, functionalism; behaviorism, Gestalt psychology, psychoanalysis; philosophy of science as applied to psychological theory. (Not open to students who have completed Psychology 63.)
Prerequisite: Psychology 1 and 2, or 1.1 ; and 9 credits in advanced psychology courses.

## Honors courses

Students with superior records and the recommendation of an instructor in the department may apply to the chairperson for permission to register for courses described below. Students may not register for more than six credits in honors courses in the department in one term and may not receive credit for more than four honors courses.
83.1, 83.2, 83.3, 83.4 Independent Research I, II, III, IV

Minimum of 9 hours conference and independent work§; 3 credits
Faculty-supervised independent research that includes data collection and analysis and/or theoretical work.
Weekly conference. Final report must be submitted to the department.
Prerequisite: All of the following: Psychology 40.1; six additional credits in advanced Psychology
Department courses; Psychology 57, which may be included among the six credits or may be taken as a corequisite; permission of the chairperson.
Prerequisite or corequisite: Psychology 57.
87.1, 87.2, 87.3, 87.4 Fieldwork I, II, III, IV

Minimum of 9 hours conference and independent work§; 3 credits
Independent fieldwork with library research in an area of psychology, approved and supervised by a member of the faculty of the Department of Psychology. Weekly conference. Final report must be submitted to the department.
Prerequisite: A minimum of nine credits in advanced Psychology Department courses including 40.1; and permission of the chairperson.

## Puerto Rican and Latino Studies

Department office: 1205 Boylan Hall
Telephone: 951-5561, 951-5562, 951-5563
Chairperson: Virginia Sánchez-Korrol
Deputy Chairperson, CLAS and SGS: Antonio Nadal
Deputy Chairperson, Division of Graduate Studies: Antonio Nadal
Professors: Sánchez-Korrol, Stevens-Arroyo;
Associate Professor: Carrasquillo;
Assistant Professor: Pérez y González;
Lecturer: Nadal.

## Core curriculum

The Department of Puerto Rican and Latino Studies participates in the college's core curriculum through Core Studies 9.
B.A. degree program in Puerto Rican and Latino studies HEGIS code 0308
Department requirements
Fulfillment of the college foreign language requirement in Spanish. Knowledge of Spanish as established in an interview with a faculty member of the Puerto Rican and Latino Studies Department. This interview should take place during the junior year.
One of the following: a) or b).
a) Puerto Rican and Latino Studies (27-30 credits)

Five of the following: Puerto Rican and Latino Studies 19, 30.1, 30.2, 55, 74, 77; Anthropology 68 or Puerto Rican and Latino Studies 20.
Two of the following: Puerto Rican and Latino Studies 23, 24, 32, 37, 37.1, 57.2, 78.
Two of the following: Puerto Rican and Latino Studies 14, 14.5, 15.5, 18, 35, 38.
b) Puerto Rican/Latino Studies and Business (36 credits)

All of the following: Puerto Rican and Latino Studies 23, 24, 55, 74; Business 76.4.
Four of the following: Africana Studies 37.2 or Caribbean Studies 1.1; Puerto Rican and Latino Studies 19, 20 (same as Anthropology and Archaeology 68), 32, 37.1, 75, 78.
Three of the following: Business 50.1, 50.2, 50.7, 50.9.

## Department honors

To qualify for honors in Puerto Rican and Latino studies, a student must complete either Puerto Rican and Latino Studies 65 or 73 with a grade of $B$ or higher and must have an academic index of 3.50 or higher in the major.

## Department recommendations

All Puerto Rican and Latino studies majors should consult the chairperson in planning the sequence of required courses.
For students selecting concentration a: 18 credits in courses in another department chosen in consultation with a department adviser.
For students selecting concentration b: 9 credits in business-oriented elective courses from any department of the college chosen in consultation with a department adviser.

## Requirements for a minor in Puerto Rican and Latino studies

A program of 12 credits in advanced electives in Puerto Rican and Latino studies, including one seminar in the 70s sequence, each completed with a grade of $C$ or higher. Students should confer with a departmental adviser to plan an appropriate sequence of courses.
Courses in Puerto Rican and Latino studies and elementary education The School of Education and the Puerto Rican and Latino Studies Department offer courses for elementary education majors interested in
teaching Spanish-speaking children. Students may qualify for certification in bilingual education by completing the sequence of courses approved and advised by counselors in the School of Education, the Puerto Rican and Latino Studies Department, and other appropriate departments.
B.A. degree program for social studies teacher (7-12) HEGIS code 2201-01

The student-teaching sequence of courses in secondary school social studies education is described in the "Education" section in this Bulletin.

Puerto Rican and Latino studies concentration for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher ( $\mathrm{K}-6$ ); special education teacher.
The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs and who elect a concentration in Puerto Rican and Latino studies must complete either Option I or Option II with a grade of C or higher in each course:
Option I: Puerto Rican and Latino Studies 41, 42, 43, 44.
Option II: Puerto Rican and Latino Studies 19, 38, 55, 57.3, 71.

## Division of Graduate Studies

The Puerto Rican and Latino Studies Department offers graduate courses for students in other fields. For information, students should consult the department chairperson. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirements in advanced courses for majors in this department.
§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## *1.1 Introduction to Puerto Rican and Latino Studies

3 hours; 3 credits
Survey of Puerto Rican and Latino studies. Pertinent themes in Puerto Rican and Latino history, culture, literature, contemporary society, and politics within the Caribbean-U.S.A. context. Impact of the United States's economic policies on the island and the causes of Puerto Rican and Latino migration to urban centers on the continent. Puerto Ricans and other Latinos in New York City.

## Culture and the arts

## 14 Puerto Rican Cultural Patterns

3 hours; 3 credits
Cultural antecedents and developmental process of present Puerto Rican culture. Taíno contributions, European and African elements, Puerto Rican folklore and cultural persistence. Perspectives on cultural issues related to colonialism, race, gender, and identity.

### 14.5 Taíno Roots of Contemporary Religion and Culture in Puerto Rico and the Caribbean

 3 hours; 3 creditsReligious artifacts and eco-cultural systems of the original inhabitants of Puerto Rico and Hispaniola, from neolithic times to European colonization. Taíno myths and the principal elements of religion. Indigenous influences in contemporary societies and as a theme of national identity. Women's roles and female iconography.
Prerequisite: Puerto Rican and Latino Studies 1.1 or 14 or Core Studies 9 or Caribbean Studies 1.1.

### 15.5 Spiritism and African Religions in Puerto Rican and Other Spanish-speaking Caribbean

## Societies

3 hours; 3 credits
African heritage as a religious and cultural phenomenon in Puerto Rico. Contemporary Afro-Caribbean folk religions and cults, Espiritismo, Santería, and their effects on Puerto Ricans and other Latinos.
Prerequisite: Puerto Rican and Latino Studies 1.1 or 14 or Core Studies 9 or Caribbean Studies 1.1.

## 16 Artistic Expression and Symbolism of the Puerto Rican and Latino People

3 hours; 3 credits
Development of artistic expression and symbolism among Puerto Ricans and Latinos. Transformation of identity and folklore to contemporary artistic and media images.
Prerequisite: Puerto Rican and Latino Studies 1.1 or 14 or Core Studies 2.1.

## 18 Music of the Puerto Rican People

3 hours; 3 credits
Survey of folk, popular, classical forms of Puerto Rican music. Influence of Taíno, Spanish, and AfroCaribbean cultures on these forms. Relationship between Puerto Rican music and folklore. Lectures supplemented with performances, slides, tapes, records.

## Latin America and transnational societies

## 19 Women in Puerto Rican and Latin American Societies

3 hours; 3 credits
Gender roles in different historical periods. Analysis of race, class, ethnicity, and traditional roles prescribed by society and religion. Creative and ethnographic works about women who challenged traditions, social and legal constraints. Current research, issues, and cultural affirmations of contemporary women in education, government, politics, the labor force, and the migration experience. Latinas in the U.S. Prerequisite: Puerto Rican and Latino Studies 1.1 or Core Studies 3 or Core Studies 9.

## 20 Latin America

3 hours; 3 credits
Pre- and post-Conquest peoples and cultures of Mesoamerica, South America, and the circum-Caribbean; development and decline of the Aztec, Maya, and Inca civilizations; contemporary life in the traditional folk village, Amazon rain forest, and Latin American city. This course is the same as Anthropology 68.
Prerequisite: Core Studies 3 or 9 or permission of the chairperson.

## 23 Borderlands and Homelands in the U.S. <br> Mexican Experience

3 hours; 3 credits
Historical antecedents. War with Mexico and the Treaty of Guadalupe Hidalgo, 1848. Early immigration and labor. Effects of the Mexican Revolution and growth of U.S. communities. Depression era, segregation, and deportation. Development of social, civic, and political organization. Bracero programs, migrant workers. Chicano identity and civil rights movement. Artistic expression and its relation to social change.
Prerequisite: Core Studies 3 or 9 .

## 24 Exiles and Entrepreneurs: Cuban Experience in the U.S.

3 hours; 3 credits
Historical antecedents. Spanish-Cuban-American War and the Treaty of Paris, 1898. Early political, cultural, and economic influences. Flourishing of prerevolutionary Tampa, Key West, and New York communities. Major migratory phases following the Cuban Revolution, 1959. Contemporary U.S. communities and their relation to revolutionary Cuba. Political leadership, economic development, and relation to other Latinos. Artistic expression and the forging of a new identity. Entrepreneurship.
Prerequisite: Core Studies 3 or 9 .

## History and literature

### 30.1 History of Puerto Rico to 1815

3 hours; 3 credits
From European contact to 1815. Original inhabitants of Puerto Rico and their encounter with Europeans. First centuries under Spanish rule. Impact of Spain and Africa on Puerto Rican history. Slavery. Primary sources. Critical analysis of class, property, and environment. Pre-enlightenment, the Enlightenment, and Latin American independence.

### 30.2 History of Puerto Rico since 1815

3 hours; 3 credits
Cédula de Gracias. Lares Rebellion of 1868. Politics and repression. Emergence of a Puerto Rican national consciousness reflected in political and social institutions. United States occupation and modification of colonial institutions. Organized labor and social movements. Operation Bootstrap, industrialization, and urbanization of the island under Commonwealth status. Migration and return migration since the 1960s.

## 32 Puerto Rican Communities in the United States: Settlement and Evolution

3 hours; 3 credits
Puerto Rican migrants in the United States. Community development and representative institutions. Organizational structure, leadership, and Puerto Rican settlement patterns throughout the United States compared with New York. Historical similarities and differences of Puerto Ricans and other groups. Role in
larger American society.

### 32.5 Institutions of Urban Life and the Latino Experience

3 hours; 3 credits
Multidisciplinary perspective on the evolution of Hispanics/Latinos as an urbanized segment of the United States population. Cross-cultural understanding of the diversity among Spanish-speaking people within the urban context. The role of urban institutions in the conflicts between assimilation and cultural preservation, the dynamics of migration, immigration, settlement, and institutionalized participation in the social processes of United States urban life.
Prerequisite: two of the following courses: Core Studies 3, 4, and 9, or their equivalents.

## 35 Survey of Puerto Rican Literature

3 hours; 3 credits
Reading and discussion of literature by renowned Puerto Rican authors writing in Spanish and English. Prerequisite: Spanish 18 or permission of the chairperson.

## 37 Workshop in Puerto Rican and Latino Cinema, Drama, and Theater

3 hours; 3 credits
Overview and development of contemporary theater, drama, and cinema among Puerto Ricans and other Latinos. Special emphasis on New York City's creative community. (Not open to students who have completed Puerto Rican Studies 17.)
Prerequisite: Puerto Rican and Latino Studies 1.1 or 35 or permission of the chairperson.

### 37.1 Latinos in the Media

3 hours; 3 credits
The images of Latinos in the media. Similarities and differences in the alternative and commercial media. The role of Latinos as image makers. Issues such as immigration, identity, language, gender, and the clash of values between Latino and mainstream North American culture as explored in films, television programs, print media, and advertising.
Prerequisite: Puerto Rican and Latino Studies 1.1 or permission of the chairperson.

## 38 Caribbean Literature

3 hours; 3 credits
Black culture and writings in the Caribbean. Reflections on alienation and independence. Literary liberation movements, Negrism, Indigenism, and Negritude as the first step towards emancipation from a European cultural vision. Writers from the English-, French-, and Spanish-speaking countries will be examined. All readings will be in English. This course is the same as Africana Studies 29 and Comparative Literature 38.3. (Not open to students who have completed Puerto Rican Studies 54.)

## Bilingual (Spanish-English) studies

40 The Puerto Rican, Latino, and Caribbean Child in New York City
3 hours; 3 credits
Puerto Rican, Latino, and Caribbean children in contemporary society. Relation of school curricula to their historical background and cultural contributions. Development of identity; knowledge and appreciation of heritage. Examination, use, and evaluation of instructional materials. Concepts, information, and materials necessary for effective work with target population.

## 41 Bilingualism: The Puerto Rican, Caribbean, and Latino Child

3 hours recitation, 2 hours laboratory; 4 credits
Concepts and programs of bilingualism. Their importance and application in working with multiethnic populations. Selected field and laboratory work; study and evaluation of bilingual programs and materials.

## 42 Spanish Language Arts for the Bilingual Child

3 hours recitation, 2 hours workshop; 4 credits
Fundamental concepts of Puerto Rican and other regional language variations and creative literature for prospective bilingual professionals. Language arts applied to the bilingual child. Workshops on community and parental involvement. Assessment models. Course conducted in Spanish.
Prerequisite: fluency and proficiency in Spanish demonstrated to the chairperson of the Puerto Rican and Latino Studies Department before registration.

## 43 English as a Second Language for the

Language-Minority Child
3 hours recitation, 2 hours workshop; 4 credits
Role of English as a second language for Puerto Rican and other Spanish-speaking children in a bilingual program. Comparative analysis, understanding linguistic concepts, and their application. Workshops related to language patterns of bilingual children. Assessment models.
Prerequisite: Puerto Rican and Latino Studies 41.

## 44 Historical and Cultural Perspectives: Puerto Rico, Latin America, and the Caribbean

3 hours recitation, 2 hours laboratory; 4 credits
History and culture of Puerto Rican, Latino, and other Latin American/Caribbean groups. Preparation of instructional materials and assessment models. Field experience.

## 45 Introduction to Spanish for Prospective Bilingual Professionals

3 hours; 3 credits
Varieties of the regional Spanish language in such features as syntax, usage, and pronunciation.
Performance and diagnostic assessment.

## Contemporary society-issues and processes

## 55 Economic Development of Puerto Rico and Migration under Capitalism

3 hours; 3 credits
Colonial basis for the development of capitalism in Puerto Rico in the twentieth century. Key factors stimulating growth and dependency after 1948. Puerto Rican model of economic development. Caribbean migration and diffusion of Puerto Ricans in New York City and other urban areas. Integration of the economics of Puerto Rico and the United States and implications for future policymaking.

### 57.2 Administration of Justice and the Puerto Rican/ Latino Community

## 3 hours; 3 credits

Relationship of Puerto Ricans and Latinos in the United States to law enforcement. The penal system and legal assistance. Juvenile delinquency, drugs, and crime. Impact of immigration policy. Human and civil rights, class action suits, community progress, and litigation. Organized movements.

### 57.3 Behavioral Patterns of Puerto Ricans and Latinos in the United States

3 hours; 3 credits
Cultural concepts necessary to understanding the Puerto Rican community in the United States. Mental health care, counseling needs, and family systems. (Not open to students who have completed Puerto Rican Studies 23.)
Prerequisite: Puerto Rican and Latino Studies 14 or Puerto Rican Studies 15 or Psychology 2.

## 58 The Elderly among Puerto Ricans and Other Latinos

## 3 hours; 3 credits

Present conditions of aged Latinos. Theoretical concerns. Social intervention and services. Aged Latinos and their share of social and economic resources within the American mainstream.
Prerequisite: Puerto Rican and Latino Studies 1.1 or 14 or 55 or permission of the chairperson.

## 65 Community Organization and Service to the Puerto Rican/Latino Community

3 hours lecture, 6 supervised field hours, and independent work§; 6 credits
Basic community organization theory and development of practical skills, including proposal writing, for service to the Puerto Rican/Latino community. Readings, lectures, and examination of case records. Motivation for self-help programs. Contact with internal operations of Puerto Rican/ Latino organizations and appraisal of their varied approaches and techniques. Supervised fieldwork with organizations that serve the Puerto Rican/Latino communities.
Prerequisite: Puerto Rican and Latino Studies 32 or 55, plus one of the following: 57.1, 57.2, or 57.3; or permission of the chairperson.

## Seminars

## 70 Special Topics

3 hours; 3 credits
Topics vary from term to term. Course description may be obtained in the department office before registration. Topics may focus upon problems, social institutions, social processes, social organizations of Puerto Ricans in Puerto Rico and the United States or other Latinos in their countries of origin. Students may take this course and Puerto Rican Studies 70.2 at most twice, but may not repeat topics. Prerequisite: completion of an approved program of advanced Puerto Rican studies courses and permission of the chairperson.

## 71 Seminar in the Political, Social, and Economic Status of Puerto Rico

3 hours; 3 credits
Political, social, and economic structures in Puerto Rico that shape the status issue. Analysis of congressional policies. United Nations debate on decolonization. Plebiscites and referenda. Effects of political status in social and economic terms. Role of Puerto Ricans in the U.S. (Not open to students who have taken Puerto Rican and Latino Studies 70.1.)
Prerequisite: Puerto Rican and Latino Studies 30.2 or 55 or permission of the chairperson.

## 73 Summer Seminar

3 hours lecture, 6 hours supervised fieldwork and independent study§; 6 credits In cooperation with a university or other institution 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 or Latino 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 required.) Prerequisite: completion of an approved program of Puerto Rican and Latino studies courses and permission of the chairperson.

## 74 Emerging Realities and Alternatives for Puerto Ricans and Other Latinos in the United States

 3 hours; 3 creditsDemographic and political trends of Latinos in the United States and the impact on Puerto Ricans. Education, labor organizations, public services, economic development, political power, and future challenges to Latinos. Alternatives for Puerto Ricans in a Caribbean context and the impact of a change in political status of the island upon Puerto Ricans in the United States.
Prerequisite: Puerto Rican and Latino Studies 1.1 or 32 or 55 or a section of Core Studies 9 discussing Latin America or the Caribbean.

## 75 Research Seminar in Puerto Rican/Latino Studies

3 hours; 3 credits
Applied research and methodology. Application of advanced course work in Puerto Rican/Latino studies to address community issues pertinent to Latinos. Field placements if appropriate. Research paper. Prerequisite: completion of an approved program of advanced Puerto Rican and Latino studies courses and permission of the chairperson.

## 77 Puerto Rican and Latino Literature in the United States

3 hours; 3 credits
Representative literature of Puerto Rican and Latino writers who lived or are living in what is today the United States. Study of chronicles, diaries, autobiographies, and testimonials. The diaspora experience and the cultural affirmation of identity as portrayed in the novel, short stories, drama, and poetry.
Prerequisite: Puerto Rican and Latino Studies 1.1, or 3 credits in the department's literature sequence, or another literature course approved by the department chairperson.

## 78 Puerto Ricans and Dominicans: Comparative Perspectives and Contemporary Issues

3 hours; 3 credits
Comparisons of the sociohistorical context of Puerto Ricans and Dominicans from their countries of origin to the United States. Migratory experiences of both groups. Contemporary issues including current demographic data, politics, health, family relations and roles, intermarriage, and identity. (Not open to students who completed Puerto Rican Studies 70.2 in the fall, 1992, or spring, 1994, semester.) Prerequisite: Puerto Rican and Latino Studies 1.1 or 32 or Core Studies 9.

## Honors courses

88.1, 88.2 Independent Study I, II

Minimum of 9 hours conference and independent work§; 3 credits
Independent study supervised by a faculty member. Approved topic. Periodic conferences. Report. Prerequisite: completion of an approved program of advanced Puerto Rican and Latino studies courses and permission of the instructor and the chairperson.
The following courses are inactive and will be offered only if there is sufficient demand:
36.1 Puerto Rican Poetry from the Aguinaldo to the Present
36.2Puerto Rican Narrative

56Government and Politics of Puerto Rico
57.1Impact of Social Service Systems on the Puerto Rican, African American, and Other Urban Population
72Seminar in Nationalist Movements of Puerto Rico

## Religion: Program of Studies in Religion

An interdisciplinary dual major
Program office: History Department, 524 Whitehead Hall
Telephone: 951-5303
Director: Donald Gerardi
Faculty: Gerardi, History; Hartmann, English (adjunct); Scult, Judaic Studies (adjunct); Stevens-Arroyo, Puerto Rican and Latino Studies; Wile, Modern Languages and Literatures; and additional faculty from the departments of the college.

## B.A. degree program for studies in religion dual major HEGIS code 1510

Program requirements ( 21 credits plus a major in a department approved by the program director) Students must complete 21 credits chosen from the required courses listed below, in addition to completing a primary major in a related field approved by the program director. A dual major may apply up to three credits from his or her primary major toward fulfilling the requirements of the Program of Studies in Religion. Students must complete parts 1 through 5.

1. Two introductory courses ( 6 credits):

Studies in Religion 1.1
Studies in Religion 1.2.
2. One of the following courses in methodological approaches to religion (3 credits), plus any prerequisite of the course:
Anthropology 42
Philosophy 44
Sociology 76.
3. Two of the following courses in the thought, literature, or the arts of religious traditions (6 credits), plus any prerequisite of the courses; courses must be chosen from different religious traditions:
Art 11.5
Art 11.6
Classics 15 (This course is the same as Studies in Religion 16.)
Classics 17
Comparative Literature 33.1
Comparative Literature 36.1
English 31.2
Hebrew 45.1
Judaic Studies 17
Judaic Studies 18.1 or 30
Judaic Studies 18.2 or 31
Judaic Studies 14
Judaic Studies 22 (This course is the same as Studies in Religion 10.)
Judaic Studies 37
Philosophy 45
Puerto Rican and Latino Studies 14.5
Puerto Rican and Latino Studies 15.5.
Studies in Religion 10 (This course is the same as Judaic Studies 22.)
Studies in Religion 16 (This course is the same as Classics 15.)
4. One of the following courses in the history of religions ( 3 credits), plus any prerequisite of the course:

Africana Studies 23.1
American Studies 62 (This course is the same as History 43.11.)
Classics 37
History 21.7
History 22
History 23.3
History 28.3
History 30.2 (This course is the same as Studies in Religion 19.)

History 43.11 (This course is the same as American Studies 62.)
Judaic Studies 12
Judaic Studies 13
Studies in Religion 19 (This course is the same as History 30.2.)
5. Seminar in studies in religion: Studies in Religion 70.

Courses other than those listed, including Studies in Religion 20, may be credited toward requirements 3 and 4 with permission of the program director.
Related courses (partial list):
Anthropology 7.5
Chinese 28
Comparative Literature 6 or 42.1.

## Requirements for a minor in the program of studies in religion

Fifteen credits from courses listed in the program's offerings, each completed with a grade of C or higher, including either Religion 1.1 or 1.2. Nine or more of these credits must be completed at Brooklyn College. Students should meet with a program director to plan a sequence of courses suited to their individual interests or career plans.

## Program recommendation

Majors should take the introductory courses at an early point in their programs. All major and minor students should meet with the program director to plan a sequence of courses suited to their individual career plans.

## Courses

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

### 1.1 Religions of the West

3 hours; 3 credits
A consideration of Judaism, Christianity, and Islam in terms of their origins, major beliefs, and practices. Introduction to the concepts of myth, symbol, ritual, and salvation. Relationship of these religions to cultural changes, community life, and individual identity.

### 1.2 Religions of the East

3 hours; 3 credits
Development of Hinduism, Buddhism, Confucianism, and Taoism, with emphasis on origins, teachings, and role in culture. Unique features of Eastern spirituality through comparison with Western religious outlook. History of East-West religious dialogue, especially the influence of Eastern religions on Western thought.

## 10 Job and the Problem of Evil

3 hours; 3 credits
Intensive study of the Book of Job as the primary religious work dealing with suffering and evil. Opinions as to "why bad things happen to good people" will be considered in both ancient and modern works. (Not open to students who completed Studies in Religion 20 in either fall, 1987, or spring, 1989, or Judaic Studies 75.1 in spring, 1989.) This course is the same as Judaic Studies 22.

Prerequisite: Studies in Religion 1.1 or permission of the program director.

## 15 Science and Religion

3 hours; 3 credits
Similarities and differences in the methodologies, sources of knowledge, modes of thought and language employed by science and religion. Survey of traditional areas of conflict. Examination of attempts by scientists and theologians to bring about a commonality of views. (Not open to students who completed Studies in Religion 20 in fall, 1992, or spring, 1994.)

## 16 Greek and Roman Mythology

3 hours; 3 credits
Classical myths and modern theories of mythology. Readings in English translation from the ancient sources. (Not open to students who have completed Classics 6.) This course is the same as Classics 15. Prerequisite: Studies in Religion 1.1 or 1.2, or permission of the program director.

## 19 Jesus and the Christian Tradition

3 hours; 3 credits
A cultural history of Christianity from the first century to the present; quest for the historical Jesus; images of Jesus in major eras of world history in scripture, theology, literature, art, and music; the place of Christian culture in the history of world civilization. This course is the same as History 30.2. (Not open to students who completed History 28.9B or Studies in Religion 20 in spring, 1990.)
Prerequisite: Studies in Religion 1.1 or Core Studies 4, or permission of the director of the Program of Studies in Religion and/or the chairperson of the Department of History.

## 20 Special Topics in Religion

3 hours; 3 credits
Topics vary from term to term. Course descriptions may be obtained from the program director before registration. Students may take this course for credit twice but may not repeat topics.
Prerequisite or corequisite: Studies in Religion 1.1 or 1.2 or permission of the program director.

## 70 Seminar in Studies in Religion

3 hours; 3 credits
Advanced study of a major theme, problem, or thinker in the field of religion. Topic is selected by the instructor. Course description may be obtained from the program director.

## 83.1, 83.2 Independent Studies I, II

Minimum of 9 hours conference and independent work§; 3 credits
Independent study supervised by a faculty member. Approved reading. Periodic conferences. Final examination or term paper.
Prerequisite: completion of a program approved by the director of the Program of Studies in Religion or related departments; and approval of the instructor.

## Sociology

Department office: 3612 James Hall
Telephone: 951-5314, 951-5315, 951-5316
Chairperson: Jerome Krase
Deputy Chairperson, CLAS: Roberta Satow
Deputy Chairperson, SGS: Alex Vitale
Deputy Chairperson, Division of Graduate Studies: Egon Mayer
Professors: Howard, Kitch, Krase, Lenzer, Mayer, Montagna, Satow, Silver, Verbit, Zukin;
Associate Professors: Fishman, Koenigsberg;
Assistant Professors: Daniel, Shortell;
Instructor: Vitale.

## Core curriculum

The Department of Sociology participates in the college's core curriculum through Core Studies 3.

## B.A. degree program in sociology HEGIS code 2208

Department requirements (35-40 credits)
All of the following: Sociology 5 or $7 ; 18,19$, and 20.
Six additional courses, including at least one seminar, from Sociology Department courses numbered 10 and higher. For the purposes of this requirement, Sociology 32.6 and 32.7 count as a single course.

Two courses numbered 10 and higher, plus any prerequisite of the courses, from the following departments: Departments of Anthropology and Archaeology, Economics, History, Political Science, Psychology. The two courses may not be taken in the same department.

## Requirements for a minor in sociology

At least 12 credits in sociology, in courses numbered 10 or higher, with a grade of C - or higher in each course. One seminar course numbered 90 or higher must be included.
A minimum of nine of these credits must be completed at Brooklyn College. Sociology minors are urged to consult with departmental counselors to plan an appropriate sequence of courses.

## Requirements for an interdisciplinary minor in law and society

Courses in sociology presented for this minor may not be counted toward the sociology major.
Twelve credits chosen from the courses of two or more departments as specified below. Each course must be completed with a grade of $C$ or higher.
Africana Studies 43, 43.2; Anthropology and Archaeology 34, 35; Classics 34; Political Science 21, 22, 26.2, 45.1; Sociology 43.5, 51.4.
B.A. degree program for social studies teacher (7-12)

HEGIS code 2201.01
The student-teaching sequence of courses in secondary school social studies education is described in the "Education" section in this Bulletin.

Sociology concentration for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher (K-6); special education teacher.

The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs and who elect a concentration in sociology must complete all of the following with a grade of $C$ or higher: Sociology 40.1 or $40.2 ; 43.1$ or $51.5 ; 51.1$ or 51.3 or $51.4 ; 26$ or 26.1 or 61.4.

## Division of Graduate Studies

The Sociology Department offers a master of arts degree program in sociology. Some courses may be creditable toward the CUNY doctoral degree. For information, students should consult the department chairperson. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 18 credits in advanced courses for majors in this department.
§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## *5 Introduction to Sociology

3 hours; 3 credits
Survey of the concepts, methods, theories, and principles with which sociology interprets social behavior.
Emphasis on the structure and problems of contemporary society.

## *7 Self and Society

3 hours; 3 credits
The shaping of individual identity and character over the life cycle by social processes and organizations. Social systems approach: theories of Cooley, Mead, Freud, Erikson, Blauner, Horney, Gilligan.
Socialization, life cycle, transitions. Social dimensions of identity and personality. (Not open to students who have completed Sociology 31.2 or 50.1.)
Prerequisite: Core Studies 3.

## *8 The Sociology of New York City

3 hours; 3 credits
People, culture, and social institutions in metropolitan New York. Urban lifestyles, patterns of intergroup competition and cooperation, social movements and cultural trends.
Audiovisual presentations and field trips.
Prerequisite or corequisite: Core Studies 3.

## *9 Contemporary American Society

3 hours; 3 credits
The sociology of life in America today, and the social forces or processes which give contemporary
American life its unique qualities. Discussion and readings will focus on social realities which affect everyone, such as the experience of working, social class, ethnicity, family life, and male-female relationships.

## 18 Social Theories

## 3 hours; 3 credits

Development and continuity of theoretical concepts and orientations in sociology; their intellectual and social backgrounds; their implications for social policy. Schools of thought and representative works. (Not open to students who have completed Sociology 72.)
Prerequisite: Sociology 5 or 7.

## 19 Principles of Sociological Research

## 3 hours; 3 credits

Basic concepts and principles of qualitative and quantitative methodology in sociology and social work. Scope and variety of analyses available in research design. Program evaluation. Analytical basis of research and thought in sociology and social work. Data analysis with statistical software. Introduction to social science literature search tools.
Prerequisite: Sociology 5 or 7 , or permission of the chairperson.

### 19.1 Sociological Statistics

3 hours; 3 credits
Statistics as a sociological mode of thinking and reasoning. Statistical methods suitable for sociological data. Critical survey of major sociological statistical studies. Recommended only for sociology majors. (Not open to students who are enrolled in or have completed any of the following: Business 30.2, Economics 30.2, Political Science 12.5, 57, Psychology 40.1, 50, Mathematics 51.1.)

Prerequisite: six credits in Sociology Department courses numbered 11 or higher; and, for nonsociology majors, written permission from the chairperson of the student's major department and the chairperson of the Sociology Department.

## 19.3, 19.4 Internship in Applied Sociology

1 hour lecture, 6 hours supervised fieldwork; 3 credits each term
Supervised internships in organizations in the private and public sector. Development of research and related skills in the study of formal organizations, group dynamics and leadership, urban planning, decision making, and market and evaluation research. Students will be responsible for required readings, a diary of field experiences and observations, and a term paper. (Students may elect to complete either one or two semesters, but 19.3 is not required prior to 19.4.)
Prerequisite: at least three courses in sociology numbered 10 or higher and permission of the chairperson.

## 20 Practice of Sociological Research

3 hours lecture, 2 hours laboratory; 4 credits
Involvement in ongoing faculty research projects or the department's data archive. Presentation of quantitative and qualitative information. Introduction to the sociological research paper. Data analysis with statistical, spreadsheet, and presentation software.
Prerequisite: Sociology 19.

### 22.1 Special Topics

3 hours; 3 credits
Issues in social theory, social institutions, social and cultural processes, social organization, social policy. Topics vary from term to term. Course description may be obtained in the department office before registration. Students may not repeat topics completed in Sociology 60.1, 60.2, or 60.3.
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7 or permission of the chairperson.

## Urban sociology and community studies

## 26 Urban Sociology

3 hours; 3 credits
Urban and rural communities. Impact of community, social context, ecology on institutions and people. Social structure of the suburbs. Sociological factors of planning in metropolitan areas. (Not open to students who are enrolled in or have completed Sociology 26.4.)
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7.

### 26.1 The Inner City

3 hours; 3 credits
Various approaches in studying the concentration of particular ethnic groups, and poverty in urban areas, and the relation between the inner city and the society around it. Topics include competition, stratification, and segregation in housing and work; community structure; reform of institutions and services. (Not open to students who have completed Sociology 11.1.)
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7.

### 26.3 Third World Urbanization

3 hours; 3 credits
Sociological analysis of cities in less developed nations; human ecology, network analysis, and community organization. Internal structure of Third World cities. Critical examination of the linkage between urbanization, industrialization, modernization, and Westernization. Direct and indirect policies affecting Third World cities. World system approaches vs. neoevolutionary approaches. Socialist and nonsocialist models for Third World urban social change, with special reference to China, Cuba, and India. Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7, or permission of the chairperson.

### 26.4 Urban Life and Culture

3 hours; 3 credits
Understanding universal phenomena of urbanization and urbanism through the use of the comparative method with special focus on ordinary community and neighborhood life in cities. Use of classical as well as contemporary theories and methods. Consideration of the similarities and differences of everyday life in ancient through modern cities in a wide variety of technological, economic, political, geographic, and cultural settings. (Not open to students who have completed Sociology 26.)
Prerequisite: two of the following courses: Core Studies 3, 4, and 9, or their equivalents.

### 27.1 The Community

3 hours; 3 credits
Different meanings of the term "community," underlying assumptions in each, kinds of knowledge acquired through various studies. (Not open to students who have completed Sociology 24.)
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7.

### 27.2 Sociology of the American Jewish Community

3 hours; 3 credits
American Jewry in its sociocultural context, internal structure, patterns of identity, intergroup relations. Consideration and application of alternative theoretical perspectives. Review and evaluation of relevant empirical research. (Not open to students who have completed Sociology 42.)
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7; and three credits in Jewish history or Jewish philosophy or one course in Judaic studies or permission of the chairperson.

## 28 Sociology of the Environment

3 hours; 3 credits
How control over the natural environment affects the exercise of social power, the formation of group identity, and the built environment. Special emphasis on modern urban areas and multicultural issues. Nature and culture in social theory; nature and gender; urbanization, industrialization, and social inequality; social movements for environmental justice.
Prerequisite: one of the following: Core Studies 3, 4, 9, Environmental Studies 1; Sociology 5, 7.

### 30.1 Sociolinguistics

3 hours; 3 credits
The study of language as it is used by various social groups. Language and gender, language and culture, language and thought, Creole languages, Black English, linguistic change. This course is the same as Anthropology and Archaeology 18 and English 24.8.
Prerequisite: English 1 and either Sociology 5 or 7, or permission of the chairperson.

## Microsociology and social psychology

### 31.1 Social Interaction

3 hours; 3 credits
Analysis of the interaction perspective in sociological theory. Social rules explaining such sociological concerns as maintenance of identity; ascription of motives and intention; production of mental illness in interaction; production of conversation and language; the idea, orientation, process of sociological inquiry. (Not open to students who have completed Sociology 19.2.)
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7, or permission of the chairperson.

## Social work

### 32.4 History of Social Welfare

3 hours; 3 credits
Explores the history of social welfare in the United States from the Elizabethan Poor Law to the present. Examines the social, economic, and political underpinnings of the changing definitions of need, responsibility for providing relief, and the right to services.
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7.

### 32.5 Current Issues in Social Welfare Policy

## 3 hours; 3 credits

Traces the evolution of a private trouble to a public issue and the attempts at resolving the issue by means of social policy initiatives. Follows social policy from the legislative stage through the creation of specific service programs. Compares the impact of the services on the lives of individuals with the original objective of the policy. Case studies from work, education, housing, child welfare, health, and mental health. Taken together, Sociology 32.4 and 32.5 offer an introduction to social work and to a sociology of remedial action. Prerequisite: Sociology 32.4.

### 32.51 Fieldwork Seminar I

## 3 hours; 3 credits

Linking of theories and conceptual models to generalist practice with individuals and groups; applications to students' fieldwork experiences in Sociology 32.6, Fieldwork I.
Prerequisite: Sociology 7 and 32.4 or permission of the chairperson.
Corequisite: Sociology 32.6.

### 32.52 Fieldwork Seminar II

3 hours; 3 credits
Linking of theories and conceptual models to generalist practice with individuals and groups; applications to students' fieldwork experiences in Sociology 32.7, Fieldwork II.
Prerequisite: Sociology 32.51 or permission of the chairperson.
Corequisite: Sociology 32.7.

## 32.6, 32.7 Fieldwork I, II

14 hours fieldwork; 6 credits
Students are placed in a social service agency and work directly with clients under supervision; learn generalist practices within different social systems. Field notes, readings, process recordings, and conferences are required. Credit for Sociology 32.6 is received only on completion of Sociology 32.7. Students must register in 32.6 fall term; 32.7, spring term.
Corequisite of 32.6: Sociology 32.51.
Prerequisite of 32.7: Sociology 32.6.
Corequisite of 32.7: Sociology 32.52.

## Social institutions

### 40.1 The Family

3 hours; 3 credits
Examination of the structure and function of the family and its relationship with such other institutions of the society as religion, the economy, and the political system; family as a unit of interaction. Family types will be compared: the traditional family, the dual-career family, and the single-parent household; alternatives to the family will also be discussed. (Not open to students who have completed Sociology 21.)
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7, or permission of the chairperson.

### 40.2 Sociology of Children

## 3 hours; 3 credits

Sociological analysis of children and childhood. Historical and cross-cultural differences in attitudes toward children. Socialization processes, the family, peer cultures, education, mass media, children as consumers. Such social problems as social inequality and poverty; divorce, adoption, and foster care; racial discrimination; differential schooling; children at risk.
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7 , or permission of the chairperson.

### 40.3 Sociology of Generations

## 3 hours; 3 credits

Aging process in industrial and advanced industrial societies. Process of generational discontinuity, its management and consequences. Youth as a source of innovation. Problems of old age in modern society. (Not open to students who have completed Sociology 59.)
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7.

### 40.4 Mid-Life and After: Aging in America

3 hours; 3 credits
Aging in industrial and preindustrial societies. Age discrimination and the "new aging." Aging as a stage in the life cycle. The changing American family and the aging parent. Leisure, retirement, and social networks. Constraints and adaptation in the later years. Aging: the challenge to individuals and society. (Not open to students who have completed Sociology 22.1, Topic: "Beyond the Youth Culture: Aging in America.") Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7 , or permission of the chairperson.

### 43.1 Social Class

3 hours; 3 credits
Formation of social classes. Leading theories of class. Critical examinations of studies of class. Relation of social class to personality development. (Not open to students who have completed Sociology 74.)
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7.

### 43.2 Sociology of Work and Economic Systems

## 3 hours; 3 credits

Sociological factors in industrial and economic organization. Historical and contemporary ideologies of work and work management. Relationships between economic and social organization in traditional and modern societies. (Not open to students who have completed Sociology 23.)
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7 , or permission of the chairperson.

### 43.3 Sociology of Occupations

## 3 hours; 3 credits

Analysis of American occupational structure. Stratification of occupations in the labor market. The power of professions. Individual vocation and career choice. Descriptive studies of occupations. Recent changes in occupational opportunities for college and high school graduates.
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7 , or permission of the chairperson.

### 43.5 Sociology of Law

3 hours; 3 credits
Function of law in society. Relationships between social values, conduct, law. Comparison of legal institutions in primitive and modern societies. Laws in the context of family and occupational structure of the United States. Consideration of extent to which legal change can affect established patterns of social behavior. (Not open to students who have completed Sociology 34.)
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7.

## 44 Political Sociology

3 hours; 3 credits
Sociological analysis of mass movements. Social structure of political parties. Secret societies and underground movements. Social ideologists in relation to political and economic structure. Utopias and social myths as dynamic concepts. Socialism, anarchism, communism, fascism, nationalism, Pan-Slavism, Pan-Germanism, democracy. (Not open to students who have completed Sociology 75.)
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7 , or permission of the chairperson.

## Social issues

### 51.1 Social Problems

3 hours; 3 credits
Problems generated by conflicting demands within the social structure of American society. Discussions and readings about social problems related to crime, work, urban life, race, ethnicity, and business organizations. (Not open to students who have completed Sociology 14.)
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7.

### 51.3 Deviant Behavior

3 hours; 3 credits
Sociological theories of deviant behavior including social causation, labeling, stigmatization. Sexual deviance, suicide, alcoholism, drug abuse, juvenile delinquency, counterculture. (Not open to students who have completed Sociology 33.1 or 39.)
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7, or permission of the chairperson.

### 51.4 Criminology

3 hours; 3 credits
Nature and cause of crime; its relationship to social structure. The criminal in society. Approaches to the study of crime and its treatment and prevention. (Not open to students who have completed Sociology 33.) Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7.

### 51.41 Blacks in the American Criminal Justice System

3 hours; 3 credits
Exploration of the relationship between African Americans and the criminal justice system. Sociological theory and methods of collecting and understanding information. Assessment of the political, social, and economic institutions of American society as they frame race, crime, and punishment. Ways that the American criminal justice system has operated to both maintain and ameliorate a racially oppressive society. This course is the same as Africana Studies 43.2.

### 51.5 Female and Male: The Sociology of Gender

## 3 hours; 3 credits

Relationships between men and women in America today. Cultural consequences of biological differences. Sexual stereotypes in mass media. Legal position and education of women in comparison with men. Different work opportunities and the problems of combining work and family. Role of minority group women. Movement toward sexual equality. (Not open to students who have completed Sociology 21.6 or 21.7.) Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7, or permission of the chairperson.

## 53 The Social Consequences of Computers

3 hours; 3 credits
Social impact of computers on various groups, subcultures, and institutions. Effect of computer toys on children. Video games, computers in classrooms, "hackers," the world of professional programmers, computers in the workplace, robots, and expert systems. Political and military impact of computers. Issues of privacy and ethics. This course is the same as Computer and Information Science 5.4.
Prerequisite: Core Studies 5 or Computer and Information Science 1.10 or 1.20 or 1.5; and Core Studies 3 or Sociology 5.

## 56 Medical Sociology

## 3 hours; 3 credits

Introduction to the social organization of such modern medical institutions as hospitals, clinics, rehabilitation agencies. Social roles of health professionals and their clients. Client-professional relationship in different types of practice. Impact of illness on the patient's life. Problems of medical care in America today. Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7 , or permission of the chairperson.

### 56.1 Sociology of Mental Illness

3 hours; 3 credits
Analysis of mental illness through various sociological perspectives including symbolic interactionalism, labeling theory, and the sociology of knowledge. Organizations and professions in the field of mental health. The community mental health movement, its original goals, and present problems. Treatment ideologies of community mental health centers: those developed to work with people in lower economic brackets and with minorities; those that reflect the stratification of therapists and patients.
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7, and Psychology 30.

## Social change and social conflict

61.1 Social Change

3 hours; 3 credits
Continuity and change in society. Changing concept of social change. Theories of social change. Factors and determinants of social change. Problems of planning, inducing, controlling social change. (Not open to students who have completed Sociology 73.)
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7 , or permission of the chairperson.

### 61.4 Peoples of the United States

3 hours; 3 credits
Ethnic and racial makeup of the United States. Regional differences. Characteristic features of dominant and minority cultures. Problems of minority groups; their adjustment to the dominant culture. Concept of cultural pluralism. (Not open to students who have completed Sociology 13.)
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7.

### 61.5 Collective Behavior

## 3 hours; 3 credits

Noninstitutionalized forms of group behavior. Social contagion and unrest, crises, disasters. Dynamics of crowds, publics, fads and fashions, social movements, mass society. Consequences of collective behavior for social change and stability. (Not open to students who have completed Sociology 38.)
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7, or permission of the chairperson.

## Sociology of ideas and religion

## 76 Sociology of Religion

3 hours; 3 credits
Religion as human behavior, and as a social institution: patterns of belief, ritual, and experience. The organization of religion and its connection to religious ideology. The relationship of religion to secularization, alienation, and other aspects of the contemporary condition. Religion and family, politics, and social class. The changing role of religion in modern society.
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7, or permission of the chairperson.

### 77.1 Sociology of Science

3 hours; 3 credits
Culture of science. Development of scientific ideas. Social contexts for development of science. Processes of institutionalization of science. Evaluation and reward systems of science. Scientific communications system. Scientific career. Social context of scientific work. Creativity in science and emergence of ideas. Resistance and receptivity to science.
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7 , or permission of the chairperson.

### 77.2 Mass Communications and Mass Media

3 hours; 3 credits
The role of mass media in modern society. The importance of propaganda, public relations, and public opinion; the effects of advertising on everyday life, and the origins of consumer culture; the consequences of violence in TV and film; the reasons for news distortions in print and broadcast journalism. (Not open to students who have completed Sociology 52.)
Prerequisite: Core Studies 3 with a grade of B- or better, or Sociology 5 or 7, or permission of the chairperson.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for courses described below. Students may not register for more than six credits in honors courses in the department in one term.

## 83.1, 83.2 Independent Research I, II

Minimum of 9 hours conference and independent work§; 3 credits each term Independent research supervised by a faculty member. Approved topic. Periodic conferences. Research paper. Not primarily for department honors.
Prerequisite of 83.1: completion of an approved program of advanced Sociology Department courses and permission of the instructor and the chairperson.
Prerequisite of 83.2: Sociology 83.1.

## 84.3, 84.4 Seminar I, II

Minimum 9 hours conference and independent work§; 3 credits each term
Topics vary from term to term. Course description may be obtained in the department office before registration. Topics may include social structure; sociology of professions, work, occupations; sociology of education; sociology of religion; sociology of the military; the community; public welfare; Black people in the United States; collective dynamics; current issues in sociology. Written report or final examination. Prerequisite of 84.3: completion of an approved program of advanced Sociology Department courses and permission of the chairperson.
Prerequisite of 84.4: Sociology 84.3.

## 87.1, 87.2 Fieldwork I, II

Minimum of 9 hours conference and independent work§; 3 credits each term Supervised collection, analysis, evaluation of field data. Final report.
Prerequisite: Sociology 5 or 7; and 18 and 19; and permission of the chairperson.

## Seminars

## 90.1, 90.2 Seminar in Sociological Theory

2 hours and independent work§; 3 credits each term
Topics vary from term to term. Course description may be obtained in the department office before registration. Substantial paper. Students may take this course for credit twice but may not repeat topics.
Prerequisite: Sociology 18.

### 90.3 Seminar in Social Change and Conflict

2 hours and independent work§; 3 credits
Selected topics in social change and conflict. Topics vary from term to term. Course description may be obtained in the department office before registration. Substantial paper. Students may take this course for credit twice but may not repeat topics.
Prerequisite: Sociology 18 or 19 or 61.1 or 61.3 or 61.4 or 61.5 , or permission of the chairperson.

### 90.4 Seminar in Social Issues and Institutions

2 hours and independent work§; 3 credits
Selected topics in social issues and institutions. Topics vary from term to term. Course description may be obtained in the department office before registration. Substantial paper. Students may take this course for credit twice but may not repeat topics. (Students may not repeat topics completed in Sociology 95.1.) Prerequisite: Sociology 18 or 19 or 43.1 or 43.2 or 43.3 or 43.5 or 44 or 51.1 , or permission of the chairperson.

### 91.1 Seminar in Family Studies

2 hours and independent work§; 3 credits
Selected topics in family studies. Topics vary from term to term. Course description may be obtained in the department office before registration. Substantial paper. Students may take this course for credit twice but may not repeat topics.
Prerequisite: Sociology 18 or 19 or 40.1 , or permission of the chairperson.

### 91.2 Seminar in Gender Studies

2 hours and independent work§; 3 credits
Selected topics in gender studies. Topics vary from term to term. Course description may be obtained in the department office before registration. Substantial paper. Students may take this course for credit twice but may not repeat topics.
Prerequisite: Sociology 18 or 19 or 51.5 , or permission of the chairperson.

### 91.3 Seminar in Aging and the Life Cycle

2 hours and independent work§; 3 credits
Selected topics in aging and the life cycle. Topics vary from term to term. Course description may be obtained in the department office before registration. Substantial paper. Students may take this course for credit twice but may not repeat topics.
Prerequisite: Sociology 18 or 19 or 40.3 or 40.4 , or permission of the chairperson.

### 91.4 Seminar in Criminology

2 hours and independent work§; 3 credits
Selected topics in criminology. Topics vary from term to term. Course description may be obtained in the department office before registration. Substantial paper. Students may take this course for credit twice but may not repeat topics.
Prerequisite: Sociology 18 or 19 or 51.4 , or permission of the chairperson.

### 91.5 Seminar in Deviant Behavior

2 hours and independent work§; 3 credits
Selected topics in deviant behavior. Topics vary from term to term. Course description may be obtained in the department office before registration. Substantial paper. Students may take this course for credit twice but may not repeat topics.
Prerequisite: Sociology 18 or 19 or 51.3 , or permission of the chairperson.

### 92.1 Seminar in Community Studies

2 hours and independent work§; 3 credits
Selected topics in community studies. Topics vary from term to term. Course description may be obtained in the department office before registration. Substantial paper. Students may take this course for credit twice but may not repeat topics. Students may not repeat topics completed in Sociology 93.1 or 93.2.
Prerequisite: Sociology 18 or 19 or 27.1 , or permission of the chairperson.

### 92.2 Seminar in the Sociology of Brooklyn

2 hours and independent work§; 3 credits
Selected topics in the sociology of Brooklyn designed to use the borough's multiple social worlds as a sociological laboratory. Topics vary from term to term. Course description may be obtained in the department office before registration. Substantial paper. Students may take this course for credit twice but may not repeat topics. Students may not repeat topics completed in Sociology 93.1 or 93.2.
Prerequisite: Sociology 18 or 19 or 26 or 26.1 or 27.1 , or permission of the chairperson.

### 92.3 Seminar in the Sociology of Medicine

2 hours and independent work§; 3 credits
Selected topics in the sociology of medicine. Topics vary from term to term. Course description may be obtained in the department office before registration. Substantial paper. Students may take this course for credit twice but may not repeat topics.
Prerequisite: Sociology 18 or 19 or 56 or 56.1 , or permission of the chairperson.

### 92.4 Seminar in Work and Occupations

2 hours and independent work§; 3 credits
Selected topics in work and occupations. Topics vary from term to term. Course description may be obtained in the department office before registration. Substantial paper. Students may take this course for credit twice but may not repeat topics.
Prerequisite: Sociology 18 or 19 or 43.2 or 43.3 , or permission of the chairperson.

### 92.5 Seminar in Mass Media and Popular Culture

2 hours and independent work§; 3 credits
Selected topics in mass media and popular culture. Topics vary from term to term. Course description may be obtained in the department office before registration. Substantial paper. Students may take this course for credit twice but may not repeat topics.
Prerequisite: Sociology 18 or 19 or 77.2 , or permission of the chairperson.

# Speech Communication Arts and Sciences 

Department office: 3439 Boylan Hall
Telephone: 951-5225
Chairperson: Timothy Gura
Deputy Chairperson, CLAS and SGS: Shumíng Lu
Deputy Chairperson, Division of Graduate Studies: Gail B. Gurland
Professors: Chapey, Cherry, Gura, Gurland, Rubinstein, Silman;
Assistant Professors: Haas, Lu, Marton, Messano-Ciesla, Nielsen, Schaeffer.
The Department of Speech Communication Arts and Sciences offers four degree programs: speech, with concentrations in public communication or oral interpretation; speech teacher ( $\mathrm{K}-12$ ); education of the speech and hearing handicapped; and speech-language pathology, audiology, speech and hearing science. The department also offers a minor in speech for students majoring in other areas and a concentration of courses creditable toward programs in teacher education.

## The curriculum

The following list specifies the areas and the courses in each area of the Department of Speech Communication Arts and Sciences curriculum.
Oral interpretation: Speech 1.4, 14.1, 14.2, 14.3, 14.4, 14.5, 24.3, 24.5, 44, 70, 71, 72, 73, 75, 83, $84,85$.
Public communication: Speech 4, 5, 7, 8, 9, 18, 18.5, 19.1, 21, 22, 23, 29, 33, 33.4, 70, 71, 72, 73, 75, 84, 85.

Speech and hearing science: Speech 13, 17.8, 17.9, 70, 71, 72, 73, 75, 83, 84, 85.
Speech pathology-audiology: Speech 12, 28.1, 28.2, 31, 38.1, 38.3, 70, 71, 72, 73, 75, 83, 84, 85. Speech 3, 3.2, and 3.3 are fundamentals courses. Speech 10 and 11 are general courses.

## B.A. degree programs in speech

## Department requirements

Speech majors must meet with an adviser before the lower- sophomore term. The CLAS department counselor assigns area advisers for CLAS students. SGS students meet with the SGS counselor. Students may not offer more than six credits for a baccalaureate degree from Speech 70, 71, 72, and 73. The Speech Core consists of the following items, 1 through 4.

1) Speech 8 or 9 or 18.5 or 23 .
2) Speech 13 or 31 .
3) Speech 14.1 or 14.2 or 14.4 .
4) Speech 75 .

Majors must complete the course requirements in one of the following areas: $\mathrm{A}, \mathrm{B}, \mathrm{C}, \mathrm{D}(\mathrm{I})$, or $\mathrm{D}(\mathrm{II})$ :
A. B.A. degree program for speech teacher (K-12)

HEGIS code 1506-01
Department requirements (69-71 credits)
Items 1, 2, 3, and 4 of the Speech Core.
Speech 18 or 19.1.
All of the following: Speech 17.6 or 17.8, 38.1, 38.3.
Theater 1 and 2.
Television and Radio 6.5 or Film 1.
All of the following: Education 16, 34, 62.01 or 62.02, 63.3, $65.14 \mathrm{~A}, 69$. Students must apply to the School of Education for admission to Education 65.14A and fulfill the following requirements to register: endorsement by the speech majors interviewing committee; a course of study planned with the assigned area adviser; a scholastic index of 2.50 or higher and a department index of 3.00 or higher; completion of the required speech courses and theater courses.
Two of the following: English 30.5, 41.3, 60.1.
Other courses in English literature may be substituted only with permission of the area adviser.
Psychology 2 and 20.

The Speech Communication Arts and Sciences Department Screening Committee may assign students to any of the following: Speech $0.1,3,3.2,10,10.1$.
B. B.A. degree program for education of the speech and hearing handicapped HEGIS code 0815 Department requirements (69-71 credits)
Items 1, 3, and 4 of the Speech Core.
All of the following: Speech 13; 17.8 or both 17.4
and 17.6; 17.9, 28.1, 28.2, 31, 38.1, 38.3.
All of the following: Education 16, 34, 62.01 or 62.02, 63.3, 65.14B, 69. Students must apply to the School of Education for admission to Education 65.14B and fulfill the following requirements to register: endorsement by the speech majors interviewing committee; a course of study planned with the assigned area adviser; a scholastic index of 2.50 or higher and a department index of 3.00 or higher; completion of the required Speech Communication Arts and Sciences Department courses.
All of the following: Psychology 2, 20, 30.
The Speech Communication Arts and Sciences Department Screening Committee may assign students to any of the following: Speech $0.1,3,3.2,10,10.1$.
C. B.A. degree program in speech-language pathology, audiology, speech and hearing science HEGIS code 1220
Department requirements (39-41 credits)
Items 1, 3, and 4 of the Speech Core.
All of the following: Speech 13; 17.8 or both 17.4
and 17.6; 17.9, 28.1, 28.2, 31, 38.1, 38.3.
The Speech Communication Arts and Sciences Department Screening Committee may assign students to any of the following: Speech $0.1,3,3.2,10,10.1$.
D. B.A. degree program in speech HEGIS code 1506
I. Public communication (30 credits)

Items 2, 3, and 4 of the Speech Core.
Speech 4 or 5 or 33.4 or Televison and Radio 6.5.
Speech 7 and either 8 or 9 .
Speech 18 or 18.5, and 19.1.
Speech 23 or 33.
The Speech Communication Arts and Sciences
Department Screening Committee may assign students to
any of the following: Speech $0.1,3,3.2,10,10.1$.
II. Oral interpretation ( 24 credits)

Items 1, 2, and 4 of the Speech Core.
Fifteen credits chosen from the following: Speech 14.2, 14.3, 14.4, 24.3, 24.5, 44.
The Speech Communication Arts and Sciences Department Screening Committee may assign students to any of the following: Speech $0.1,3,3.2,10,10.1$.

## Certification and accreditation

The New York State Department of Education grants teaching certificates to those students who complete the requirements of program $A$ or program $B$.
The American Speech-Language-Hearing Association accepts program $C$ as fulfilling the requirement for undergraduate training.

## Department recommendation

Students should consult the Speech Counseling Guide, which describes each major in detail and may be obtained in the department office.

[^4]of $C$ or higher in each course. Students selecting this concentration should consult with a department counselor for recommendations.

## Requirements for an optional minor in speech

At least 12 credits in advanced electives in the Speech Communication Arts and Sciences Department with a grade of $C$ or higher. Speech minors are advised to consult with department counselors for recommendations.

## Department honors

To be eligible for department honors, a student must have a scholastic index of 3.50 or higher, complete 30 credits in the Speech Communication Arts and Sciences Department, receive a grade of B or higher in Speech 83 or 84 or 85 , and have the recommendation of the Speech Communication Arts and Sciences Department and the Faculty Council Committee on Honors, Citations, and Awards.

## Division of Graduate Studies

The Speech Communication Arts and Sciences Department offers the following degree programs: master of arts in speech, master of science in speech-language pathology, master of science in audiology. The department participates with the School of Education in the following degree programs: master of arts for speech teacher ( $\mathrm{K}-12$ ), master of science in education in the education of the speech and hearing handicapped. Some courses may be creditable toward the CUNY doctoral degree. The programs in speech-language pathology and audiology have been certified by the Education Training Board of the American Speech-Language-Hearing Association.
For information, students should consult the department's deputy for graduate studies. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 18 credits in advanced courses for majors in this department.
§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

## *0.1 Clinic

## 1 hour; no credit

Remedial, clinical, noncredit work. Individual consultations or carefully selected small groups. This course is usually assigned in the freshman year.
Prerequisite: assignment on the basis of the speech screening interview or a diagnostic interview in the Speech and Hearing Center.

## *1.4 Performing Core Literature

1 hour recitation; 1 credit
Oral interpretation of literature studied in Core Studies 1 and Core Studies 6. (Not open to students who have completed Speech 14.1.)
Corequisite: Core Studies 1 or 6.

## *3 Techniques in Speech Communication

## 3 hours; 3 credits

Attention to developing speaking skills appropriate to the demands of modern life. Exercise in forms of communication and in voice and diction based on the student's experience. (Not open to students who are enrolled in or have completed Speech and Theater 2.3 or Speech 3.1 or 3.2. Not open to students who have completed more than five credits in speech.)
Prerequisite: assignment on the basis of the speech screening interview.

## *3.2 Techniques in Speech Communication

5 hours; 3 credits
Attention to developing speaking skills appropriate to the demands of modern life. Designed for students with foreign accents. Exercise in forms of communication and in voice and diction. (Not open to students who are enrolled in or have completed Speech and Theater 2.3 or Speech 3 or 3.1. Not open to students who have completed more than five credits in speech.)
Prerequisite: assignment on the basis of the speech screening interview.

## *3.3 Techniques in Speech Communication

## 5 hours; 3 credits

Attention to developing speaking skills appropriate to the demands of modern life. Designed for students with difficulties in voice, diction, or oral expression of thought. Exercises in forms of communication, oral expression of thought, and in voice and diction. (Not open to students who are enrolled in or have completed Speech 3 or Speech 3.2.)
Prerequisite: assignment on the basis of the speech screening interview.

## 4 Masterpieces of Persuasion

3 hours; 3 credits
Development of communication theory from Plato, Aristotle, Cicero, and Quintilian to the twentieth century. Great rhetorical works of Western civilization.

## 5 Modern Communication Theories

3 hours; 3 credits
Survey of basic concepts in modern communication: intrapersonal, interpersonal, nonverbal, small group, intercultural, and mass communication.

## 7 Public Speaking

3 hours; 3 credits
Rhetorical principles. Practice in the technique of speech construction and delivery. Manuscript and extemporaneous delivery of several types of speeches.
Prerequisite: completion of course assigned at speech screening interview.

## 8 Fundamentals of Interpersonal Communication

3 hours; 3 credits
Development of rhetorical competence and awareness of communication strategies in one-to-one settings through readings, lectures, class exercises.
Prerequisite: completion of course assigned at speech screening interview.

## 9 Evaluative Listening for Oral Communication

3 hours; 3 credits
Introduction to theories of listening. Practice in identifying and improving listening skills.
Prerequisite or corequisite: completion of course assigned at speech screening interview.

## 10 Professional Speech

3 hours; 2 credits
Attention to general effectiveness in communication with emphasis on manner of speaking, voice, and diction. Exercises and projects in speaking and reading. For native speakers of American English. (Not open to students who are enrolled in or have completed Speech 10.1. Not open to students who have completed more than five credits in speech.)
Prerequisite: completion of course assigned at speech screening interview.

### 10.1 Professional Speech for Speakers of English as a Second Language

3 hours; 2 credits
Attention to general effectiveness in communication with emphasis on manner of speaking, voice, and diction. Exercises and projects in speaking and reading. For speakers of English as a second language. (Not open to students who are enrolled in or have completed Speech 10. Not open to students who have completed more than five credits in speech.)
Prerequisite: completion of course assigned at speech screening interview.

## 11 The Speaking Voice

3 hours; 2 credits
Development of a speaking voice adequate for various speech situations, formal and informal. Personal problems in vocal quality, volume, pitch, and range.
Prerequisite: completion of course assigned at speech screening interview.

## *12 Survey of Speech, Language, and Hearing Disorders

## 3 hours; 3 credits

Survey of the more commonly encountered speech, language, and hearing problems to enable the nonspecialist to recognize and understand them. Designed to promote understanding of the needs of those with communication disorders. Development of positive attitudes toward individuals with communication disorders. (Not open to students who are enrolled in or who have completed Speech and Theater 27.1 or Speech 38.1.)

## 13 Phonetics

3 hours; 3 credits
Introduction to the science of English sounds and to theories of derivation of present American linguistic usages. Phonetical applications to matters of speech correction and improvement.
Prerequisite: sophomore or junior or senior standing; and completion of course assigned at speech screening interview.

### 14.1 Oral Interpretation: Prose

3 hours; 3 credits
Fundamental principles of the study of literature through performance. Emphasis on prose forms. (Not open to students who have completed Speech 14.)
Prerequisite: completion of course assigned at speech screening interview.

### 14.2 Oral Interpretation: Poetry

3 hours; 3 credits
Application of basic oral interpretation skills to the analysis and performance of poetry. (Not open to students who have completed Speech 24.)
Prerequisite: Completion of course assigned at speech screening interview.

### 14.3 Oral Interpretation: Drama

3 hours; 3 credits
Analysis and performance problems for the reader of dramatic literature.
Prerequisite: Speech 14.1 or 14.2 or 14.4.

### 14.4 The Performance of Children's Literature

3 hours; 3 credits
Specific performance elements in reading to and with children. (Not open to students who are enrolled in or have completed Speech 14.5.)
Prerequisite: Completion of course assigned at speech screening interview.

### 14.5 The Oral Interpretation of Children's Literature

3 hours; 3 credits
An investigation of traditional and contemporary children's literature from various cultures. (Not open to students who are enrolled in or have completed Speech 14.4.)
Prerequisite: completion of course assigned at speech screening interview.

### 17.8 Speech-Language and Hearing Science: Anatomy and Physiology

4 hours; 4 credits
An overview of the speech-language and hearing mechanisms; their anatomical relationships and
physiological processes. (Not open to students who have completed both Speech 17.4 and 17.6.)
Prerequisite: Completion of course assigned at speech screening interview.

### 17.9 Speech-Language and Hearing Science: Acoustics

4 hours; 4 credits
Introduction to acoustical and mechanical analysis of the speech mechanisms. Applications to research and practice in speech pathology, speech perception, experimental phonetics, audiology, auditory rehabilitation, and psychoacoustics. Experience with relevant instrumentation. (Not open to students who have taken Speech and Theater 17.1 or Speech 17.5 or 17.7.)
Prerequisite: Speech 13.

## 18 Group Discussion of Social Problems

3 hours; 3 credits
Nature and operation of discussion groups. Use of evidence, reasoning, reflective thinking, group interrelations, leadership, and decision making.
Prerequisite: completion of course assigned at speech screening interview.

### 18.5 Intercultural Communication: Speech Community Perspectives

3 hours; 3 credits
Description and analysis of differences in speech patterns, codes, norms, and meanings as they affect intercultural communication between individuals of different cultural and ethnic backgrounds. Improvement of skills for effective communication in intercultural contacts. (Not open to students who completed Speech 60 in the Spring 1998 or Fall 1998 semester.)
Prerequisite: Completion of course assigned at speech screening interview, or permission of the chairperson.

### 19.1 Argumentation

3 hours; 3 credits
Principles and practice of convincing by means of logical proof. Logical analysis, identification of issues, briefing, and types of evidence.
Prerequisite: Speech 7 or permission of the chairperson.
21 Speeches for Special Occasions
1 hour; 1 credit
Principles and techniques of ceremonial speaking adapted to modern speeches of courtesy, commemoration, after-dinner occasions, and speeches of other types.
Prerequisite: Speech 7 or permission of the chairperson.

## *22 Parliamentary Procedure

1 hour; 1 credit
Study and practice in the rules of parliamentary procedure.
Prerequisite: sophomore or junior or senior standing.

## 23 Interpersonal Communication for Business and Professions

3 hours; 3 credits
Analysis and application of speech communication skills to the workplace for the purpose of increasing entry-level and career-related competencies. (Not open to freshmen or to students who have completed Speech 60, fall, 1981, or spring, 1982.)
Prerequisite: open to students who have completed a minimum of 61 college credits and have completed the course assigned at the speech screening interview.

### 24.3 Readers Theater

3 hours; 3 credits
Workshop and performance experience in the arrangement and adaptation of literature for group reading.
Prerequisite: Speech 14.2 or 24 or permission of the chairperson.

### 24.5 Interpretation of Classic Literature

3 hours; 3 credits
Intensive analysis and performance of representative poetry, prose, and drama from the classics.
Prerequisite: Speech 14 or 14.1; and Speech 14.2 or 24.

### 28.1 Audiology I

3 hours lecture, 2 hours laboratory; 4 credits
Disorders of hearing, measurement of hearing through pure tone and speech audiometry, and interpretation of audiometric test results. (Not open to students who have completed Speech and Theater 27.3.)
Prerequisite: All of the following: Speech 13, 17.4 or $17.8,17.5$ or $17.9,31$. These courses must be completed with an average of $B$ or higher and with no grade lower than $C$.

### 28.2 Audiology II

3 hours lecture, 2 hours laboratory; 4 credits
Functional hearing impairment, hearing conservation in schools and in industry, and auditory rehabilitation.
Prerequisite: Speech $13,17.8,17.9,31$, and 28.1 with an average of at least $B(3.00)$ and no grade lower than C.

## 29 Social Control through Persuasive Speech

3 hours; 3 credits
Theory and research on motivation. Practice in preparing and delivering persuasive speeches. Topics may include consumer rights, civil rights, individual's rights.
Prerequisite: Speech 7 or permission of the chairperson.

## 31 Development of Normal Hearing, Speech, and Language

3 hours; 3 credits
Normal hearing, speech, and language development and its relationship to motor, perceptual, cognitive, emotional, and social development. (Not open to lower freshmen.)

## 33 Organizational Communication

3 hours; 3 credits
The communicator and communication in organizations. Theory, relationships, and objectives.
Prerequisite: Speech 3 or 7 or 18 or permission of the chairperson.

### 33.4 Studies in Public Address

3 hours; 3 credits
Analysis of the ideas, rhetorical methods, and reactions to notable speakers. Leaders in politics, education, religion, and law emphasized. It is strongly recommended that students complete Speech 7 before enrolling in this course.
Prerequisite: sophomore or junior or senior standing.

### 38.1 Speech-Language Pathology I: Disorders

3 hours lecture; 2 hours laboratory; 4 credits
Etiology and symptomatology of disorders of language, speech, and voice. (Not open to students who have completed Speech and Theater 27.1.)
Prerequisite: All of the following: Speech 13; 17.6 or $17.8 ; 17.5$ or 17.9;31. These courses must be completed with an average of B or higher and with no grade lower than C .

### 38.3 Speech-Language Pathology III: Rehabilitation

3 hours lecture, 2 hours laboratory; 4 credits
Clinical theory and practice in the rehabilitation of persons with language, speech, and voice disorders.
Case demonstrations and supervised clinical practicum. (Not open to students who have completed Speech and Theater 37.)
Prerequisite: Speech 13, 17.8, 17.9, 31, and 38.1 with an average of at least $B(3.00)$ and no grade lower than C .

## 44 Special Topics in Oral Interpretation

3 hours; 3 credits each term
Analysis and performance of literature in various modes and genres. Such topics as chamber theater and the oral interpretation of individual literary styles, nonfiction, and folk literature. Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take this course for credit twice but may not repeat topics.
Prerequisite: Speech 24.3 or permission of the chairperson.

## 60 Special Topics

3 hours; 3 credits each term
Topics vary from term to term. Courses description may be obtained from the department office before registration. Students may take this course for credit twice but may not repeat topics.
Prerequisite: Speech 3 or 7 or 18 or permission of the chairperson.

## 70 Speech Laboratory

Minimum of 45 hours satisfactory participation; 1 credit each term
Satisfactory participation in projects and activities not included as part of the work of a specific course in any area of the Department of Speech. Students may take this course for credit four times, but may not offer more than six credits toward a baccalaureate degree from Speech 70, 71, 72, and 73 . Students should consult the department office about the special registration procedures required for this course.

## 71 Independent Study

3 hours independent work§ and conferences; 1 credit
Directed research of a topic approved by the instructor, under the supervision of the instructor. Substantial final project; oral presentation, performance, research paper, or a combination of these forms. May be repeated for credit, but students may not offer more than six credits toward a baccalaureate degree from Speech 70, 71, 72, and 73.
Prerequisite: five or more credits in Department of Speech Communication Arts and Sciences courses and permission of the chairperson.

## 72 Independent Study

6 hours independent work§ and conferences; 2 credits
Directed research of a topic approved by the instructor, under the supervision of the instructor. Substantial final project; oral presentation, performance, research paper, or a combination of these forms. May be repeated for credit, but students may not offer more than six credits toward a baccalaureate degree from Speech 70, 71, 72, and 73.
Prerequisite: five or more credits in Department of Speech Communication Arts and Sciences courses and permission of the chairperson.

## 73 Independent Study

9 hours independent work§ and conferences; 3 credits
Directed research of a topic approved by the instructor, under the supervision of the instructor. Substantial final project; oral presentation, performance, research paper, or a combination of these forms. May be repeated for credit, but students may not offer more than six credits toward a baccalaureate degree from Speech 70, 71, 72, and 73.
Prerequisite: five or more credits in Department of Speech Communication Arts and Sciences courses and permission of the chairperson.

## 75 Senior Seminar: Current Issues in Speech Communication

3 hours; 3 credits
Contemporary concerns and principles in speech communication as they interact across the discipline. Practical case studies.
Prerequisite: open to seniors and upper juniors who have completed Speech 7 or 8 or 9 or 23, 13, 14.1, and 31 ; or permission of the chairperson.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for courses described below. Students may not register for more than six credits in honors courses in the department in one term.

## 83 Independent Research

Minimum of 9 hours independent work§ and conference or class meetings; 3 credits
Research or fieldwork in one of the areas of speech supervised by a faculty member. Periodic conferences.
Final report or paper.
Prerequisite: an average grade of B or higher in a program, approved by the chairperson, of advanced Speech Communication Arts and Sciences Department courses and permission of the instructor and the chairperson.
Prerequisite for students in the speech pathology/audiology- speech and hearing science area: Speech 31 or 38.3.

## 84 Seminar

Minimum of 9 hours independent work§ and conference or class meetings; 3 credits
Readings in speech. Course description may be obtained in the department office before registration. Final examination.
Prerequisite: an average grade of $B$ or higher in a program, approved by the chairperson, of advanced Speech Communication Arts and Sciences Department courses and permission of the chairperson.
Prerequisite for students in the speech pathology/audiology- speech and hearing science area: Speech 31 or 38.3.

## 85 Workshop

Minimum of 9 hours independent work§ and conference or class meetings; 3 credits
Creation of an acceptable piece of work in one of the areas of speech.
Prerequisite: an average grade of B or higher in a program, approved by the chairperson, of advanced Speech Communication Arts and Sciences Department courses and permission of the instructor or chairperson.
Prerequisite for students in the speech pathology/audiology- speech and hearing science area: Speech 31 or 38.3.

## Television and Radio

Department office: 304 Whitehead Hall
Telephone: 951-5555
Chairperson: Hal Himmelstein
Deputy Chairperson, Division of Graduate Studies: George Dessart
Coordinator, Broadcast Journalism Program: Adrian J. Meppen
Professors: Dessart, Himmelstein, MacLennan, Rodman;
Associate Professors: Fry, Meppen;
Assistant Professors: Lewis, MacLelland, Murray, Sosa, Spinelli.

## B.A. degree program in television and radio HEGIS code 0603

Department requirements ( 30 credits)
All of the following: Television and Radio 6.5, 16, 16.5, 20, 30.5.
Two of the following: Television and Radio 24.1 or 25.1 or 26.1 or 27.1.
One of the following: Speech 14.1 or 18.5 or 23
Six additional credits in Television and Radio Department courses numbered 16.6 and higher.
Students may not offer more than six credits for a baccalaureate degree from Television and Radio 70, 75, 76,77 , and 78.
Television and radio majors may offer a maximum of 40 credits in television and radio courses, excluding Television and Radio 70, 75, 76, 77, 78, 83, 84, and 85, toward their degree.

## B.S. degree program in broadcast journalism <br> HEGIS code 0605

Program requirements (45 credits)
Television and Radio 6.5, 26.8, 28, and 29.
Two of the following production courses: Television and Radio 24.1, 25.1, 26.1, 27.1.
English 18.17.
An additional 21 credits of advanced course work are required in any department or area other than
Television and Radio and the Journalism Program of the English Department, with the courses approved by the program director.

## Program recommendation

Additional elective courses are offered in the Department of English. Consult the department chairperson or the program coordinator for guidance in course selection.

## Requirements for a minor in television and radio (for film majors)

A major in the Film Department; Television and Radio 6.5; and a program of 12 credits in advanced courses in television and radio, each completed with a grade of $C$ or higher, including both $a$ ) and $b$ ):
a) Television and Radio 16 and 26.1. (For this minor, the prerequisite of Television and Radio 20 for

Television and Radio 26.1 is waived.)
b) Two courses from the following: Television and Radio 17, 26.15, 26.2, 26.4, 26.5, 26.8, 30.5, or 50.

## Requirements for a minor in television and radio (for theater majors)

A major in the Theater Department; and all of the following courses, each completed with a grade of C or higher: Television and Radio 6.5, 16, 20, 25.1, 26.1, and one other advanced elective. (For this minor, the prerequisite of Television and Radio 16.5 for Television and Radio 25.1 and 26.1 is waived.)

## Division of Graduate Studies

The Television and Radio Department offers a master of fine arts degree program in television production and a master of science in television and radio. For information, students should consult the department's deputy for graduate studies. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

*Courses marked (*) are not counted toward the requirement of no fewer than 18 credits in advanced courses for majors in this department.
§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

### 6.5 Introduction to Mass Media

## 3 hours; 3 credits

Survey of the history, industry practices, and controversies involved in the media of mass communication. Mainstream mass media of books, newspapers, magazines, film, radio, recordings, television, and the Internet. Analysis of news, entertainment, advertising, and public strategies, as well as media impact, legal issues, and ethics.

## 16 Television and Radio Writing

3 hours; 3 credits
Basic communication skills required of the writer in television and radio. Techniques of writing news, documentary, comedy, drama, and advertising for these media.
Prerequisite: Television and Radio 6.5.

### 16.5 Industry, Institutions, and Audiences in Television and Radio

3 hours; 3 credits
Development of broadcast systems from radio through the Internet. Technological and aesthetic innovations, socio-economic forces, government, private industry, advertisers, creative producers, and audiences from a historical perspective. U.S. and global perspectives.
Prerequisite: Television and Radio 6.5.

## 17 Television and Radio Advertising

3 hours; 3 credits
Examination of persuasive strategies that use the major mass media. Advertising and the relationship of market, copy, and media variables. Analytical and practical exercises implement theory. This course is the same as Business 50.7.
Prerequisite: Television and Radio 6.5 or Business 50.2 or permission of the chairperson.

### 18.1 Television Genres

3 hours; 3 credits
Studies in genre types and production techniques from aesthetic, sociocultural, historical, and economic perspectives. Narrative structure, character and social group stereotyping, and popular appeal of archetypal patterns. Each term focuses on an individual genre chosen from: action/adventure, dramatic, serial, situation comedy, news and documentary, television commercial, etc. Students may take this course for credit twice, but may not repeat topics. (Not open to students who have completed Television and Radio 18 or 73.2.)
Prerequisite: Television and Radio 16 and 16.5.

## 19 Public Relations

3 hours; 3 credits
This course will focus on the comunications tools in the electronic media used by public relations professionals to fulfill their objectives. Students will develop a fundamental knowledge of the many publics an organization must deal with, the ethics of public relations, problems in public relations, writing news releases, effective publicity techniques, and crisis management.
Prerequisite: Television and Radio 6.5 or Business 50.2 or permission of the chairperson.

## 20 Sight/Sound/Motion: Basic Production Theories and Techniques

3 hours; 3 credits
Application of basic production theories and techniques; relationship between the tools and language of sight, sound, and motion and the theories that have evolved around them. Practice in the use of tools with a view to strengthening the basis for aesthetic judgment on matters of aural/visual/kinetic communication.
(Not open to students who are enrolled in or have completed Television and Radio 16.6 or 26.1.)
Prerequisite: Television and Radio 6.5

## 22 Mass Communication Research

3 hours; 3 credits
Qualitative and quantitative methods in mass communication research. Ratings, content analysis, survey, and experimental studies. The use of statistics, computer data analysis, and report writing. (Not open to students who have completed Television and Radio 73 in spring, 1986, or spring, 1987.)
Prerequisite: Television and Radio 16.5 and Core Studies 5 or its equivalent.

## 23 Ethical Issues in the Electronic Mass Media

3 hours; 3 credits
Analysis and discussion of ethical issues related to television and radio. Case histories and role playing provide value judgments concerning entertainment, information, and advertising functions of mass media. This course is the same as Philosophy 24.1.
Prerequisite: Television and Radio 6.5, and Philosophy 6 or Core Studies 10.

### 24.1 Elements of Multimedia Design and Production

1 hour lecture, 4 hours laboratory; 3 credits
Multimedia design for the Web, CD-ROM, and emerging electronic delivery systems. Integration of audio, video, text, and graphic elements for best aesthetic effect. Interface design and navigational considerations of interactive content.
Prerequisite: Television and Radio 16.5 and 20; or English 18.17 and permission of the chairperson.
Prerequisite or corequisite: Television and Radio 16 or 28.

### 25.1 Introduction to Radio Production

1 hour lecture, 4 hours laboratory; 3 credits
Radio and audio aesthetics and production. Laboratory practice in conceiving, scripting, developing, and producing a variety of radio programs using field and studio equipment including emerging digital technology.
Prerequisite: Television and Radio 16.5 and 20; or English 18.17 and permission of the chairperson.
Prerequisite or corequisite: Television and Radio 16 or 28.

### 25.2 Advanced Radio Production

1 hour lecture, 4 hours laboratory; 3 credits
Individual and group production of short- and long-form radio projects such as: promotional spots, features, magazines, documentaries, series, and radio drama. Project conception, development, management, and implementation. Contact with radio professionals.
Prerequisite: Television and Radio 25.1 or Music 26.1 or Film 48 or permission of the chairperson.

### 25.3 Radio Culture

3 hours; 3 credits
Historical survey of radio technology, program production and format, and conceptions of listenership.
Development of radio programming around the world with a focus on English-speaking radio. Established radio forms and radio experimentation, theories of the social/political/cultural role of radio, and hypotheses on radio's future.
Prerequisite: Television and Radio 6.5.
Prerequisite or corequisite: Television and Radio 16.5.

### 26.1 Elements of Television Studio Production

1 hour lecture, 4 hours laboratory; 3 credits
Aspects of television studio operation that contribute to the aesthetics of production. Laboratory practice with cameras, microphones, sound effects, properties, lighting instruments and control, audio console, and switcher-fader.
Prerequisite: Television and Radio 16.5 and 20, or English 18.17 and permission of the chairperson.
Prerequisite or corequisite: Television and Radio 16 or 28.

### 26.2 Television Production and Direction

1 hour lecture, 4 hours laboratory; 3 credits
Continuation of Television and Radio 26.1. Various types of television program production and the techniques employed in each.
Prerequisite: Television and Radio 26.1 and permission of the chairperson.

### 26.4 Electronic Delivery Systems

3 hours; 3 credits
Emerging electronic delivery systems. Social, educational, and cultural implications. Programming and marketing considerations.
Prerequisite: Television and Radio 16.5 or permission of the chairperson.

### 26.5 Public Television

3 hours; 3 credits
Television as an educational medium. Public and instructional programming.
Prerequisite: Television and Radio 16.5.

### 26.8 Television and Radio Journalism

3 hours; 3 credits
Survey of operations, functions, policies, and problems of television and radio public affairs and news.
Responsibilities and roles in relation to freedom of information and the public's right to know.
Prerequisite: Television and Radio 6.5 or English 18.17 and permission of the Broadcast Journalism
Program coordinator.

### 26.15 Television and Radio Program Development and Scheduling

3 hours; 3 credits
Integration of the skills and background information required in planning successful programs.
Prerequisite: a grade of $B$ or higher in Television and Radio 25.1, 26.1, 27.1, or permission of the
chairperson.

### 26.16 Television and Radio Sales and Distribution

3 hours; 3 credits
Buying, selling, promoting, and distributing television and radio material. Strategies for sponsorship, underwriting, subscription, and rental. Methods of delivery. Cost effectiveness measurements.
Prerequisite: Television and Radio 16.5.

### 26.25 Production Management

3 hours; 3 credits
The business and management side of the program producer's function. Personnel management; program budgeting; rights and clearances; relations with unions, agents, and licensing organizations.
Prerequisite: a grade of B- or higher in Television and Radio 24.1 or 25.1 or 26.1 or 27.1 or permission of the chairperson.

### 27.1 Elements of Television Field Production

1 hour lecture, 4 hours laboratory; 3 credits
Aspects of production of television segments and programs in nonstudio locations. Selection and use of portable cameras, recorders, lighting, and sound equipment. Aesthetic considerations necessary for effective post-production editing. Comparison of requirements for recording scripted and spontaneous events. Producer's role in creating and distributing such programs. Collaborative production of finished material suitable for telecasting.
Prerequisite: Television and Radio 16.5 and 20; or English 18.17 and permission of the chairperson. Prerequisite or corequisite: Television and Radio 16 or 28.

### 27.2 Advanced Television Field Production: Documentary

4 hours; 3 credits
Intensive production work in video documentaries. Production subjects focus on the diverse people of Brooklyn and issues facing the borough or its neighborhoods. Production teams, each of which will complete a short documentary project. Lectures on research, development, preproduction planning, scheduling, location and studio production, and postproduction. This course is the same as Film 49.
(Not open to students who have taken Film 49.)
Prerequisite: Television and Radio 27.1 or 29 or permission of the chairperson.

## 28 Television and Radio Newswriting

3 hours; 3 credits
Adaptation of various sources of news material to television and radio writing and delivery style. Forms for television and radio newswriting. Television and radio news equipment. Relationships between members of the television and radio news team.
Prerequisite: Television and Radio 6.5.

## 29 Summer Broadcast News Institute

3 hours lecture, 6 hours laboratory; 6 credits Summer session
Introduction to on-air journalism producing, production, and delivery of news programs and messages. Functioning as a member of a broadcast news producing, performance, and production team. Laboratory and field practice in writing and producing for news broadcasts. Methods of reporting and editing script. Aspects of in-studio and field television production. (Not open to students who have completed Television and Radio 26.81, 26.82, and 26.83.)
Prerequisite: Television and Radio 16.5, or English 18.7, or permission of the director of the Broadcast Journalism program.

### 30.5 Television and Radio Criticism

3 hours; 3 credits
Survey of television and radio criticism. Influence of the medium and of individual programs on American society.
Prerequisite: Television and Radio 25.1 or 26.1, or 27.1.

### 36.1 Advanced Television Comedy Scriptwriting

3 hours; 3 credits
Scriptwriting for television comedy programming. Developing scripts based on research, character analyses, plot analysis, and story treatments. Course will feature comedy scripts. (Not open to students who have completed Television and Radio 73, Special Topics: Advanced Television Writing: Comedy.) Prerequisite: Television and Radio 16 with a grade of $B$ or better.

### 36.2 Advanced Television Dramatic Scriptwriting

## 3 hours; 3 credits

Scriptwriting for television dramatic programming. Developing scripts based on research, character analyses, plot analysis, and story treatments. Course will feature dramatic scripts. (Not open to students who have completed Television and Radio 73, Special Topics: Advanced Television Writing: Drama.) Prerequisite: Television and Radio 16 with a grade of $B$ or better.

### 36.3 Advanced Television Documentary Scriptwriting

## 3 hours; 3 credits

Scriptwriting for television documentaries. Developing scripts based on research and story structure.
Prerequisite: Television and Radio 16 with a grade of $B$ or better.

## 50 Dramatic Analysis for Media Production

2 hours lecture, 2 hours television laboratory; 3 credits
A workshop combining literary and technical skills. Analysis of four plays of different types (realistic, nonrealistic, absurdist, Shakespearean). Scenes prepared for television. Students interpret, "crew for," shoot, edit, and evaluate the scenes taped using skilled actors. This course is the same as English 50.
Prerequisite: a course in dramatic literature or Television and Radio 25.1 or 26.1 or 27.1.

## *70 Television and Radio Laboratory

Minimum of 45 hours of satisfactory participation; 1 credit
Satisfactory participation in projects and activities not included in specific course work in any area of the Department of Television and Radio. Students may take this for credit four times. Students should consult the department office about the special registration procedures required for this course. Final grade is given as "credit" on satisfactory completion of required work. Students may not offer more than six credits toward a baccalaureate degree from Television and Radio 70, 75, 76, 77, and 78.
Prerequisite: 12 credits in Television and Radio courses or permission of the chairperson.

## 71 Special Topics

1 hour; 1 credit
Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take courses numbered Television and Radio 71 through 74 for a total of eight credits, but may not repeat topics.
Prerequisite: Television and Radio 16.5 and permission of the chairperson.

## 72 Special Topics

2 hours; 2 credits
Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take courses numbered Television and Radio 71 through 74 for a total of eight credits, but may not repeat topics.
Prerequisite: Television and Radio 16.5 and permission of the chairperson.

## 73 Special Topics

3 hours; 3 credits
Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take courses numbered Television and Radio 71 through 74 for a total of eight credits, but may not repeat topics.
Prerequisite: Television and Radio 16.5 and permission of the chairperson.

## 74 Special Topics

4 hours; 4 credits
Topics vary from term to term. Course description may be obtained in the department office before registration. Students may take courses numbered Television and Radio 71 through 74 for a total of eight credits, but may not repeat topics.
Prerequisite: Television and Radio 16.5 or Speech and Theater 16.5; and permission of the chairperson.

## *75 Television and Radio Colloquium

1 hour lecture and recitation; 1 credit
Critical review of current topics in the broadcast industry. Guest lectures by professionals. Students may not offer more than six credits toward a baccalaureate degree from Television and Radio 70, 75, 76, 77, and 78. (Not open to students who have completed Television and Radio 76, 77, or 78.)

Prerequisite: 12 credits in television and radio courses and permission of the chairperson.

## *76 Television and Radio Internship

1 hour lecture, minimum 7 hours unsupervised fieldwork; 2 credits
Field experience in a professional telecommunications facility. Administrative, production, or technical duties as assigned by a cooperating facility. Preparation and presentation of a critical report of the experience. May be taken for credit twice, but students may not offer more than six credits toward a baccalaureate degree from Television and Radio 70, 75, 76, 77, and 78.
Prerequisite: senior class standing, 12 credits in television and radio courses, and permission of the chairperson.

## *77 Television and Radio Internship

1 hour lecture, minimum of 14 hours unsupervised fieldwork; 3 credits
In-depth field experience in a professional telecommunications facility. Administrative, production, or technical duties as assigned by the cooperating facility. Preparation and presentation of critical report of the experience. May be taken for credit twice, but students may not offer more than six credits toward a baccalaureate degree from Television and Radio 70, 75, 76, 77, and 78.
Prerequisite: senior class standing, 12 credits in television and radio courses, and permission of the chairperson.

## *78 Fieldwork in Media Programming and Marketing

20 hours fieldwork, 1 hour conference; 6 credits
Supervised fieldwork at a participating organization in the development of programming and advertising for broadcast, cable, or related distribution systems. Application of theoretical principles to actual programming and advertising projects. Individual and group conferences with field supervisor(s). Individual and group conferences with instructor. Field notes, readings, and term paper required. (No degree credit for students who have completed Television and Radio 76 or 77 .)
Prerequisite: Television and Radio 17 and 26.15; or permission of the chairperson.

## Honors courses

Students with superior records (a grade point average greater than 3.0) and the recommendation of a department faculty member may apply to the chairperson for permission to register for courses described below. Students may not register for more than six credits in honors courses in the department in one term.

## 83 Independent Research

Minimum of nine hours independent work§ and conference or class meetings; 3 credits
Research or fieldwork in television and radio supervised by a faculty member. Approved topic. Final report or paper.
Prerequisite: Television and Radio 6.5, 16, 16.5, 20, 25.1 or 26.1 or $27.1,30.5$ and a scholastic index of 3.0 or higher; and an index of 3.25 or higher in all courses taken in the department; and sponsorship by a member of the department faculty; and permission of the chairperson.

## 84 Seminar

Minimum of 9 hours independent work§ and conference or class meetings; 3 credits Readings in television and radio. Examination.
Prerequisite: Television and Radio $6.5,16,16.5,20,25.1$ or 26.1 or $27.1,30.5$ and a scholastic index of 3.0 or higher; and an index of 3.25 or higher in all courses taken in the department; and sponsorship by a member of the department faculty; and permission of the chairperson.

## 85 Workshop

Minimum of 9 hours independent work§ and conferences or class meetings; 3 credits
Creation of an acceptable piece of work in television or radio. Limited facilities may preclude use of college equipment.
Prerequisite: Television and Radio 6.5, 16, 16.5, 20, 25.1 or 26.1 or $27.16,30.5$ and a scholastic index of 3.0 or higher; and an index of 3.25 or higher in all courses taken in the department; and sponsorship by a member of the department faculty; and permission of the chairperson.

## Theater

Department office: 317 Whitehead Hall
Telephone: 951-5666, 951-5667, 951-5668
Chairperson: Benito Ortolani
Deputy Chairperson, CLAS and SGS: Rose Bonczek
Deputy Chairperson, Division of Graduate Studies: Samuel Leiter
Professors: Abraham, Bullard, Cunningham, Garfield, Leiter, Ortolani, Scheffler, Turque;
Associate Professors: Kearney, Stein;
Assistant Professors: Bonczek, Thomson, Vivier.
The Department of Theater offers undergraduate degree programs leading to the B.F.A. and B.A. degrees in theater. Courses in the B.F.A. and B.A. degree programs encompass all aspects of theater: stage, costume, and scenic design; writing, acting, and directing; history of the theater; theater management. Several major department productions and workshop performances are presented each term.

Theater Department productions include plays from the standard repertory, new scripts, and performances that evolve through ensemble work of playwright, actor, and director. Recent plays have included John Guare's Six Degrees of Separation, Robert Harling's Steel Magnolias, Scott McPherson's Marvin's Room, Ashman and Menken's Little Shop of Horrors, Anton Chekhov's The Three Sisters, William Shakespeare's Twelfth Night, and David Mamet's The Water Engine.

## Admission to the degree programs in theater

B.A. A counseling interview is required by the department when the student applies for admission to the college. Entrance into the acting program is by audition when the student completes Theater 2 Introduction to Acting. Entrance into the design and technical program is by interview when the student completes Theater 3 Introduction to Theater Production. Students should indicate their intention to major in theater on their application for admission to the college.
B.F.A. In the area of acting, an audition is required. Design/technical candidates must bring to the interview any pertinent materials that will facilitate the committee's assessment of their abilities.

## Department crew requirements

Theater degrees and certain theater courses have crew requirements. A student must register for one of the Production Practica, Theater 4.1, 4.2, 4.3, 4.4, 4.5, and 4.6, for each course marked with the symbol (+) for which the student registers. However, no student shall be required to register for more than two Production Practica in one semester, and theater majors who have completed six crew assignments, credit-bearing or not, need not register for further courses from this list.

## B.A. degree program in theater HEGIS code 1007

Department requirements (57 credits)
Students must earn a grade of C- or higher in each theater course numbered 10 or above that is applied toward the fulfillment of department requirements.
All of the following: Theater 1 or 1.1 or $1.2 ; 4.1,4.2,4.3,4.4,4.5,4.6,20.1,21.3,21.4,22.2,22.5,23.2$, 26.1, 40.1, 40.2, 50.
(Students with no previous experience may need to complete Theater 3 before registering for more advanced technical courses. See course prerequisites.)
Two acting courses, or one acting course and Speech 14.3.
Two of the following: Theater 40.3, 41.1, 41.3, 41.4. (One of the following may substitute for one of the above: Classics 31, Comparative Literature 16.2, 16.3, 16.4, English 10.1, 30.5, 30.7, 31.4, 41.1.)
Two to six additional credits in Theater Department courses to total a minimum of fifty-seven credits..

## B.F.A. degree program in theater <br> HEGIS code 1007

The B.F.A. degree program has two areas of specialization:
acting, and design and technical production (which includes scenic, lighting, and costume design). Students must complete one of the following areas with a grade of C - or higher in each theater course numbered 10 or above that is applied toward the fulfillment of department requirements.

Department requirements (61-68 credits)
A) Acting (61 credits)

All of the following: Theater 1 or 1.1 or $1.2,4.1,4.2,4.3,4.4,4.5,4.6,11.1,11.2,11.3,11.4,11.5,11.6$, $13.1,13.2,13.3,13.4,13.5,13.6,20.1,35,40.1,40.2$. (Students with no previous experience may need to complete Theater 3 before registering for more advanced technical courses. See course prerequisites.) One of the following combinations: Theater 21.3 and 21.4; 22.2 and 22.5; 22.2 and 23.2.
Six additional credits in Theater Department courses.
B) Design and Technical Production (66-68 credits)

All of the following: Theater 1 or 1.1 or $1.2,4.1,4.2,4.3,4.4,4.5,4.6,20.1,21.3,21.4,22.2,22.5,23.2$, 26.1, 40.1, 40.2.
(Students with no previous experience may need to complete Theater 3 before registering for more advanced technical courses. See course prerequisites.)
One acting course or Speech 14.4.
Two of the following: Theater 40.3, 41.1, 41.3, 41.4. (One of the following may substitute for one of the above: Classics 31, Comparative Literature 16.2, 16.3, 16.4, English 10.1, 30.5, 30.7, 31.4, 41.1.) Twenty-one additional credits from the following: Theater 20.2, 20.4, 20.7, 21.2, 21.5, 21.7, 22.3, 22.6, $23.1,23.3,23.4,23.5,27.1,27.2,36.1,36.2,36.3,36.4,36.5,36.6,83,84,85$, Art 25.11, 25.12, 26.11, 26.12, 26.21, 26.22.

Concentrations in theater for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher (K-6); special education teacher.
The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs may select one of the following concentrations.

## Concentration in acting:

Twelve credits, completed with a grade of $C$ or higher, chosen from the following courses: Theater 10.1, 10.2 , both 11.1 and 13.1 , both 11.2 and $13.2,12.5,12.6,12.7,12.8,36.1,36.2,36.3,36.4,36.5,36.6,83$, 84 , and 85 . Students should be aware that Theater 10.1 and 10.2 have crew corequisites; see "department crew requirements" above.

## Concentration in theater history:

All of the following courses completed with a grade of $C$ or higher: Theater 40.1, 40.2, and two of the following: Theater 40.3, 41.1, 41.3, 41.4 .

## Concentration in acting and history:

All of the following courses completed with a grade of C or higher: Theater 10.1, 10.2, 40.1, 40.2. Students should be aware that Theater 10.1 and 10.2 have crew corequisites; see "department crew requirements" above.

## Requirements for a minor in theater

Theater 1, 2, 3, 4.1, 4.2, and 4.3; and twelve additional credits of advanced courses in theater, each approved by the department and completed with a grade of $C$ or higher.

## Requirements for a minor in theater production (for television and radio majors)

A major in television and radio; Theater 3, 4.1, 4.2, and 4.3; and all of the following courses, each completed with a grade of $C$ or higher: Theater 20.1, 22.2, and two other technical courses approved by the department.

## Requirements for a minor in acting (for television and radio majors)

A major in television and radio; Theater 2, 4.1, 4.2, and 4.3; and 12 credits chosen from the following courses, each completed with a grade of C or higher: Theater 10.1, 10.2, both 11.1 and 13.1, both 11.2 and 13.2, 12.5, 12.6, 12.7, 12.8, 36.2.

## Division of Graduate Studies

The Theater Department offers a master of arts degree program in theater and a master of fine arts degree program in theater. Some courses may be creditable toward the CUNY doctoral degree. For information, students should consult the department's deputy for graduate studies. A Graduate Bulletin may be obtained in the Office of Admissions.

## Courses

§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor.

+ The symbol (+) denotes a department crew requirement.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.


## 1 Introduction to Theater Arts

3 hours; 3 credits
Study of the nature and history of the theatrical event. Selected periods and styles of production.
Contributions of the playwright, actor, director, designer, architect, critic, and producer. Attendance at departmental productions. (Not open to students who have completed Theater 1.1 or 1.2.)

## 2 Introduction to Acting

3 hours; 3 credits
Introduction to the craft of acting. Exercises designed to introduce the student-actor to the language of the theater, to a method of working, and to an understanding of his or her responsibilities as an actor.

## +3 Introduction to Theater Production

3 hours; 3 credits
Methods of production, physical theater layout, and practical experience in productions.
Corequisite: see section "Department crew requirements" above.

## 4.1, 4.2, 4.3, 4.4, 4.5, 4.6 Production Practicum I, II, III, IV, V, VI

5 hours per week; 1 credit
Shop or running crew as assigned by the department. Students attend an orientation and one seminar during the term, keep a journal of the work done as it relates to the production, and submit an evaluation. Students may not register for more than two of these courses in any semester. Nonmajors may register for no more than two of these courses without registering for a three-credit theater course.
Prerequisite: permission of the chairperson.

## +10.1 Acting Workshop I

3 hours; 3 credits
Further study in the craft of acting. Continuation of the exercises and methods introduced in Theater 2. Prerequisite: Theater 2 or audition; and permission of the chairperson.
Corequisite: see section "Department crew requirements" above.

## +10.2 Acting Workshop II

3 hours; 3 credits
Continuation of Theater 10.1. May be taken twice for credit.
Prerequisite: Theater 10.1 and permission of the chairperson.
Corequisite: see section "Department crew requirements" above.

### 10.11 Acting in Musical Theater

3 hours; 3 credits
Fundamentals of acting technique applied to songs or arias and scenes from musical theater or opera productions. (Not open to students who have completed either of the following topics in Theater 45: Acting for Opera or Acting for Musical Theater.)
Prerequisite: permission of the chairperson.

### 11.1 Acting I: Fundamentals

3 hours; 3 credits
Physical, ensemble, and text-based exercises to integrate the actor's instrument with the processes of mind through experiential learning.
Prerequisite: audition; and permission of the chairperson.
Corequisite: Theater 13.1.

### 11.2 Acting II: Introduction to Scene Study

3 hours; 3 credits
Introduction to scene study. Basic approaches to preparing a role through text analysis and performance of scenes.
Prerequisite: Theater 11.1 and 13.1; or audition; and permission of the chairperson.
Corequisite: Theater 13.2.

### 11.3 Acting III: Contemporary Realism

3 hours; 3 credits
Application of basic acting techniques to the preparation and performance of scenes from realistic plays.
Prerequisite: Theater 1 and 3; 11.2 and 13.2; or audition; and permission of the chairperson.
Corequisite: Theater 13.3.

### 11.4 Acting IV: Classics of Modern Realism

3 hours; 3 credits
Application of acting techniques to the performances of such classics of modern realism as those of lbsen, Chekhov, and O'Neill.
Prerequisite: Theater 11.3 and 13.3; or audition; and permission of the chairperson.
Corequisite: Theater 13.4.

### 11.5 Acting V: Contemporary Nonrealism

3 hours; 3 credits
Introduction to style and form, with emphasis on the actor's understanding of the form of the text and its expression on the stage. Application of techniques required by such modern and postmodern plays as those of Brecht, Beckett, and Shepard.
Prerequisite: Theater 11.4 and 13.4; or audition; and permission of the chairperson.
Corequisite: Theater 13.5.

### 11.6 Acting VI: Advanced Acting Workshop

3 hours; 3 credits
Application of acting techniques essential to performing specialized genres. Each semester will focus on one such genre as Shakespearean theater, musical theater, or new plays.
Prerequisite: Theater 11.5 and 13.5; or audition; and permission of the chairperson.
Corequisite: Theater 13.6.

### 12.1 Acting for the Camera

3 hours; 3 credits
Trains the advanced actor in the specialized demands of working for the camera; performance of selected scenes on video tape. Differences between stage and film techniques.
Prerequisite: three courses in acting or the equivalent, and audition; and permission of the chairperson.

### 12.5 Acting Practicum I

2 hours workshop; 1 credit
Students work a minimum of two projects in rehearsal and performance for theater directing students' course work or for film or television projects. Supervised by faculty members.
Prerequisite: Theater 10.1 or B.F.A. acting status, and permission of the chairperson.

### 12.6 Acting Practicum II

2 hours workshop; 1 credit
Continuation of Theater 12.5
Prerequisite: Theater 12.5.
12.7 Acting Practicum III

2 hours workshop; 1 credit
Continuation of Theater 12.6
Prerequisite: Theater 12.6.

### 12.8 Acting Practicum IV

2 hours workshop; 1 credit
Continuation of Theater 12.7.
Prerequisite: Theater 12.7.

### 13.1 Dynamics I

4 hours; 2 credits
Study of the actor's stage movement and voice production. Work related directly to work being done in acting classes.
Prerequisite: acceptance into Theater 11.1 and permission of the chairperson.
Corequisite: Theater 11.1.

### 13.2 Dynamics II

4 hours; 2 credits
Continuation of Theater 13.1.
Prerequisite: Theater 11.1 and 13.1; or audition, and permission of the chairperson.
Corequisite: Theater 11.2.

### 13.3 Dynamics III

4 hours; 2 credits
Continuation of Theater 13.2.
Prerequisite: Theater 1 and 3 ; 11.2 and 13.2; or audition; and permission of the chairperson. Corequisite: Theater 11.3.

### 13.4 Dynamics IV

4 hours; 2 credits
Continuation of Theater 13.3.
Prerequisite: Theater 11.3 and 13.3; or audition; and permission of the chairperson.
Corequisite: Theater 11.4.

### 13.5 Dynamics V

4 hours; 2 credits
Continuation of Theater 13.4.
Prerequisite: Theater 11.4 and 13.4; or audition; and permission of the chairperson.
Corequisite: Theater 11.5.

### 13.6 Dynamics VI

4 hours; 2 credits
Continuation of Theater 13.5.
Prerequisite: Theater 11.5 and 13.5; or audition; and permission of the chairperson.
Corequisite: Theater 11.6.

### 13.8 Dialects for the Actor

3 hours; 3 credits
Application of skills learned in Speech 13 (special section for actors) applied to classical texts and accents from the British Isles, Europe, and the Caribbean. (Not open to students who completed Theater 46 in spring, 1995.)
Prerequisite: Speech 13 (special section for actors); and permission of the chairperson.

## +20.1 Stagecraft I

## 3 hours; 3 credits

Materials and techniques involved in mounting scene designs for the stage.
Prerequisite: Theater 1 or 1.1 or 1.2, and 3 or interview; and permission of the chairperson.
Corequisite: see section "Department crew requirements" above.

### 20.4 Property Construction

3 hours; 3 credits
Study of equipment, methods, and professional practices in the execution of stage and personal properties.
Prerequisite: Theater 1 or 1.1 or 1.2, 20.1; and permission of the chairperson.

## +20.7 Scene Painting

3 hours; 3 credits
Equipment, materials, and professional procedures involved in painting for the stage.
Prerequisite: Theater 20.1 and permission of the chairperson.
Corequisite: see section "Department crew requirements" above.

### 21.2 Costume Rendering

3 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.
Prerequisite: Theater 1 or 1.1 or 1.2 , and 3 or interview; and permission of the chairperson.

## +21.3 Costume Construction for the Stage

3 hours; 3 credits
Theory and practice of constructing the stage costume for educational, community, and professional theater. Application of these theories and practices to current college productions.
Prerequisite: Theater 1 or 1.1 or 1.2 , and permission of the chairperson.
Corequisite: see section "Department crew requirements" above.

## +21.4 Costume Design for the Stage I

3 hours; 3 credits
Study of contemporary and period costume design to acquaint the student with stage costuming.
Application of study through design projects and work on productions.
Prerequisite: Theater 21.3 and permission of the chairperson.
Corequisite: see section "Department crew requirements" above.

## +22.2 Scenographic Techniques

3 hours; 3 credits
Study and execution of all necessary technical drawings used in preparation of theater scenery and lighting.
Prerequisite: Theater 1 or 1.1 or 1.2 , and 3 or interview; 20.1; and permission of the chairperson.
Corequisite: see section "Department crew requirements" above.

## +22.5 Scene Design I

3 hours; 3 credits
Aesthetic and functional elements of designing for the stage. Development of a setting through sketches, color plates, working drawings, and models.
Prerequisite: Theater 22.2 and permission of the chairperson.
Corequisite: see section "Department crew requirements" above.

### 22.6 Scenic Design II

3 hours; 3 credits
Concentration on scenic design, problems of interpretation, style, and staging.
Prerequisite: Theater 22.5 and permission of the chairperson.

### 23.1 Fundamentals of Stage Lighting

3 hours; 3 credits
The mechanics of stage lighting; electricity, instruments, control equipment, safety, professional standards of electrical work.
Prerequisite: Theater 1 or 1.1 or 1.2 , and 3 or interview; and permission of the chairperson.

## +23.2 Lighting Design I

3 hours; 3 credits
Design of stage lighting. Application and principles of light, color, illumination, and electricity.
Prerequisite: Theater 22.2 and permission of the chairperson.
Corequisite: see section "Department crew requirements" above.

### 23.3 Lighting Design II

3 hours; 3 credits
Concentration on nonrealistic styles of lighting design and on advanced styles of presentation.
Prerequisite: Theater 23.2 and permission of the chairperson.

### 23.4 Stage Lighting Workshop

6 hours laboratory; 3 credits
Practical laboratory work in stage lighting techniques and mechanics for departmental productions.
Prerequisite: Theater 23.1 and permission of the chairperson.

### 23.5 Lighting Design Workshop

6 hours laboratory; 3 credits
Laboratory work in lighting design; planning and production.
Prerequisite: Theater 23.1 and 23.2 and permission of the chairperson.

## +25.8 Stage Makeup

2 hours lecture, and an average of 2 hours laboratory; 3 credits
Basic study of all aspects of stage makeup.
Prerequisite: Theater 1 or 1.1 or 1.2; and permission of the chairperson.
Corequisite: see section "Department crew requirements" above.

## +26.1 Stage Management

3 hours; 3 credits
Professional procedures and practices involved in organization, rehearsal and technical preparation, and performance of theater, opera, and dance productions.
Prerequisite: Theater 1 or 1.1 or 1.2 ; and permission of the chairperson.
Corequisite: see section "Department crew requirements" above.

### 30.1 Directing I

3 hours; 3 credits
Investigation of the fundamental techniques in bringing a text and an acting group into performance.
Working with the actor and the environment.
Prerequisite: Theater 40.1 or 40.2 , and both Core Studies 2.1 and 2.2 , and permission of the chairperson.

### 30.2 Directing II

3 hours; 3 credits
Selection, casting, rehearsal, and production in class of a contemporary play.
Prerequisite: Theater 30.1 and permission of the chairperson.

## 35 Senior Rehearsal and Performance

Minimum of 45 hours participation; 1 credit
Under faculty supervision students will study and evaluate their working procedures and development in a selected role throughout the rehearsal and performance period by means of a journal, which serves as the basis for student evaluation. This course may be used to satisfy the senior performance requirement for B.F.A. majors.

Prerequisite: senior B.F.A. status in acting and permission of the chairperson.

## 36 Theater Workshop

4 hours; 3 credits
Writing and production of original scripts. Writing and production problems formulated, analyzed, and tested on the stage. Unified study of writing, acting, and directing. Students registered in Theater 36 assume responsibility for the direction of at least one production. Offered jointly by the Department of English and the Department of Theater. This course is the same as English 20.
Prerequisite: Theater 30.1 or English 17.1.
36.1, 36.2, 36.3, 36.4, 36.5, 36.6 Theater Laboratory I, II, III, IV, V, VI

6 hours; 3 credits each
Supervised special project or laboratory work in one aspect of theater production culminating in a performance or term paper.
Prerequisite: permission of the chairperson.

### 40.1 History of Western Theater I

3 hours; 3 credits
Theater history in the West from Periclean Greece to Jacobean England. Major periods of theater activity investigated with special emphasis on theater architecture, methods of production, audiences, traditions, documents, allied arts, and the social milieu.
Prerequisite: Theater 1 or 1.1, Core Studies 1 and 6, and permission of the chairperson.

### 40.2 History of Western Theater II

3 hours; 3 credits
Continuation of Theater 40.1. Theater history in the West from neoclassic France to the rise of realism.
Prerequisite: Theater 1 or 1.1, Core Studies 1 and 6, and permission of the chairperson.

### 40.3 Theater of the Twentieth Century

3 hours; 3 credits
Twentieth-century theater from the work of Appia and Craig to the contemporary theater, including offBroadway and off-off-Broadway. Innovative theater practitioners in acting, directing, and design.
Prerequisite: Theater 1 or 1.1 or 1.2; and permission of the chairperson.

### 41.1 History of the Theater in the United States

3 hours; 3 credits
The growth and development of theater in colonial North America and the United States from the eighteenth century to the present. Critical examination of native dramatic literature and the history of its performance. Prerequisite: Theater 40.1 and 40.2, and permission of the chairperson.

### 41.3 Theater in Asia

3 hours; 3 credits
Survey of the major theatrical traditions of East and Southeast Asia. Classical types. Production methods, performance styles, audiences, and social milieu.
Prerequisite: Core Studies 9.

### 41.4 Black Theater

3 hours; 3 credits
Lectures, studies, and workshops in Black theater. Liaison with professional and community theater. This course is the same as Africana Studies 24.5.

## 45 Special Topics in Theater

3 hours; 3 credits
Topics vary from term to term. Course descriptions may be obtained in the department office before registration. Students may take this course twice, but may not repeat topics.
Prerequisite: permission of the chairperson.

## 46 Special Topics in Dynamics

4 hours; 3 credits
Special topics in actor's stage movement and voice production. Topics vary from term to term. Course descriptions may be obtained in the department office before registration. Students may take this course four times, but may not repeat topics.
Prerequisite: permission of the chairperson.

## 50 Theater Management

3 hours; 3 credits
Theater management, including problems of financing, promoting, labor relations, unions, and programming for educational, community, and professional theater.
Prerequisite: Theater 1 or 1.1, and permission of the chairperson.

## 60 Performance Techniques for the Classroom Teacher

3 hours; 3 credits
Creative drama techniques to develop the prospective teacher's ability to become an effective communicator and to explore dramatic and creative methods of presentation.
Prerequisite: Core Studies 1 and 6.

## Honors courses

Students with superior records and the recommendation of a department faculty member may apply to the chairperson for permission to register for courses described below. Students may not register for more than six credits in honors courses in the department in one term.

## 70 Theater Laboratory

Minimum of 45 hours satisfactory participation each term;
1 credit each term
Satisfactory participation in projects and activities not included as part of the work of a specific course in any area of the Department of Theater. Students may take this course for credit four times. Students should consult the department office about the special registration procedures required for this course.

## 83 Independent Research

Minimum of 9 hours independent work§ and conference or class meetings; 3 credits
Research or fieldwork in one of the divisions of theater supervised by a faculty member. Final report or paper.
Prerequisite: completion of an approved program of advanced courses in theater with an average grade of $B$ or higher, and permission of the chairperson.

## 84 Seminar

Minimum of 9 hours independent work§ and conference or class meetings; 3 credits Readings in theater. Examination.
Prerequisite: completion of an approved program of advanced courses in theater with an average grade of $B$ or higher, and permission of the chairperson.

## 85 Workshop

Minimum of 9 hours independent work§ and conference or class meetings; 3 credits
Creation of an acceptable piece of work in one of the several fields of theater.
Prerequisite: completion of an approved program of advanced courses in theater with an average grade of $B$ or higher, and permission of the chairperson.

The following courses are inactive and will be offered only if there is sufficient demand:
20.2 Stagecraft II
21.5 Costume Design for the Stage II
21.7 Costume Design Workshop
22.3 Scene Rendering
27.1 Sound Recording
27.2 Sound Recording Workshop

## Women's Studies Program

An interdisciplinary major
Program office: 227 Ingersoll Hall Extension
Telephone: 951-5476, 951-5777
Coordinator: Patricia Antoniello
Faculty: Winslow, Education; and additional faculty from the departments of the college.

## B.A. degree program in women's studies

HEGIS code 4903
Program requirements (30 credits)
Students must complete parts 1 through 4 with a grade of $C$ or higher in each course:

1. Women's Studies 10.7 and 10.8.
2. Three of the following:

Women's Studies 32, 33, 34, 35, 36, 37, 38, 58, 59, 81.1. (Note: Women's Studies 33 is not open to
students who completed Women's Studies 58 or English 50.4 in fall, 1993, or spring, 1994.)
3. Four of the following:

Africana Studies 27 (This course is the same as English 64.4.)
Africana Studies 44.6.
Anthropology 31.
Art 15.60.
Comparative Literature 46.
Economics 40.4, 40.5.
English 11.1, only the section "Creative Writing from a Feminist Perspective."
English 50.4, 64.4 (This course is the same as Africana Studies 27.)
Film 22.
Health and Nutrition Sciences 34 (This course is the same as Women's Studies 35.)
Health and Nutrition Sciences 35.
History 27.8, 43.14.
Judaic Studies 17.
Philosophy 6, 15.2.
Political Science 53, 78.3.
Psychology 34.1.
Puerto Rican Studies 19.
Sociology 51.5.
Any of the following that are not used to satisfy part 2, above: Women's Studies 32, 33, 34, 35, 36, 37, 38, 58, 59, 81.1.
4. Women's Studies 83.

Other advanced electives and special topics courses relevant to the study of women may be substituted with the permission of the program coordinator. The list of available courses may be obtained each semester in the program office.

## Requirements for a minor in women's studies

A program of 12 credits in advanced electives in the Women's Studies Program with a grade of $C$ or higher in each course.

## Program recommendation

Students should consult a program counselor for help in planning a course of study.

## Courses

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

### 10.7 Women in the Social Sciences

3 hours; 3 credits
A study of women from an historical and cross-cultural perspective, focusing on the social and political position of women; psychological consequences for women's self-image and motivation; contemporary social movements for change and their implications. (Not open to students who have completed Social Science Interdisciplinary Studies 10.7.)

### 10.8 Women in the Arts

3 hours; 3 credits
An interdisciplinary course examining literary and visual arts by and about women of different classes, races, and sexual identities. Plays, short stories, essays, poetry, novels, paintings, and photography in an historical context. Themes include women's place, women alone, love, sexuality, the quest for selfdefinition. (Not open to students who have completed Humanities 10.7.)

## 32 Women's Traditional Arts: Creation in the Arts, Crafts, and Music

3 hours; 3 credits
Aspects of American women's experience reclaimed from their own records in arts, crafts, letters, diaries, and folk songs. How criteria have been established for defining "art"; the social influences that encouraged women to limit themselves to certain "acceptable" media. Contemporary validation of women's creativity. Readings, slide presentations, and audio-video presentations.
Prerequisite: Women's Studies 10.7 or 10.8 or permission of a program coordinator.

## 33 Contemporary U.S. Women Writers: Diverse Cultural Perspectives

3 hours; 3 credits
Literature of selected contemporary Native American, African American, Latina, Asian American, and other women writers, analyzed from the perspective of feminist literary theories. A comparative course focusing on the literature of two or more groups. This course is the same as English 50.41. (Not open to students who completed Women's Studies 58 or English 50.4 in fall, 1993, or spring, 1994.)
Prerequisite: one of the following: Women's Studies 10.8, Core Studies 6, English 1.

## 34 Women's Choices: The Lesbian Experience

3 hours; 3 credits
Interdisciplinary study of lesbianism focusing on, but not limited to, Western culture. Women's lives and strategies of lesbian survival, primarily in male-dominated societies. Struggle for lesbian self-expression in historical and cultural context. Past and present views of lesbianism. Interrelationship of feminist and lesbian movements. Materials drawn from history, psychology, sociology, literature, and the arts. (Not open to students who completed Women's Studies 59 in fall, 1980.)
Prerequisite: Women's Studies 10.7 or 10.8 or permission of a program coordinator.

## 35 Women and the Medical System:

A Feminist Perspective
3 hours; 3 credits
Modern medical systems and women's place as medical workers and consumers of medical services. History of women healers and health workers. Influences of race, class, ethnicity, and sexual orientation on illness and treatment of women. Politics of contraception, sterilization, abortion, and childbirth. Self-help care movement. This course is the same as Health and Nutrition Sciences 34.
Prerequisite: Women's Studies 10.7 or 10.8; Health and Nutrition Sciences 6.1, or permission of a program coordinator.

## 36 Political Economy of Women in United States Society: Sex, Power, and Money

3 hours; 3 credits
Economic and political analysis of women's power in United States society. Women as paid workers in the formal economic structure and as unpaid workers in the parallel home economy. Social class, gender, and race in the allocation of economic and political power. Formal and informal challenges to the legal and political system. (Not open to students who completed Women's Studies 59 during the fall, 1981 semester.) Prerequisite: Women's Studies 10.7 or 10.8 or permission of a program coordinator.

## 37 Women and Reproductive Rights

3 hours; 3 credits
An interdisciplinary course on women's experiences of fertility control, childbirth, sex education, teen pregnancy, reproductive technologies, and reproductive hazards. Major themes include the influences of historical period, political perspectives, race, ethnicity, and social class on the perceptions and realities of reproductive rights for women. (Not open to students who have completed Women's Studies 59 with this topic.)
Prerequisite: Women's Studies 10.7 or 10.8 or permission of a program coordinator.

## 38 Women in the Cities

3 hours; 3 credits
Problems women experience as part of city living, including housing, employment, crime, health care, child care, education, community involvement, family responsibilities, and social supports. Study of present services available to women. Critique of institutional responses to women's needs. Focus on the influence of ethnicity, race, and social class on women's urban experiences.
Prerequisite: Core Studies 3 or 4.

## 39 Women and Politics in the United States

3 hours; 3 credits
Women and politics in the context of the United States of America. Gaining the right to vote; the Equal Rights Amendment; women as political leaders; racial and ethnic diversity of U.S. women; the "gender gap." Policy issues including the feminization of poverty and social welfare. This course is the same as Political Science 31.
Prerequisite: Women's Studies 10.7.

## 40 Feminist Political Theory

3 hours; 3 credits
Liberal, socialist, cultural, and radical feminist political theories. The public/private split, the sameness/difference debate, notions of domination and resistance, antiracist approaches to feminism. Policy issues include equal pay, surrogacy, reproductive freedom. This course is the same as Political Science 78.3.
Prerequisite: Women's Studies 10.7; permission of the instructor.

## 41 Politics and Sexuality

3 hours; 3 credits
Examination of the theory and practice of lesbian, gay, bisexual, and transgender politics. Political analysis of the legal regulation of sexuality and gender, the emergence of modern civil rights movements of sexual minorities, and the discourses of liberation, assimilation, and destabilization deployed in those movements. (This course is the same as Political Science 78.5).
Prerequisite: Women's Studies 10.7 or permisison of the coordinator.

## 58 Special Topics in Humanities

## 3 hours; 3 credits

Selected topics in the humanities examined from the perspective of the study of women. Topics vary from term to term. Course description may be obtained in the program office before registration. Students may take Women's Studies 58 or 59 for credit twice, or 58 and 59 for credit once each, but may not repeat topics.
Prerequisite: Women's Studies 10.8 or Humanities 10.7.

## 59 Special Topics in Social Science

3 hours; 3 credits
Selected topics in the social sciences examined from the perspective of the study of women. Topics vary from term to term. Course description may be obtained in the program office before registration. Students may take Women's Studies 59 or 58 for credit twice, or 58 and 59 for credit once each, but may not repeat topics.
Prerequisite: sophomore or junior or senior standing.

### 81.1 Interdisciplinary Project

Minimum of 9 hours conference and independent work; 3 credits
Independent or group project approved by a faculty committee. The project must involve more than one department in the college. Achievement evaluated by the participating faculty. Students may repeat the course once, but may not repeat topics.
Prerequisite: junior or senior standing; and Women's Studies 10.7; or Social Science Interdisciplinary Studies 10.7; and Women's Studies 10.8 or Humanities 10.7; and three electives from those listed under program requirements; and permission of a program coordinator and at least one sponsoring faculty member.

## 82 Community Internship in Women's Studies

42 hours fieldwork; 1 credit
Community service experience working at a site approved by the program, linked with enrollment in one of the following courses:
Women's Studies 10.7 Women in the Social Sciences
Women's Studies 10.8 Women in the Arts
Women's Studies 32 Women's Traditional Arts
Women's Studies 33 Contemporary U.S. Women Writers
Women's Studies 34 Women's Choices
Women's Studies 35 Women and the Medical System
Women's Studies 36 Political Economy of Women in United States Society
Women's Studies 37 Women and Reproductive Rights
Women's Studies 38 Women in the Cities
Women's Studies 58 Special Topics in Humanities
Women's Studies 59 Special Topics in Social Science
Completion of at least one written assignment and 42 hours of community fieldwork to be evaluated by the instructor of the three-credit Women's Studies course to which this internship is attached.
Prerequisite: permission of the instructor of the three-credit Women's Studies course to which this internship is attached.
Corequisite: enrollment in one of the following courses: Women's Studies 10.7, 10.8, 32, 33, 34, 35, 36, 37, 38, 58, 59.

## 83 Senior Seminar

3 hours; 3 credits
Advanced seminar to study interdisciplinary theory and methodology applied to a selected theme. Colloquia and research and/or fieldwork. Senior thesis written individually or collectively. A student completing the course with distinction is recommended for honors. (Not open to students who have completed Humanities 83.1 or Social Science Interdisciplinary Studies 83.1.)

Prerequisite: Women's Studies 10.7 or Social Science Interdisciplinary Studies 10.7; and Women’s Studies 10.8 or Humanities 10.7; and at least two courses in women's studies approved by a program coordinator.

## Adult Degree Programs

## Small College Program

Office: 1411 Boylan Hall
Telephone: 951-5525

## Acting Coordinator: Nava Renek

Small College is a full-time or part-time degree-bearing program. Students may major in economics or accounting; business, management, and finance; elementary education; English; sociology; psychology; computer and information science; health and nutrition sciences (B.A.); mathematics; philosophy (option 2); or political science.
The program offers its own sections of the required core studies courses (1, 2.1, 2.2, 3, 4, 5, 9, and 10), as well as courses in the listed majors. In addition, it has its own English (1.7 and 2.7), and Integrated Science ( 1.5 and 2.8) courses that fulfill Brooklyn College requirements for English Composition 1 and 2, and Core Studies 6, 7.1, 7.2, 8.1, and 8.2. Students must be screened for speech proficiency, and must satisfy the Brooklyn College language requirement and the requirements of their major department.

## Courses

§Independent work means not less than three additional hours of conferences, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.

### 1.7 English Composition

2 hours recitation, 4 hours lecture, conference, and independent work§; 6 credits
Intensive study of the fundamentals of punctuation and grammar. Drill and practice in writing based on experience and reading of essays and stories. Introduction to expository development and the functions of rhetoric. Introduction to research. Themes and conferences. (Not open to students who are enrolled in or have completed Core Studies 1.5, 4.5, or 6.5 with a grade of $C$ or higher. Not open to students who are enrolled in or have completed English 1 or 1.2 or 2.)
Prerequisite: enrollment in the Small College Program.

### 2.7 Introduction to Literature

1 hour recitation, 4 hours lecture, conference, and independent work§; 5 credits
English and American fiction, drama, and poetry. Continued emphasis on writing clear expository prose. At least four papers. (Not open to students who are enrolled in or have completed Core Studies 1.5, 4.5, or 6.5 with a grade of C or higher. Not open to students who are enrolled in or have completed English 2 or 2.4 or 3.4 or 4.4.)

Prerequisite: English 1.7.

## 1.5, 2.8 Science and Man's Environment

2 hours recitation, 2 hours lecture, 2 hours laboratory each term; 5 credits each term Introduction to fundamental principles of science; their application in controlling and conserving the environment. Examination of relevant physical, chemical, biologic, and geologic theories from an ecological viewpoint. Examination of scientific and technological means by which the environment can be conserved and improved. Social implications.
Prerequisite: enrollment in the Small College Program.

# Special Baccalaureate Degree Program for Adults 

Office: 1411 Boylan Hall
Telephone: 951-5262
Acting Coordinator: Nava Renek
Completion of the three, year-long, intensive seminars of the Special Baccalaureate Degree Program, including Communication/Humanities 10.3, 10.4, Social Science 10.3, 10.4, and Science 10.3, 10.4, 10.5, 10.6, satisfies the core studies requirement of Brooklyn College. Students who fulfill the above requirement are exempt from Core Studies 1 through 10. Students enrolled in the Special Baccalaureate Degree Program who complete Communications and Humanities Seminar 10.3 and 10.4 are exempt from speech screening. Students who entered the program before fall, 1981, should consult the information for students in the Special Baccalaureate Degree Program under the heading "Degree Requirements" in the chapter "Academic Standing." Students must fulfill the college language requirement stated in the chapter "The Core Curriculum."

## Seminars

*Seminars marked (*) are not counted toward the requirement of no fewer than 18 credits in advanced courses for majors in this program.
§Independent work means not less than three additional hours each week of conference, research, independent reading, and writing as assigned by the instructor. The student's grade is determined in part by the successful completion of this independent work.
The Schedule of Classes published each term lists courses offered. Not all courses are offered each term.
*Special Baccalaureate Communication Seminar for Adults 10.3, 10.4
Two terms. 1 hour recitation, 3 hours lecture, conference, and independent work§; 4 credits
Principles and practice of reading, writing, listening, and speaking. Communication skills studied in connection with papers and reports prepared in the adult seminars in humanities, social science, and science. Orientation to college study, written and oral communication, and detailed analysis of principles of effective reading and listening. Conducted in conjunction with Humanities 10.3, 10.4, Social Science 10.3, 10.4, and Science 10.3, 10.4, 10.5, 10.6. Students may take each course for credit once. Prerequisite: enrollment in the Special Baccalaureate Degree Program for Adults.

## *Special Baccalaureate Humanities 10.3, 10.4

## An Integrated Study of the Arts and Literature

Two terms. 1 hour recitation, 7 hours lecture, conference, and independent work§; 8 credits Examples of painting, sculpture, architecture, music, and literature are used to illustrate the following topics: the quality of individuality, the role of emotion, the idea in the humanities, the pleasures of order, aesthetic logic, the sense of evolution, symbolism, self-extension, vision, and the sense of history.
Prerequisite: enrollment in the Special Baccalaureate Degree Program for Adults.

## Special Baccalaureate Humanities 10.5, 10.6 Studies in the Arts of America

Two terms. 4 hours and independent work§; 4 credits
Intensive study of American arts as they express the values of American culture. Four credits may be counted toward the requirement of no fewer than 18 credits in advanced courses in one of the following departments: Departments of Art, Classics, Comparative Literature, Speech, Theater, Television and Radio. Students may take each course for credit once.
Prerequisite: Special Baccalaureate Communication 10.4, Special Baccalaureate Humanities 10.4, Special Baccalaureate Social Science 10.4, Special Baccalaureate Science 10.6, and nine credits in advanced courses in art, classics, comparative literature, English, modern languages and literatures, music, philosophy, speech, theater, or television and radio.
Prerequisite: enrollment in the Special Baccalaureate Degree Program for Adults.

## *Special Baccalaureate Social Science <br> \section*{Seminar for Adults 10.3, 10.4}

Two terms. 1 hour recitation, 7 hours lecture, conference, and independent work§; 8 credits Functional, historically oriented analysis of social phenomena. Basis for understanding social phenomena past and present and the cultural roots of their values. Introduction to social science. Nature of personality. Nature of society. Contemporary American society. Nature of socialization in the United States. The individual in society. Critical issues.
Prerequisite: enrollment in the Special Baccalaureate Degree Program for Adults.

## Special Baccalaureate Social Science

## Studies in Social Science Investigations 10.6

4 hours and independent work§; 4 credits
Intensive study of scholarly approaches to the individual's basic problems in the social science disciplines. Four credits may be counted toward the requirement of no fewer than 18 credits in advanced courses in one of the following departments: Departments of Anthropology, History, Political Science, Sociology. Prerequisite: Special Baccalaureate Social Science 10.4, Special Baccalaureate Communication 10.4, Special Baccalaureate Humanities 10.4, Special Baccalaureate Science 10.6, and nine credits in advanced courses in the sciences.

## *Special Baccalaureate Science

## Seminar for Adults 10.3-10.4, 10.5-10.6

Two terms. Five hours of combined lecture, recitation, workshop and laboratory work and 9 hours of individual supervised study each week; 6 credits Content, methodology, and interplay of the natural sciences. Interaction of the natural sciences, mathematics, and philosophy. Mathematical concepts and techniques. Physical and chemical properties of matter. History and structure of the earth. Motion, forces, and energy. Atomic structure and chemical properties. Carbon compounds. Structure and functions of living organisms. The human body. Inheritance and evolution. History of organic development.
Prerequisite: enrollment in the Special Baccalaureate Degree Program for Adults.

## Special Baccalaureate Interdisciplinary Seminar Images of Man 10.5

4 hours and independent work§; 4 credits
Modern efforts to understand the human condition. Critical exploration of the images of man previously studied in the natural sciences, social sciences, and humanities. Consideration of the images of man manifest in the contemporary search for meaning. Students may take this course for credit once.
Prerequisite: Special Baccalaureate Humanities 10.4 and Special Baccalaureate Social Science 10.3.

## Special Baccalaureate Interdisciplinary Seminar

 Images of Man 10.64 hours and independent work§; 4 credits
Modern efforts to understand the human condition. Critical exploration of the images of man previously studied in the natural sciences, social sciences, and humanities. Consideration of the images of man manifest in the contemporary search for meaning. Student may take this course for credit once.
Prerequisite: Special Baccalaureate Humanities 10.4 and Special Baccalaureate Social Science 10.3.

## Instruction-Related Departments

## Department of Personal Counseling

Department office: 1303 James Hall
Telephone: 951-5174
Chairperson: Gregory Kuhlman
Professors: Corey, Kuhlman, Puchkoff;
Assistant Professor: Robles.
The Department of Personal Counseling works closely with the Office of the Dean for Student Life in staffing the various programs of student services in all divisions of the college. Members of the department provide individual and group counseling and related services through the college's Center for Personal Counseling and Career Services, 1303 James Hall, and other student services units on campus.

## Course

### 2.1 Psychosocial Development and the College Student

2 hours recitation; 2 credits
Examination of the psychological, sociocultural, and educational components in the growth and development of the college student. Analysis of values and goals in relation to self-direction. Consideration of available options.
Prerequisite: passing scores on CUNY Skills Assessment Tests in reading and writing.

## Library

Office: Brooklyn College Library
Telephone: 951-5342
Chairperson: Barbra Higginbotham
Deputy Chairperson: William M. Gargan
Professors: Gargan, Higginbotham, Vaughn;
Associate Professors: Bogin, Cucchiara, Iskenderian, Raphael, Wild;
Assistant Professors: Bowdoin, Cramer, Deutch, Evans, Regalado, Scheele, Weintraub, Yu; Instructor: Berger.

The Brooklyn College Library provides the professional
services necessary for the acquisition and organization of recorded knowledge and for making it available for use by students and faculty in the teaching and research programs of the college. A further service is individual and group instruction by the professional staff in the effective use of the library's resources.

Additional information about the library is in the chapter "College Facilities and Research Centers" in this Bulletin.

Together, the Department of the Library and the Department of History offer a minor in archival studies and community documentation.

## Requirements for a minor in archival studies and community documentation

Fifteen credits
History 69.1 and 69.2.
One course from a department other than the student's major chosen from the following: Africana Studies 41, American Studies 61, Anthropology and Archaeology 2.21 or 37, Art 15.2, History 43.16, 44, or 44.1, Judaic Studies 48.5, Music 3, Political Science 25 or 38 or 75.2, Psychology 10, Puerto Rican and Latino Studies 32.5, Sociology 26.
History 78.1 and 78.2.

## Office of the Registrar

Office: 1118 Boylan Hall
Telephone: 951-5468
Registrar: Joan Antonicelli
Assistant Registrars: Balogh, Leahy, J. Rivera, M.Rivera, Sacco.
The Office of the Registrar prepares the Schedule of Classes, registers students, maintains academic records, evaluates transfer credits, determines eligibility for graduation, certifies attendance, and issues transcripts.

## Inventory of Registered Programs at Brooklyn College

The following undergraduate certificate and degree programs and combined undergraduate/graduate degree programs are offered at Brooklyn College. These programs have been approved by the New York State Education Department and listed on the Inventory of Registered Programs. The programs are identified by the appropriate HEGIS (Higher Education General Information Survey) code number.

Enrollment in other than registered or otherwise approved programs may jeopardize a student's eligibility for certain student aid awards.

| HEGIS Code | Program name | Certificate or degree(s) awarded |
| :---: | :---: | :---: |
| 0502 | AccountingB.S., | B.S. (C.P.A. license qualifying) |
| 5002 | Accounting | Certificate |
| 2211 | Africana Studies | B.A. |
| 0313 | American Studies | B.A. |
| 2202 | Anthropology | B.A. |
| 1002 | Art | B.A., B.F.A. |
| 1003 | Art History | B.A. |
| 0831 | Art Teacher (K-12) | B.A. |
| 0401 | Biology | B.A., B.S. |
| 0401.01 | Biology Teacher (7-12) | B.A., B.S. <br> Broadcast Journalism (See <br> Television and Radio.) |
| 0506 | Business, Management, and Finance | B.S. |
| 0308 | Caribbean Studies | dual major only; degree awarded depends on primary major |
| 1905 | Chemistry | B.A., B.S. |
| 1905.01 | Chemistry Teacher (7-12) | B.A. |
| 1504 | Classics | B.A. |
| 0701 | Computer and Information Science | B.S. |
| 0799 | Computer and Information Science and Economics | B.S.-M.P.S. |
| 5101 | Computers and Programming | Certificate |
| 1701 | Computational Mathematics | B.S. |
|  | Creative Writing (See English.) |  |
| 1917.01 | Earth Science Teacher (7-12) (See Geology.) |  |
| 2204 | Economics | B.A. |
| 0799 | Computer and Information Science and Economics | M.P.S. |
|  | Education |  |
| 0802 | Early Childhood Education Teacher (preK-3) | B.A. |
| 0802 | Elementary Education Teacher (K-6) | B.A. |
| 0815 | Education of Speech and Hearing Handicapped | B.A. |
|  | Secondary Education. (See individual programs by subject listing.) |  |
| 1501 | English | B.A. |
| 1501.01 | English Teacher (7-12) | B.A. |
| 1503 | Comparative Literature | B.A. |
| 1507 | Creative Writing | B.F.A. |
| 0602 | Journalism | B.A. |
| 1505 | Linguistics | B.A. (major and dual major; for dual |


|  |  | major, degree awarded depends on primary major) |
| :---: | :---: | :---: |
| 4999 | Environmental Studies | B.A. |
| 1010 | Film | B.A. |
| 5008 | Film Production | Certificate |
| 1102 | French | B.A. |
| 1102.01 | French Teacher (7-12) | B.A. |
| 1914 | eology | B.A., B.S. |
| 1917.01 | Earth Science Teacher (7-12) | B.A., B.S. |
| 1299 | Health and Nutrition Sciences | B.A., B.S. |
| 0837 | Health Teacher (K-12) | B.A. |
| 2205 | History | B.A. |
| 1104 | Italian | B.A. |
| 1104.01 | Italian Teacher (7-12) | B.A. |
|  | Journalism (See English.) |  |
| 0309 | Judaic Studies | B.A. |
|  | Linguistics (See English.) |  |
| 1701 | Mathematics | B.A., B.S. |
| 1701 | Computational Mathematics | B.S. |
| 1701.01 | Mathematics Teacher (7-12) | B.A., B.S. |
| 1005 | Music | B.A. |
| 1004.10 | Composition | B.Mus. |
| 1004 | Performance | B.Mus. |
| 0832 | Music Teacher (K-12) | B.A. |
| 1509 | Philosophy | B.A. |
| 0835 | Physical Education | B.S. |
| 0835 | Physical Education Teacher (K-12) | B.S. |
| 1902 | Physics | B.A., B.S. |
| 1902.01 | Physics Teacher (7-12) | B.A. |
| 2207 | Political Science | B.A. |
| 2001 | Psychology | B.A., B.S. |
| 0308 | Puerto Rican and Latino Studies | B.A. |
| 1510 | Religion: Program of Studies in Religion | dual major only; degree awarded depends on primary major |
| 1106 | Russian | B.A. |
| 2201.01 | Social Studies Teacher (7-12) | B.A. |
| 2208 | Sociology | B.A. |
| 1105 | Spanish | B.A. |
| 1105.01 | Spanish Teacher (7-12) | B.A. |
| 1506 | Speech | B.A. |
| 1506.01 | Speech Teacher (K-12) | B.A. |
| 1220 | Speech-Language Pathology, Audiology, Speech and Hearing Science | B.A. |
| 0815 | Education of Speech and Hearing Handicapped | B.A. |
| 0603 | Television and Radio | B.A. |
| 0605 | Broadcast Journalism | B.S. |
| 1007 | Theater | B.A., B.F.A. |
| 4903 | Women's Studies | B.A. |

## Administration

## The City University of New York

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## Council of Presidents

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## Officers

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Jay Hershenson Vice-Chancellor for University Relations
Lester Jacobs Interim University Dean for Student Affairs and Enrollment Services
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Brenda Richardson Malone Vice-Chancellor for Faculty and Staff Relations
Louise Mirrer Vice-Chancellor for Academic Affairs
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## Brooklyn College Offices of Administration

## Office of the President

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| :--- |
| Jane Herbert Executive Assistant to the President |
| Patricia Quercia Executive Secretary to the President |
| Office of the Provost |
| Maurice Callahan Executive Assistant to the Provost |
| Office of the Senior Vice-President for Administrative Affairs |
| Patricia Hassett Senior Vice-President |
| Office of the Vice-President for Finance and Administration |

Steve G. Little Acting Vice-President

Office of the Vice-President for Institutional Advancement

Bonnie Impagliazzo Director of Government and Community Relations Connie Di Geronimo Coordinator

## Office of the Assistant Provost

Eric M. Steinberg Assistant Provost
Office of the Dean of Undergraduate Studies

Ellen C. Belton Dean
Kathleen Ann Gover Associate Dean
Marion Lynch Acting Assistant Dean, Middle Student Programs
Helen Wussow Assistant Dean for Adult Degree Programs and Continuing Education
Mildred Williams Acting Director of Academic Advisement
Office of the Dean of Graduate Studies and Research

Richard Pizer Dean
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Office of the Dean of Education
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Milga Morales Dean
Jacqueline Williams Executive Assistant to the Dean
Melanie Bush Special Assistant to the Dean
Vannessa Green Assistant Dean for Student Development
Gregory Kuhlman Director of Personal Counseling and Career Services
Joseph Benedict, Jr. Executive Director of the Student Center
Bruce Filosa Director of Recreation, Intramurals, and Intercollegiate Athletics
Roberta Adelman Coordinator of Services for Students with Disabilities
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John Lawrence Ashbery English
H. Wiley Hitchcock Music

Philip Pearlstein Art

# David H. Raab Psychology <br> Martin P. Schreibman Biology <br> Robert Starer Music <br> Hans L. Trefousse History <br> <br> University Professor Emeritus 

 <br> <br> University Professor Emeritus}

Richard Trent Education

## Broeklundian Professor Emeritus

Vojtech Fried Chemistry

## Professors Emeriti

Samuel Abrahamsen Judaic Studies

Giovanna Abruzzi Modern Languages and Literatures
R. Vivian Acosta Physical Education and Exercise Science

Angela Alcala Modern Languages and Literatures
Sol Amato Education

Agustin J. Anievas Conservatory of Music
Anne Arnold Art
SeymourAronson Chemistry
Leonard R. N. Ashley English
Lucille Bacon Physical Education
Fred Badalamenti Art
Anna Banks Home Economics

Abraham Bargman Political Science
Michael P. Barnett Computer and Information Science
Jonathan Baumbach English
Frank Beckman Computer and Information Science
Howard Becknell Theater
Melvin M. Belsky Biology
Lee Beltzer Speech

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Gertrude Berger Education
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Oliver Bloodstein Speech
Uldis Blukis Chemistry
Stuart Blum Education
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James Campbell Art
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Walter Cerf Philosophy
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J. R. Collier Biology
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Stephen Cottrell Biology
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Lionel Forstall Educational Services
Ellen Frey-Wouters Political Science
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Randolph Goodman English
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Eugenio Grannell Modern Languages and Literatures
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Feliks Gross Sociology
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Vera M. Jiji English
James P. Johnson History
Meyer Jordan Mathematics
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Joseph Justman Education
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John A. Shimer Geology
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Beth J. Singer Philosophy
George Skorinko Physics
Helene Sloan Health and Nutrition Sciences
Joseph M. Smith Physical Education
Robert Smith Education
Hobart A. Spalding History
Peter Spielberg English
Claire Sprague English
Elmer Sprague Philosophy
Donald Springen Speech
Ursula Springer Education
Margaret M. Starkey English
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Philippa Strum Political Science
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Kia K. Wang Geology
Morey Wantman Psychology
Solomon Weinstock Psychology
Herbert Weiss Political Science
Katherine West Economics
Arthur Weston Physical Education
Charles Whipple Student Affairs and Services
Grace A. Wieder Chemistry
George Wiepert Student Affairs and Services
Robert C. Williams Television and Radio
Mary Wiseman Philosophy
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Carl Withner Biology<br>Howard B. Wolman Classics<br>Elizabeth K. Worley Biology<br>Madeline Yourman Library<br>Henry Yuska Chemistry<br>Helen G. Zagona Modern Languages and Literatures<br>Peter Zaneteas Classics<br>\section*{Distinguished Professors}<br>Lennart Anderson Art<br>Allan W. Atlas Music<br>Jack Flam Art<br>Gerald M. Friedman Geology<br>Rohit Parikh Computer and Information Science<br>Fred H. Pollak Physics<br>Theodore Raphan Computer and Information Science<br>Anthony Sclafani Psychology<br>Carl M. Shakin Physics<br>\section*{Broeklundian Professors}<br>Nehru E. Cherukupalli Geology<br>Louise Hainline Psychology<br>Kenneth W. McAloon Computer and Information Science<br>Benito Ortolani Theater<br>Arthur Reber Psychology<br>Shlomo Silman Speech<br>Micha Tomkiewicz Physics<br>Sharon Zukin Sociology<br>\section*{Sylvia Fine Professor in Musical Theater}

To be announced

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Ron Padgett, spring 2000

## Robert L. Hess Scholar in Residence

Vartan Gregorian, 1993-94
Ann Douglas, 1995-96
James S. Langer, 1996-97
Murray Koppelman Professor

Martha Bell Educational Services, 1998-2000
Jerome Krase Sociology, 1999-2001

## Donald Kramer Visiting Professor in the Humanities

To be announced
Jacques Edward Levy Professor in Analytical Chemistry
To be announced

## Levy-Kosminsky Professor in Physical Chemistry

To be announced

## Daniel M. Lyons Visiting Professor in American History

Richard B. Bernstein

## George and Beatrice Schwartzman Professor in Analytical Chemistry

To be announced

## Bernard H. Stern Professor in Humor

Georgeen Comerford Art
Carey Harrison English
Claire and Leonard Tow Professors 1999-2000

David M. Arnow Computer and Information Science
Edwin G. Burrows History

Jacqueline E. de Weever English
Joseph B. Krieger Physics
Robert Viscusi English

## Belle Zeller Visiting Professor in Public Policy and Administration

Joe Kincheloe Education, 1998-2000

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Molly Haskell
Bonnie Helms
George Roy Hill
Adam Holender
Andrew Horton
Becky Hrdy
Carol Joffe
Srdjan Karanovic
Yotaro Konaka
Beth Kuhn
Lindsay Law
Eileen Lottman
Evan Lottman
Terry Lawler
Michael Lynne
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Tim Ney
Ellen Parks
Jerry Peary
Amos Poe
William Quigley
Mark Rappaport
Tina Rathborne
Tamara Rawitt
Alain Robbe-Grillet
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## Faculty and Staff

The date of initial appointment at Brooklyn College follows the listing for each faculty and staff member.
F. Murray Abraham Professor of Theater. 1985

Israel Abramov Professor of Psychology. B.A., LL.B., University College, London; Ph.D., Indiana. 1973
Ana M. Acosta Assistant Professor of English. M.A., Universidad de Los Andes, Bogotá; Ph.D., Columbia. 1999

Vincent Adams Laboratory Technician in Chemistry. B.S., Brooklyn. 1995
Celia Adams-Charles Undergraduate Admissions Counselor. B.A., M.S., Brooklyn. 1998
Marlene Adelle Library. 1990
Roberta Adelman Coordinator, Services for Students with Disabilities Program. 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 Agoos Associate Professor of English. B.A. Harvard; M.A., Johns Hopkins. 1994

Anna Agosta Office of Admissions. 1993
Stephen U. Aja Associate Professor of Geology. B.S., Nigeria; M.S., Hull, England; Ph.D., Washington State. 1993

Moses Akinwunmi Laboratory Technician in Psychology. 1974
Joan Alagna Assistant Director, Adult Degree Programs. B.A., Richmond College; M.S., Queens. 1995
Ray Allen Associate Professor of Music; Director, American Studies Program. B.S., Bucknell; M.A., Western Kentucky; Ph.D., Pennsylvania. 1993

Barbara Allier Library. 1996
Virginia Alonso-Rainsford Office of Alumni Affairs. B.S., CUNY. 1999
Teresa Alston Assistant to the Director of Ticket Services, Brooklyn Center for the Performing Arts at Brooklyn College. B.A., Brooklyn. 1993

Taiwo Amoo Assistant Professor of Economics. B.S., Ibadan, Nigeria; Ph.D., Exeter, England. 1999
Bonnie Sour Anderson Professor of History. B.A., Brown; M.A., Ph.D., Columbia. 1972
Lennart Anderson Distinguished Professor of Art. B.F.A., Art Institute of Chicago; M.F.A., Cranbrook Academy of Art. 1974

Sylvia Anderson Office of the Dean for Student Life. 1996
Frank Angel Director, Brooklyn Center Cinema and Computer Services, Brooklyn Center for the Performing Arts at Brooklyn College. B.A., Notre Dame. 1967

Joan Antonicelli Registrar. B.S., St. Peter's College; M.S., Baruch. 1988

Patricia Antoniello Associate Professor of Health and Nutrition Sciences; Coordinator, Women's Studies Program. B.A., M.A., M.Phil., Ph.D., Columbia. 1987

Antony Arcadi Associate Professor and Chairperson, Department of Economics. B.S., City College; M.A., Brooklyn. C.P.A., State of New York. 1985

Mary Lou Archer Office of the Bursar. 1982
Yuri Arenberg Associate Professor of Economics. B.A., William Paterson; M.A., Rutgers; Ph.D., New York. 1985

Nicholas G. Armstrong Acting Director, Preparatory Center for the Performing Arts. B.A., University of Bristol, U.K.; 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 Associate Professor of English. B.A., Bowdoin; M.A., Brandeis. 1967
Heshla Ash Office of the Dean for Student Life. B.A., Brooklyn. 1993
Rosemary L. Ash Adviser, Academic Advisement Center. B.A., Washington University; M.A., Columbia. 1986
Allan W. Atlas Distinguished Professor of Music. B.A., Hunter; M.A., Ph.D., New York. 1971
Moshe J. Augenstein Professor of Computer and Information Science. B.S., Brooklyn; M.S., Ph.D., New York. 1971

Alan Aurelia Assistant Professor of Music (adjunct). B.Mus., University of Connecticut. 1998
Steven Austereich Information System Coordinator, Information Technology Services. B.A., Pace; M.B.A., Long Island. 1997

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

Adina Back Assistant Professor of History. B.A., Antioch; M.A., Ph.D., New York. 1997
Valerie Baez Library. 1997
Stephen Bailey Lighting Director, Brooklyn Center for the Performing Arts at Brooklyn College. 1981
Randy Balogh Registration Coordinator. A.A.S., Fashion Institute of Technology; B.A., Brooklyn. 1986
Frederic Balsam Career Services Professional, Office of Personal Counseling and Career Services. B.A., Long Island; M.A., New York. 1985
H. Arthur Bankoff Professor and Chairperson, Department of Anthropology and Archaeology; Director, Archaeological Research Center. B.A., Brooklyn; Ph.D., Harvard. 1971

Laura H. Barbanel Professor of Education. B.S., City College; Ed.D., Columbia. 1967
Aisha Barnard Department of English. 1999
Christopher L. Barnes Assistant Professor of Classics. B.A., Washington; M.A., Ph.D., Michigan. 1999
John Barra Administrative Superintendent, Facilities Planning and Operations. 1994

Thomas Barran Associate Professor of Modern Languages and Literatures. B.A., M.A., Ph.D., Columbia. 1988

Richard Barrett Associate Professor of Music. Dip., Juilliard. 1986
Dolores Bashinsky Office of the Dean for Student Life. 1985
Jennifer A. Basil Assistant Professor of Biology. B.S., SUNY, Albany; M.A., Ph.D., Massachusetts. 1999
Marga Battista Department of Mathematics. 1991
Frances Baugh Office of Campus Security and Public Safety. 1979
Moustafa Bayoumi Assistant Professor of English. B.A., University of Waterloo, Ontario, Canada; Ph.D., Columbia. 1998

Alice R. Beasley Office Manager, Facilities Planning and Operations. B.A., City College. 1997
John J. Beatty Professor of Anthropology and Archaeology. B.A., Brooklyn; M.A., Oklahoma; Ph.D., CUNY. 1967

William Beauclerk Lecturer in Education. B.A., M.S., Queens; Ph.D., New York. 1968
Karl Beckson Professor of English. B.A., Arizona; M.A., Ph.D., Columbia. 1961
Richard Belgrave Hazardous Materials Manager, Environmental Health and Safety. B.S., University of the West Indies, Cave Hill; M.S., Hunter; M.A., Pace. 1995

Craig P. Bell Professor and Deputy Chairperson, CLAS and SGS, Department of Health and Nutrition Sciences. B.S., Illinois; M.S., Hunter. 1966

Martha J. Bell Murray Koppelman Professor and Chairperson, Department of Educational Services; Director, SEEK Program. B.S., M.A., Ph.D., New York. 1977

Robert Bell Professor of Economics. B.A., California, Berkeley; Ph.D., Brunel, England. 1986
Ellen C. 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

Margaret Bergamasco Help-Desk Manager, Information Technology Services. A.A.S., Queensborough. 1977

Michael Bergen Supervisor, Audiological Services, Speech and Hearing Center. B.A., Queens; M.S., Brooklyn. 1995

David Berger Professor of History. B.A., Yeshiva; M.A., Ph.D., Columbia. 1970
Jocelyn Berger Instructor, Library. B.A., Brooklyn; M.S., Pratt Institute. 1996
Sally Bermanzohn Assistant Professor and Deputy Chairperson, CLAS, Department of Political Science. B.A., Duke; M.A., Hunter; Ph.D., CUNY. 1994

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Anindya Bhattacharya Assistant Professor of Economics. B.A., Cambridge, England; M.A., Johns Hopkins; Ph.D., Columbia. 1998

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Lionel D. Bier Professor of Art. B.A., Brooklyn; M.A., Ph.D., New York. 1970
Lois Biesky School of Education. 1974
Maureen Biesty Office of the Vice-President for Finance and Administration. 1988
Peggy Bispham Office of the Registrar. 1999
Mary C. Birchard Adviser, Academic Advisement Center. B.A., Wellesley; M.Div., Union Theological Seminary. 1970

Deborah Birnbaum Associate Professor of Music (adjunct). B.A., Barnard College. 1994
Nancy Bremiller Black Professor and Deputy Chairperson, SGS and Division of Graduate Studies, Department of English. B.A., Vassar; M.A., Pennsylvania; Ph.D., Columbia. 1972
John Blamire Professor of Biology. B.S., Ph.D., Manchester, England. 1973
Linda Blanche Lecturer in Music (adjunct). B.Mus., Queens; M.Mus., Georgia; M.F.A., California, Irvine; M.A., Brooklyn. 1988

Ralph C. Blank Chief Financial Officer, Brooklyn College Foundation, Inc. B.S., New York. 1999
Alberto Blasi Professor of Modern Languages and Literatures. Licenciado en Letras, Universidad de Buenos Aires; Doctor en Letras, Universidad de La Plata. 1975

David Bloom Professor of Mathematics. B.A., Columbia; M.A., Ph.D., Harvard. 1964
David C. Bloomfield Associate Professor of Education. B.A., Brandeis; M.P.A., Princeton; J.D., Columbia. 1999

Frederick Bogin Associate Professor, Library. B.A., Southern California; M.L.S., California, Los Angeles; M.A., Brooklyn. 1983

Luigi Bonaffini Professor of Modern Languages and Literatures. B.A., Ph.D., Connecticut. 1976
Rose Bonczek Assistant Professor and Deputy Chairperson, CLAS and SGS, 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
Bruce Bonvissuto Associate Professor of Music (adjunct). B.Mus., M.Mus., Juilliard. 1985
Marianne Booufall-Tynan Acting Director, Admissions. B.A., Adelphi; M.S., C.W. Post, Long Island. 1988
Venustiano Borromeo Senior Laboratory Technician, Department of Theater. B.A., Indiana; M.A., Michigan. 1987

Orland Boucher Laboratory Technician, Department of Chemistry. B.A., Brooklyn. 1998
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## Accessible Facilities for Persons with Disabilities

## Boylan Hall

Restrooms: Women: students, 2105; staff, 2142.
Men: students, 0422 and 2216; staff, 2124.
Telephones: Volume control and wheelchair accessible: basement level, near bookstore and 0105.
Ramp: Main entrance on Quadrangle.
Automatic doors: Main entrance on Quadrangle.
Elevator: Near main entrance.

## Gershwin Hall

Restrooms: Basement level.
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.
Infrared listening devices: Rooms 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: near 136 and 439. Wheelchair accessible: near 136, 439, and 525.
Infrared listening devices: Room 148.
Ramps: Bedford Avenue entrance and near Lily Pond.
Elevators: All.

## James Hall

Restrooms: Women: students, 1406; staff, 1605.
Men: students, 1402; staff, 1601.
Telephones: Wheelchair accessible: near 1602 and 3602.
Ramp: See Plaza Building.
Automatic doors: 2nd-floor exit to Plaza Deck.
Elevators: All. James Hall elevators provide access to Plaza Building, Roosevelt Hall, and Roosevelt Hall Extension.

## Library and La Guardia Hall

Under construction until 2002.

## Temporary Library Facilities

## Roosevelt Hall Library

Restrooms: 4th floor, men's and women's; staff facilities not available.
Telephones: Volume control and wheelchair accessible.
Ramp: See Plaza Building and Roosevelt Hall Extension.
Automatic doors: See Roosevelt Hall.
Elevator: See Roosevelt Hall.
Field Library
Computers: Available.
Restrooms: Men's and women's.
Telephones: Volume control and wheelchair accessible.
Automatic doors: Not available.

## Plaza Building

Restrooms: Women, 1119. Men, 1121.
Men's and women's locker rooms, Plaza Pool.
Telephones: Volume control and wheelchair accessible: outside main building entrance.
Ramps: Entrances near athletic field and Bedford Avenue provide access to Plaza Building, Roosevelt Hall, Roosevelt Hall Extension, and James Hall.
Automatic doors: Entrance near athletic field.
Elevator: See 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; staff, 405.
Men: students, 209; staff, 409.
Telephones: Volume control and wheelchair accessible: near 120.
Elevators: West-side elevator, opposite 005 and 117, provides access to Roosevelt Hall Extension only.
East-side elevator, opposite 004, provides access to Roosevelt Hall and Roosevelt Hall Extension.

## Student Center (SUBO)

Restrooms: Basement level; 2nd, 4th, 5th, and 6th floors; and Penthouse.
Telephones: Volume control: basement level and 2nd, 3rd, 5th, and 6th 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: 1st-floor lobby, near stairway; near 222. Wheelchair accessible: outside entrance opposite Library; 1st-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.

## 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 is on sidewalk level.
Automatic doors: Main entrance.



[^0]:    Volume 67, Number 1

[^1]:    B.S. degree program in geology HEGIS code 1914

    Department requirements (5911/42-60 credits)
    A.All of the following:
    a) Geology 1 .
    b) Geology 2.2, 12, 17.01, 41.1.
    c) Chemistry 1 and 2, or their equivalents.
    d) Mathematics 3.3.
    e)Mathematics 4.3 or Computer and Information Science 1.10 or 1.20 or 1.5 or an equivalent of one of them.
    f) Biology 3, or Physics 1 or 1.5 , or an equivalent.
    B.Students must complete either Option 1 or Option 2 below:

    Option 1: Concentration in General Geology
    At least 18 credits selected from among the following courses: Geology 13.53, 17.11, 17.21, 22, 25.1, 31.1, 32, 33.1, 36.11, 39.11, 70.1 (once).
    Option 2: Concentration in Environmental Geology
    a)at least 9 credits selected from among the following courses: Geology 13.53, 17.11, 17.21, 22, 25.1, 31.1, 32, 33.1, 36.11, 39.11, 70.1 (once).
    b) at least 9 credits selected from among the following courses: Geology 18, 19.1, 20, 23.1, 32.5, 53, 70.2 (once).
    All required geology courses numbered 10 or higher must be completed with a grade of C - or higher in each course.

[^2]:    Japanese
    *1.1 Intensive Elementary Japanese I
    5 hours, 1 hour multimedia laboratory; 4 credits
    First in a two-semester intensive sequence for beginners and those who have had one year or less of high school study. Introduction to phonetics and writing systems. Development of communicative skills and cultural awareness through extensive classroom interaction and a variety of multimedia materials. Credit given only upon completion of Japanese 2.1. (Not open to heritage speakers or to students who have completed Japanese 1 or more than one year of high school Japanese.)
    Prerequisite: none.

    ## *2.1 Intensive Elementary Japanese II

    5 hours, 1 hour multimedia laboratory; 4 credits
    Second in a two-semester intensive sequence. Expanded acquisition of phonetics and writing systems.
    Development of communicative skills and cultural awareness through extensive classroom interaction and a variety of multimedia materials. Designed to prepare students for Japanese 3.1. (Not open to heritage speakers or to students who have completed Japanese 1 or 2.)
    Prerequisite: Japanese 1.1 or permission of the chairperson.

    ## *3.1 Intensive Intermediate Japanese I

    4 hours, 1 hour multimedia laboratory; 4 credits
    First in a two-semester intensive sequence for students who have completed Japanese 1.1 and 2.1 or the equivalent, or have had four years of high school study. Continued development of oral fluency and writing in social interaction and in systematic vocabulary building. Increased awareness of cultural diversity in areas where language is spoken. (Not open to heritage speakers or to students who have completed Japanese 3.)
    Prerequisite: Japanese 2.1 or permission of the chairperson.

[^3]:    * $\dagger 17$ series Fundamental Skills in Movement Activity

    2 hours; 1 credit
    Fundamental techniques and skills in individual and dual sports, team sports, gymnastics, aquatic sports, and rhythmic movement activities. Students may be required to provide equipment or supplies for these courses. (Not open to students who have completed an equivalent course.)
    *†17.2 Archery.

    * $\dagger 17.3$ Badminton.
    *17.7 Fencing.
    *†17.8 Field Hockey.
    *†17.11 Folk and Square Dance.
    * $\dagger 17.12$ Golf.
    * $\dagger 17.13$ Gymnastics (women).
    * $\dagger 17.14$ Israeli Folk Dance.
    * $\dagger 17.19$ Recreational Activities.
    *†17.20 Self-defense.
    * $\dagger 17.21$ Ballroom Dancing.
    *117.22 Softball.
    * $\dagger 17.23$ Swimming.
    * $\dagger 17.25$ Tennis.
    *17.26 Track and Field.
    * $\dagger 17.27$ Volleyball.
    *†17.28 Wall Sports.
    *†17.29 Yoga.
    * $\dagger 17.33$ Basketball (men).
    *†17.35 Body Conditioning.
    *†17.38 Soccer.
    ${ }^{*} \dagger 17.39$ Touch Football.
    *†17.41 Skiing.
    *†17.44 Team Handball.
    *†17.45 Aerobics.
    *†17.46 Advanced Beginning Swimming
    2 hours; 1 credit
    Prerequisite: Physical Education 17.23 or a current American Red Cross Beginner Swimmer Certificate or the equivalent.

[^4]:    Speech concentration for majors in the following programs: early childhood education teacher (prekindergarten-3); elementary education teacher (K-6); elementary bilingual education teacher (K-6); special education teacher.
    The requirements for the teacher education programs indicated above are described in the "Education" section in this Bulletin. Students who major in any of these programs and who elect a concentration in speech must complete at least twelve credits in advanced electives in the Speech Department with a grade

