

NORTHWESTERN

Undergraduate Catalog 2009–10

Northwestern
Undergraduate Catalog 2009–10
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This catalog for the academic year beginning September 1, 2009, contains University regulations and information about the programs and courses offered by the Judd A. and Marjorie Weinberg College of Arts and Sciences, School of Communication, School of Education and Social Policy, Robert R. McCormick School of Engineering and Applied Science, Medill School of Journalism, and Henry and Leigh Bienen School of Music and about cross-school undergraduate programs. Failure to read this catalog does not excuse a student from knowing and complying with its content.

Northwestern University reserves the right to change without notice any statement in this catalog concerning, but not limited to, rules, policies, tuition, fees, curricula, and courses. In exceptional circumstances, Northwestern University reserves the right, at its sole discretion, to waive any documentation normally required for admission. It also reserves the right to admit or deny a student admission whenever it believes that it has sufficient evidence for the decision.

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Academic Calendar 2009–10

Fall Quarter

September 2009

1	Tuesday	Tuition due
15	Tuesday	New student orientation begins
22	Tuesday	Registration for fall quarter Classes for fall quarter begin 8 a.m.
28	Monday	Last day for late registration, adding any course, or changing a section

October 2009

30	Friday	Last day for dropping any course Last day to withdraw without academic review
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November 2009

16	Monday	Registration for winter quarter
25	Wednesday	Thanksgiving vacation begins 6 p.m.
26	Thursday	Thanksgiving Day
30	Monday	Classes resume 8 a.m. Last day for current students to file an undergraduate financial aid application for winter quarter

December 2009

5	Saturday	Last day of classes for fall quarter
7	Monday	Fall quarter examinations begin
11	Friday	Examinations end; vacation begins 6 p.m.

Winter Quarter

January 2010

1	Friday	Tuition due
4	Monday	Registration for winter quarter Classes for winter quarter begin 8 a.m.
8	Friday	Last day for late registration, adding any course, or changing a section
18	Monday	Martin Luther King Jr. Day; no classes

February 2010

12	Friday	Last day for dropping any course Last day to withdraw without academic review
22	Monday	Registration for spring quarter

March 2010

1	Monday	Last day for current students to file an undergraduate financial aid application for spring quarter
13	Saturday	Last day of classes for winter quarter
15	Monday	Winter quarter examinations begin
19	Friday	Examinations end; vacation begins 6 p.m.

Spring Quarter**March 2010**

29 Monday Registration for spring quarter
Classes for spring quarter begin
8 a.m.

April 2010

1 Thursday Tuition due
2 Friday Last day for late registration, adding
any course, or changing a section
30 Friday Last day for current students to
file undergraduate financial aid
applications for Summer Session
and for academic year 2010–11

NOTE: Before the end of spring quarter, students planning to graduate in arts and sciences, communication, education and social policy, journalism, or music in June or August 2011 must file an application for a degree at the Office of the Registrar. Others must file at the appropriate school office. Students completing requirements in December or March should file an application for a degree one year in advance.

May 2010

7 Friday Last day for dropping any course
Last day to withdraw without
academic review
17 Monday Registration for fall quarter 2010–11
31 Monday Memorial Day; no classes

June 2010

5 Saturday Last day of classes for spring quarter
7 Monday Spring quarter examinations begin
11 Friday Examinations end 6 p.m.
18 Friday Baccalaureate
152nd annual Commencement

Summer Session**June 2010**

1 Tuesday Tuition due
21 Monday Late registration for Summer Session
Classes for Summer Session begin
8 a.m.
25 Friday Last day for late registration, adding
any course, or changing a section

July 2010

5 Monday Independence Day (observed);
no classes
31 Saturday Six-week Summer Session ends 6 p.m.

August 2010

14 Saturday Eight-week Summer Session ends
6 p.m.

The University reserves the right to make changes in this calendar. A detailed current calendar can be found at www.registrar.northwestern.edu/calendars.

The University

Northwestern University is committed to excellent teaching, innovative research, and the personal and intellectual growth of its students. Through a combination of close interschool cooperation and a flexible academic calendar, both undergraduate and graduate students and faculty are able to customize education and research across disciplines. Northwestern is a place where faculty work closely with students and each other and where students at all levels interact as part of an innovative and technologically sophisticated learning community.

Northwestern's emphasis on effective communication, regardless of field of study, fosters the ability to think analytically and write and speak clearly and persuasively. The result is that Northwestern graduates are exceptionally well prepared for academic and career success and become leaders in their fields.

The University's locations in Evanston, the first suburb north of Chicago, and in Chicago offer outstanding intellectual, professional, social, and cultural opportunities in beautiful settings on the shore of Lake Michigan. A new campus in Doha, the capital of Qatar, provides an inviting educational environment for students from the Middle East and beyond.

THE UNDERGRADUATE EXPERIENCE

Northwestern provides an educational and extracurricular environment that enables students to become accomplished individuals and responsible citizens. Its alumni feel confident exploring a wide range of subjects and experiences, in school and beyond, regardless of their majors. Northwestern believes that students should not invest themselves so fully in one area that they're afraid to risk exploring unfamiliar academic disciplines. More than a fifth of the freshmen enroll with a prospective major of "undecided," and many more change their minds and their majors before they graduate, with one-quarter transferring from one of Northwestern's undergraduate schools to another. Students frequently pursue two majors or even two degrees at the same time, and enterprising students, with their deans' permission, occasionally construct their own majors or programs of study.

At the heart of a Northwestern education is the belief that a solid foundation in the liberal arts is essential, regardless of one's future plans. All students in the six undergraduate schools take courses in science, mathematics and technology, individual and social behavior, historical studies, the humanities, and fine and performing arts. In

addition to the traditional components of undergraduate education — general requirements and advanced work in the major — Northwestern prides itself on making unusual academic opportunities available. Students also are encouraged to pursue independent study, internships, research, and study abroad. At least 30 percent of Northwestern's undergraduates engage in internships, practicums, paid cooperative education programs, applied research, and other off-campus experiences, often for academic credit.

Underpinning the breadth of a Northwestern education is the quarter system, which gives students the opportunity to take more courses than they would under a traditional semester system. Undergraduates typically take 4 courses each quarter and 12 courses in an academic year.

In both its academic and extracurricular programs, Northwestern encourages students to obtain a broad understanding of the world in which they live and to cultivate the habits of critical inquiry, creativity, and reflection that characterize the educated person. The University places particular value on being able to communicate effectively, to interpret the developments in science and technology that shape our changing world, and to use the techniques of quantitative analysis that are necessary to effective professional and social life.

One of Northwestern's strongest traditions is the energetic involvement of its undergraduates in campus life, a tradition that often leads them beyond the campus itself. Northwestern is a major force in the economic, social, and cultural life of Evanston, Chicago, and nearby communities. Each year Northwestern students, faculty, and staff provide thousands of hours of volunteer service to the community.

STUDENT DEMOGRAPHICS

Northwestern recruits students of demonstrated academic achievement from diverse social, ethnic, and economic backgrounds. All 50 states and nearly 50 countries are represented in the undergraduate student body. In the class of 2012, 37 percent are from the Midwest, 20 percent from the Middle Atlantic states, 14 percent from the West, 10 percent from the South, 6 percent from the Southwest, and 6 percent from New England; 7 percent have overseas addresses. Slightly more than half are female, and 32 percent are members of minority groups. Sixty percent enrolled with financial aid.

GRADUATION RATES

Both the federal government and the National College Athletic Association use as a measurement for reporting purposes the graduation rates of entering classes over six continuous years. Such rates at Northwestern have remained above 90 percent for a decade of entering classes. See www.registrar.northwestern.edu/academic_records/enroll_grad_statistics/graduation_rates.html.

A HISTORICAL OVERVIEW

Excellence has been Northwestern's goal since nine pioneering Chicagoans met in 1850 to establish an educational institution that would rival any in the eastern United States. That group — a physician, three attorneys, two businessmen, and three Methodist clergymen — envisioned a university “of the highest order of excellence” to serve the people of the Northwest Territory. Northwestern University was officially established on January 28, 1851, when its act of incorporation was passed by the Illinois legislature.

In 1853 the founders purchased a 379-acre tract of farmland along Lake Michigan 12 miles north of Chicago as a site for the new university. The location so impressed founder Orrington Lunt that he wrote, “I could not rid myself of the fairy visions constantly presenting themselves in fanciful beauties — of the gently waving lake — its pebbly shore — the beautiful oak openings and bluffs beyond.”

The town that grew up around Northwestern was named Evanston in honor of one of the University's most prominent founders, John Evans. A physician and businessman, Evans provided the cash to place a \$1,000 down payment on the land and assumed responsibility for the mortgage covering the balance. Evans was chairman of the board from the University's founding until his death in 1897.

After completing its first building in 1855, Northwestern began classes that fall with two faculty members and 10 male students. In 1869 it enrolled its first female students, thereby becoming a pioneer in the higher education of women. By 1900 the University was composed of a liberal arts college and six professional schools, including the schools of law and medicine, with a total of 2,700 students. With the establishment of the Graduate School in 1910, Northwestern adopted the German university model of providing graduate as well as undergraduate instruction and stressing research along with teaching.

Today Northwestern enjoys a position as one of the country's leading private research universities. Approximately 17,000 full-time and part-time students are enrolled in 11 colleges and schools located on lakefront campuses in Evanston and Chicago and a new branch campus in Qatar. Undergraduate education takes place on the Evanston campus in the Judd A. and Marjorie Weinberg College of Arts and Sciences, the School of Communication, the School

of Education and Social Policy, the Robert R. McCormick School of Engineering and Applied Science, the Medill School of Journalism, and the Henry and Leigh Bienen School of Music.

ACCREDITATION

Northwestern University is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools. Other professional, college, school, and departmental accreditations are listed under the respective areas in the following section.

CAMPUSES

The undergraduate schools offer the programs and courses of instruction described in the respective sections of this catalog. Undergraduate study may lead to the bachelor's degree as a final academic goal or to advanced work toward a graduate or professional degree.

Evanston Campus

The schools and other institutional divisions, in order of establishment, are as follows:

- The Judd A. and Marjorie Weinberg College of Arts and Sciences (1851) offers the degree of bachelor of arts. Through the School of Continuing Studies, Weinberg College also offers the degrees of bachelor of philosophy and bachelor of science in general studies and two certificates in arts and sciences.
- The School of Communication (1878), with departments of communication sciences and disorders, communication studies, performance studies, radio/television/film, and theater, offers a bachelor of science in communication degree and a bachelor of arts in communication degree. Through the School of Continuing Studies, the School of Communication offers the bachelor of philosophy in communication. The school also offers the degrees of master of science in communication and doctor of audiology. Its programs are accredited by the American Speech-Language-Hearing Association and the National Association of Schools of Theatre.
- The Henry and Leigh Bienen School of Music (1895) offers the degrees of bachelor of music and bachelor of arts in music. In its graduate division the school offers the degrees of doctor of music and master of music and a certificate in performance. The school is accredited by the National Association of Schools of Music.
- The J. L. Kellogg School of Management (1908) offers undergraduate certificates in financial economics and managerial analytics as well as the master of business administration (MBA) degree. Many majors are available to MBA students; they are listed at www.kellogg.northwestern.edu/faculty/academics/majors.aspx. In addition to the full-time MBA program, Kellogg offers a part-time evening or weekend MBA program on Northwestern's Chicago campus, an

- executive MBA (EMBA) in Evanston and Miami, and international executive MBA (IEMBA) programs in Canada, Europe, the Middle East, and Asia. There is also a PhD program; see www.kellogg.northwestern.edu/doctoral/index.htm. In addition, a wide range of nondegree executive education courses are offered at the school's James L. Allen Center on the Evanston campus as well as in Miami. Kellogg is accredited by the American Assembly of Collegiate Schools of Business.
- The Robert R. McCormick School of Engineering and Applied Science (1909) offers the bachelor of science degree in applied mathematics, biomedical engineering, chemical engineering, civil engineering, computer engineering, computer science, electrical engineering, environmental engineering, industrial engineering, manufacturing and design engineering, materials science and engineering, mechanical engineering, and medical engineering (only for students enrolled in the Honors Program in Medical Education). All departments offer advanced study for graduate students. The McCormick School also offers master's degrees in biotechnology, engineering management, information technology, product development, and project management and, jointly with the Kellogg School, the master of management in manufacturing (MMM). McCormick programs are accredited by the Engineering Accreditation Council of the Accreditation Board for Engineering and Technology.
 - The Graduate School (1910) controls all advanced programs leading to the degrees of doctor of philosophy, master of arts, master of fine arts, master of public health, and master of science. *The Graduate School Handbook*, describing requirements for degrees in all schools and departments, is available online at the school's web site, www.tgs.northwestern.edu. Descriptions of individual graduate programs, with degree requirements and authorized courses, can also be found on that web site.
 - Summer Session (1920) provides summer programs for undergraduate, graduate, and visiting students.
 - The Medill School of Journalism (1921) offers the bachelor of science in journalism degree, master of science degrees in journalism and integrated marketing communications, and undergraduate certificate in integrated marketing communications. Medill is accredited by the Accrediting Council on Education in Journalism and Mass Communication.
 - The School of Education and Social Policy (1926) offers the bachelor of science and master of science in education and social policy and the master of science in learning and organizational change. Its teacher education programs are accredited by the Illinois Board of Education.

Chicago Campus

Schools and institutional divisions on the Chicago campus, in order of establishment, are as follows:

- The Feinberg School of Medicine (1859) offers the degrees of doctor of medicine and doctor of physical therapy. High school graduates accepted for the Honors Program in Medical Education can receive the MD degree from the Feinberg School seven or eight years after they enter Weinberg College, the McCormick School, or the School of Communication as freshmen. The Feinberg and McCormick Schools cooperate in biomedical engineering programs, and joint degree programs with the Graduate School and Kellogg School offer an MD degree as well as PhD, MPH, and MBA degrees. The Feinberg School has accreditation from the Liaison Committee on Medical Education, Accreditation Council for Continuing Medical Education, American Psychological Association, American Board for Certification in Prosthetics and Orthotics, American Physical Therapy Association, and Accreditation Council for Graduate Medical Education.
- The School of Law (1859) is dedicated to advancing the understanding of law and producing graduates prepared to excel in a rapidly changing world. The curriculum provides a superior foundation in legal reasoning, analysis, and writing as well as a thorough understanding of the structures and policies of the law. Communication, collaboration, and teamwork; cross-training in business; and a blend of a rigorous intellectual environment with a supportive, collegial community are hallmarks of the school. It offers the degrees of juris doctor, master of laws, master of laws in taxation, and doctor of juridical science. The School of Law and the Kellogg School offer a joint degree program allowing students to earn both juris doctor and master of business administration degrees in three years. Another joint program with Kellogg permits international and foreign-trained students to earn a master of laws degree and a certificate in business administration in one year. Students also may participate in a five-year program to earn a JD and a PhD in one of the social sciences. In addition, the School of Law offers a master of laws degree to executive students in Seoul, South Korea, and Madrid, Spain. The school is accredited by the American Bar Association and the Association for American Law Schools.
- The School of Continuing Studies (1933) is the continuing education division of the University, providing adults an opportunity to return to school part-time or full-time on evenings and weekends. Classes are offered on the Chicago and Evanston campuses, in the Chicago Loop, and online. Students may earn bachelor's and master's degrees and postbaccalaureate and professional development certificates or take courses for personal enrichment. Undergraduate degrees offered through SCS are conferred by Weinberg College and the School of Communication. In partnership with the Graduate School, SCS offers master of arts degrees in liberal studies, literature, creative writing, and public policy

and administration. In partnership with the Feinberg School of Medicine, SCS offers a master of science degree in medical informatics in on-campus and online formats. In partnership with Weinberg College's Department of Chemistry, SCS offers a master of science in quality assurance and regulatory science. SCS also offers a master of science in computer information systems, a master of arts in sports administration, and a certificate in clinical research and regulatory administration. In addition, SCS's postbaccalaureate and professional development certificate programs provide targeted study to prepare for graduate study or career advancement. SCS also administers Summer Session programs for the University and is the home of the Center for Public Safety and the Osher Lifelong Learning Institute.

Northwestern University in Qatar

Northwestern offers two academic programs at its branch campus in Qatar, one in journalism and one in communication. The Medill School of Journalism offers the bachelor of science in journalism degree; the School of Communication offers the bachelor of science in communication degree.

Although the Qatar campus operates on a semester rather than a quarter calendar, its curricula are closely modeled on those of the Evanston campus, from which a majority of the faculty and staff were drawn.

Northwestern University in Qatar admitted its first class in summer 2008. Northwestern was the sixth U.S. university — joining Carnegie Mellon, Cornell, Georgetown, Texas A&M, and Virginia Commonwealth Universities — to accept an invitation from the Qatar Foundation to establish a campus in Education City in the Qatari capital of Doha.

For more information about Northwestern University in Qatar, please visit www.qatar.northwestern.edu.

UNIVERSITY RESEARCH CENTERS

University research centers exemplify Northwestern's long-standing tradition of encouraging faculty to collaborate across the boundaries of traditional disciplines. By bringing together interdisciplinary teams of investigators to seek innovative solutions to some of the world's most challenging problems, these centers have profound implications for undergraduates; such research often alters theory and practice within an academic discipline and results in the development of new curricular programs.

- Many University research centers have special research programs for undergraduates. Students also may be involved directly with the centers through lectures or other special events. University research centers include the following:
- Argonne-Northwestern Solar Energy Research Center
- Roberta Buffett Center for International and Comparative Studies

- Center for Applied Psychological and Family Studies
- Center for Catalysis and Surface Science
- Center for Drug Discovery and Chemical Biology
- Center for Functional Genomics
- Center for Reproductive Science
- Center for Sleep and Circadian Biology
- Center for Technology and Social Behavior
- Center of Cancer Nanotechnology Excellence
- Chemistry of Life Processes Institute
- Institute for Bionanotechnology in Medicine
- Institute for Policy Research
- Institute for Sustainability and Energy at Northwestern
- Institute for Sustainable Practices
- International Institute for Nanotechnology
- Materials Research Center
- Nanoscale Science and Engineering Center
- Northwestern Institute on Complex Systems
- Northwestern Synchrotron Research Center
- Northwestern University Atomic and Nanoscale Characterization Experimental Center
- Program of African Studies
- Spatial Intelligence and Learning Center

For detailed information about these centers, see www.research.northwestern.edu/research/centers.

LIBRARIES

Undergraduates at Northwestern have access to a wealth of library resources and services. With more than 4.8 million volumes in the University Library system, the Galter Health Sciences Library, and the Pritzker Legal Research Center, Northwestern offers its students the 10th largest library collection among private universities in the United States. Undergraduates are encouraged to explore the full range of resources available to them and to develop their skills as information seekers.

Northwestern undergraduates have full access to interlibrary loan services and to materials from libraries worldwide. Through the Infopass program, students can gain admittance to other collections in the Chicago area, including those of the Newberry Library, the Field Museum library, the Art Institute of Chicago library, and other academic and private libraries.

University Library

“University Library” refers to the main library, which houses the University's major collections in the humanities and social sciences, as well as several specialized research collections; the adjoining Charles Deering Library, which houses fine arts and other specialized collections; the Seeley G. Mudd Library for Science and Engineering; the Geology Library; the Mathematics Library; and the Joseph Schaffner Library, which supports the research needs of students on the Chicago campus.

Northwestern's libraries offer many electronic and textual resources. NUcat, the online catalog of University

Library, provides bibliographic, location, and circulation status information for materials from these libraries. NUcat and many other resources and services are available on the web at www.library.northwestern.edu.

Main Library (Evanston Campus)

The main library building houses the social sciences and humanities collections in its three research towers.

The main library's Information Commons and Reference Room, both located on level 1, offer students research assistance and support. The Information Commons has staff to answer questions and 56 workstations for electronic access to information. The Reference Room offers in-depth research assistance, online reference services, and instructional services. The reference collection contains 55,000 volumes as well as extensive electronic resources.

Also located on level 1 are Circulation Services, the Periodicals and Newspapers Reading Room, and Interlibrary Loan. Occupying level 2 are the Marjorie Iglow Mitchell Multimedia Center, Forum Room, and Video Theater (for special programs and video presentations); Core/Reserve Collections; and a student lounge. The Mitchell Multimedia Center features a DVD collection of classic films, documentaries, and performing arts titles. The Core Collection holds 40,000 books in all disciplines, ensuring easy access and permanent availability of works essential to undergraduates. Core books may be checked out for three days.

Three special collections are located on level 5. The Curriculum Collection houses K–12 textbooks and children's literature. The Melville J. Herskovits Library of African Studies (popularly called *Africana*) is known internationally for its comprehensive collection of materials on every aspect of Africa. The Transportation Library, one of the major collections of its kind in the United States, specializes in transportation socioeconomic, law enforcement, police administration, and environmental impact statements.

Charles Deering Library (Evanston Campus)

The Charles Deering Library, attached to and only accessible from the main library, houses the Art Collection, the Government and Geographic Information and Data Services Department, the Charles Deering McCormick Library of Special Collections, the Music Library and Listening Center/Music Lab, and University Archives.

The holdings of Special Collections include 20th-century collections, underground press publications, women's movement literature, and numerous rare books, manuscripts, limited editions, and fine bindings.

The Music Library meets the curriculum, research, and performance needs of students and faculty at the Bienen School of Music. This library contains 300,000 scores, journals, books, manuscripts, and sound recordings. Students may listen to the extensive collection of recordings in the Music Library's Listening Center/Music Lab.

Featuring an extensive collection of federal, state, and international documents, the Government and Geographic Information and Data Services Department is a depository for documents of the United States, the United Nations, the state of Illinois, and the European Union, as well as selected publications of other international agencies and state and local governments.

University Archives holds material pertaining to every aspect of the history of Northwestern and serves as the repository for noncurrent official University records as well as a wide variety of other materials bearing on student life, faculty, and alumni. The collection, which is noncirculating, is open for research and reference use to members of the Northwestern community and the public.

Seeley G. Mudd Library for Science and Engineering, Geology Library, and Mathematics Library (Evanston Campus)

The Seeley G. Mudd Library for Science and Engineering houses books and journals in applied mathematics, astronomy, biological sciences, chemistry, computer science, engineering, and physics. Two smaller departmental libraries, the Geology Library in Locy Hall and the Mathematics Library in the Lunt Building, also serve the Evanston campus.

Joseph Schaffner Library (Chicago Campus)

The Joseph Schaffner Library in Wieboldt Hall serves the School of Continuing Studies, the evening Managers' Program of the J. L. Kellogg School of Management, and Medill School of Journalism graduate programs.

Other Libraries

The Galter Health Sciences Library, which serves the Feinberg School of Medicine, and the Pritzker Legal Research Center, which serves the School of Law, are located on the Chicago campus and are open to all Northwestern students. The collections of these libraries are listed in NUcat, the library's online catalog. Materials may be checked out directly or may be sent to Evanston libraries through online interlibrary loan request forms.

Also open to all Northwestern students are the outstanding collections on religion held in the United Library of Garrett-Evangelical and Seabury Western Theological Seminaries, located on the Evanston campus. The United Library's holdings are listed in NUcat.

INFORMATION TECHNOLOGY SERVICES

Northwestern University Information Technology (NUIT) is the principal campus unit charged with supporting the University community's use of technology. The full range of its services can be found online at www.it.northwestern.edu.

All Evanston and Chicago campus buildings are connected to the internal campus network and to the Internet

via high-speed networks. Each student living in a University residence hall has a wired and a wireless high-speed Internet connection. In addition, the University's more than 1,300 wireless access points allow students using laptops with wireless cards or wireless mobile devices to take advantage of the full range of online services from almost any location on either campus.

Although nearly all undergraduates have one or more personal computers, computing sites are abundant on campus. Some sites offer workstations arranged in a traditional computer lab, where an entire class can meet together and work with critical software programs and datasets. Other sites, such as the new Information Commons in University Library, offer digital collaboration areas where small groups can work together on projects. A high-tech conference room is also available for student meetings. The MediaWorks studio in the library's lower level offers high-end media production systems with tools to capture and edit video and audio, scan and manipulate photos, and develop web content and animation. Students also may check out video cameras from MediaWorks. For more details on NUIT's computing sites, please see www.at.northwestern.edu/ctg/labs.

Northwestern offers students a variety of online services for their University needs:

- CAESAR (www.northwestern.edu/caesar), a self-service application, allows students to register for classes, search class schedules and course offerings, obtain unofficial transcripts, view financial aid and student account information, maintain directory and emergency contact information, and much more.
- NUTV (www.tss.northwestern.edu/nutv/helpguide) is Northwestern's innovative system for delivering entertainment television and University channels to undergraduate residence halls via the campus data network on students' computers.
- Plan-It Purple (www.planitpurple.northwestern.edu) is an online calendar of activities at Northwestern.
- Course Management System (<http://course-management.northwestern.edu>) provides an efficient way for instructors to manage and distribute course materials and communicate with students. In addition, students can communicate and share information with each other online.

At the beginning of each academic year, NUIT welcomes new students to Northwestern with a newsletter, *Get Connected* (www.it.northwestern.edu/bin/news/GetConnected_current.pdf), introducing them to the University's electronic environment. It has helpful tips that include making the right computer and software purchases, understanding Northwestern's electronic identity (NetID), mastering online resources, and preparing to use the wide range of technology opportunities at Northwestern.

NUIT provides technology support through its web site and support center at 1800 Sherman Avenue on the Evanston campus. The center is Northwestern's primary

information resource for computing and networking. It provides phone consulting on University-supported hardware, software, operating systems, and computing facilities. Hours during the academic year are Monday through Thursday, 8 a.m. to 8 p.m.; Friday, 8 a.m. to 5 p.m.; Saturday, noon to 5 p.m.; and Sunday, noon to 8 p.m. Laptop support consultants also are available at various sites on campus. Check www.it.northwestern.edu/laptop for exact locations, dates, and times.

Residential networking consultants are available to support students in the residential halls.

For technology support the NUIT support center may be reached by calling 847-491-HELP (4357), e-mailing consultant@northwestern.edu, or clicking Online Live Support on the NUIT home page.

Students are encouraged to review University policies about technology rights and responsibilities at www.it.northwestern.edu/policies.

STUDENT SERVICES

Student Affairs

The Division of Student Affairs has three overarching goals:

- To provide essential student and institutional services, programs, and facilities
- To maintain high standards of care and effective advocacy for the well-being and safety of all students
- To emphasize and provide learning-focused co-curricular and extracurricular activities and programs that engage students constructively in University and community life; enable them to develop more holistically as competent individuals prepared to live in a complex, diverse, and interconnected world; and enhance and integrate their overall Northwestern experience.

Students are encouraged to take advantage of the wealth of opportunities and services available on campus. Each of the departments in Student Affairs offers multiple ways in which students can expand and enrich their learning experiences at Northwestern. See www.northwestern.edu/studentaffairs for links to all Student Affairs departments.

Student Affairs Office

The Office of Student Affairs in Scott Hall is a source of information and assistance for students, parents, and faculty and staff. The dean of students serves students who have personal and academic concerns and counsels students who believe they have been victims of sexual harassment and discrimination by other students.

Orientation and Parent Programs

The coordinator of orientation and parent programs plans and implements new-student orientation, organizes family weekend, and produces publications for parents of undergraduates.

Multicultural Student Affairs

The Department of Multicultural Student Affairs (MSA) supports Northwestern's institutional belief that cultural pluralism is a valuable part of the overall educational experience at Northwestern. As the umbrella for the Offices of African American, Asian/Asian American, and Hispanic/Latino Student Affairs, MSA plans and implements activities and educational programs through which students, faculty, staff, and alumni participate in cross-cultural communication, multicultural education, and outreach activities.

The directors of African American, Asian/Asian American, and Hispanic/Latino Student Affairs oversee support, services, and programs for their respective students.

African American Student Affairs

The services and activities of African American Student Affairs include support and referral on personal, academic, and career issues; tutoring in math, the sciences, economics, and writing; and coordination of educational programs and special events. The office is home to a number of student organizations and provides office and meeting space for students as well as staff. The programs of this office are designed to promote academic achievement, provide cultural and social outlets, and give voice to the needs and concerns of the African American student community.

Asian/Asian American Student Affairs

Asian/Asian American Student Affairs serves as a beacon of guidance, support, and empowerment and provider of comprehensive resources and opportunities for undergraduate students of Asian descent. Through a variety of programs and services, it strives to satisfy the needs and interests of these students and contributes to their intellectual, cultural, social, and professional development so that they may have fulfilling college experiences. Asian/Asian American Student Affairs also serves as a resource to the Northwestern community.

Hispanic/Latino Student Affairs

The mission of Hispanic/Latino Student Affairs is to plan and implement services and programs that complement the missions of Northwestern University and MSA, as well as to support the personal and career development of Hispanic/Latino students.

Services for Students with Disabilities

Services for Students with Disabilities (SSD) provides the tools, reasonable accommodations, and support services that students with disabilities need to fully participate in academic programming and other facets of university life. All students with verified disabilities, including invisible ones (learning disabilities, Attention-Deficit/

Hyperactivity Disorder, psychiatric disabilities, and hidden medical conditions), may be entitled to services. Accommodations are provided on a case-by-case basis.

SSD also seeks to raise awareness in the Northwestern community of the shared responsibility of making the University fully accessible to all students, including providing information to faculty about academic accommodations for students with disabilities.

Additional information is available on the SSD web site (www.northwestern.edu/disability) or by calling 847-467-5530 or e-mailing ssd@northwestern.edu.

Norris University Center

Norris University Center is the community center of the University. It provides programs and services that enhance the quality of campus life for students, faculty, parents, staff, alumni, and guests. Within Norris Center, Northwestern's many student organizations sponsor a variety of activities that promote social, cultural, and educational interaction outside the classroom. Cultivating a sense of community and a spirit of loyalty, Norris Center serves as a unifying force in the life of the University.

Additionally, Norris Center provides amenities and conveniences that enrich the quality of daily campus life for the University community. These include the campus bookstore, Norris Information Desk, a food court, meeting rooms, a full-service branch bank and multiple ATMs, Dittmar Memorial Art Gallery, a box office, a convenience store, WildCARD office, FedEx, Kinko's Copy Center, Cat's Corner Video, and 34 student organization offices. Other services include a game room, a variety of mini-courses, the Lesbian, Gay, Bisexual, and Transgender (LGBT) Resource Center, outdoor recreation equipment rental, audiovisual equipment rental, a craft studio, a coffeehouse, and plenty of places to meet and study.

Center for Student Involvement

Central to the mission of the Center for Student Involvement is support and advice for all student groups on campus. The center directly advises diverse student groups, including activist, preprofessional, cultural, theatrical, musical, and political groups. For more information on all the programs offered, see <http://norris.northwestern.edu/csi.php>.

Campus programming develops and implements social, cultural, and educational activities supporting the mission of Norris University Center. The wide variety of programs run by student employees provide opportunities for social interaction and for greater understanding and awareness of diverse cultures, religions, and ethnicities.

Student community service promotes engaged citizenship by supporting student service and philanthropy organizations and connecting students to community agencies in Evanston and the Chicago area. Among the programs coordinated are transportation to service sites, one-day service projects, and National Volunteer Week activities.

Leadership development programming aims to provide experiential and reflective opportunities through which students develop the values, knowledge, critical thinking, and interpersonal skills to become engaged citizens and responsible leaders. Students explore topics from social responsibility to understanding their personal leadership styles. Annual programs include CATalyst, Freshman Emerging Leaders Program, and Women in Leadership Series.

Lesbian, gay, bisexual, and transgender support, coordinated through the LGBT Resource Center, provides a safe space and a hub for organizations, resources, services, and programs of interest to the LGBT and allied community at Northwestern. The center's aim is to increase visibility and awareness of issues surrounding gender and sexuality by uniting existing community entities and educational and outreach programming.

Organizational development programs help organizations promote healthy change by giving them tools for effective development and management.

Social justice efforts strive to provide information and support to all groups and individuals interested in promoting progressive social change. An office provides advising for social justice groups and an activist portal.

Residence Halls and Food Services

Students at Northwestern have a wide variety of living facilities available to them. Smaller residences accommodate as few as 27 students; larger units house more than 600. Most rooms are doubles, but residences also contain single, triple, and suite arrangements. A student may select a residential college, themed housing such as “healthy living,” a coeducational residence hall, or a same-sex facility. Some of the houses are older, ivy-covered residences; others are modern, recently built halls. Each building has its own character and spirit and its own distinct advantages.

Approximately 4,000 undergraduate students live in the University's residence halls; another 800 students have chosen to live in fraternity and sorority houses. The approximately 3,000 remaining undergraduates commute from home or live off campus.

The residence halls bring together individual students with diverse backgrounds and various interests. Each residence hall is free to set its own norms of behavior within the general guidelines of the law and University policy. Students adopt constitutions and elect their own hall officers. Living in a residence hall makes a student a member of its government, with the rights, privileges, and responsibilities of membership.

Residence hall activities are planned by the elected officers and developed by the residents to provide social, academic, and cultural experiences. These programs are financially supported through voluntary social fees.

Students take their meals at any of the six dining facilities located in the larger residence halls. Twenty meals are available each week: breakfast, lunch, and dinner, Monday

through Saturday, and brunch and dinner on Sunday. Unlimited, traditional, and block meal plans are available. All plans include a quarterly allocation of points, which may be used for guest meal purchases and at on-campus restaurants. The unlimited plans offer the best value.

Complete information about Northwestern's residences, including rental rates, is e-mailed to applicants after they have been admitted to the University and paid the required tuition deposit.

Health Service

The University maintains a health service for students, including a laboratory, radiology suite, and health education program at Searle Hall. Students registered for full-time study (as defined by their program and the registrar) are entitled to the full privileges of this service.

Full-time students must comply with Illinois state and Northwestern University health, immunization, and insurance requirements, which are described in Health Service and insurance office letters sent to them after they are accepted to the University. Students who fail to comply will be subject to late fees, and their registration will be withheld until these requirements are met.

All students are required to have health-care insurance coverage. For information about the program offered through the University, consult the insurance office.

Counseling and Psychological Services

Counseling and Psychological Services (CAPS) is the University's primary counseling resource. CAPS counselors, social workers, psychologists, and psychiatrists offer students a variety of academic and personal services, including individual and group counseling, crisis intervention, and psychoeducational and developmental programming. When students have problems, talking with an experienced counselor often can provide relief. Students may talk with a counselor confidentially about specific problems such as managing stress and difficult relationships or about nonspecific feelings of anxiety or loneliness.

CAPS offers group counseling on eating behavior, self-esteem, sexual identity, shyness, grief, stress management, self-exploration, and relationship enhancement. Groups and topics may be added in response to student interests or needs.

While there is a limit of 12 individual CAPS counseling sessions, this office can refer students who will benefit from additional help to other appropriate and affordable counseling providers in the community. Students who participate in group counseling are still eligible for 12 individual sessions.

Counseling is available to full-time students (those registered for at least three courses). Crisis intervention and consultation, assessment, and referral resources are available to part-time students.

University Career Services

University Career Services is a centralized career center, providing a full spectrum of career counseling and advising services, workshops, programming, and special events for undergraduate and graduate students and alumni. It aims to help students translate their superb Northwestern education into excellent professional opportunities, including successful job and internship searches and graduate work. Services include

- walk-in and individual appointments for confidential career counseling, career assessments, preparation for job and internship searches and graduate studies
- help with the internship and job search processes, including strategizing, résumé review, mock interviewing, and advice on salary negotiations
- workshops and outreach programming to the campus community
- electronic databases offering access to internships and full- and part-time jobs
- CareerCat, a career management system that offers access to on-campus interviews for students, easy online registration, and other features
- campus recruiting visits and information sessions by hundreds of employers
- credential, dossier, and recommendation files services

Annual special events include fall and winter job fairs, internship programs, and career discussion groups.

The Career Information Center offers current resources and publications on industries and occupations, internship opportunities, employer contacts, salary information, and graduate and professional school preparation. An outreach office is located in the main library.

Students are encouraged to register with University Career Services at www.northwestern.edu/careers. Offices are at 620 Lincoln Street and on the second floor of the north tower of University Library.

University Chaplains

The Office of the University Chaplains provides support for religious life at Northwestern. The Alice S. Millar Chapel and Religious Center, which includes Parkes Hall and the Jeanne Vail Meditation Chapel, has facilities for religious programs and services such as lectures, study groups, discussions on faith and life, weddings, baptisms, and other special events. The facilities are available to recognized religious groups. Events may be scheduled through the chaplains' office.

The University chaplains also work closely with denominational religious centers on campus sponsored by Protestant denominations, the Roman Catholic Church, and the Jewish community. University chaplains and campus ministers and rabbis are available to meet with individuals and groups as counselors, teachers, and resource persons.

Student religious organizations are recognized through the Office of the University Chaplains. The chaplains

serve as the University's liaison with all student religious groups. For information about the recognition process, contact the office to make an appointment (847-491-7256).

Information about campus religious organizations is published on the Office of the University Chaplains' web site, www.northwestern.edu/chaplain.

Judicial Affairs Office

The judicial affairs director and staff are responsible for adjudicating violations of University rules and regulations. Disciplinary matters are resolved administratively or through the University Hearing and Appeals System (UHAS) and the Sexual Assault Hearing and Appeals System (SAHAS).

Fitness and Recreation

All students at Northwestern are strongly encouraged to participate in University-sponsored sports, fitness, and recreation activities, which include intramural, club, informal, and instructional sport and fitness programs.

Intramural competition is conducted in a variety of individual and team sports. League play and tournaments are provided for men and women, both separately and recreationally. Competition is organized for individuals and teams, by independent groups, living units, fraternities, sororities, and University departments and organizations.

Sport clubs offer competitive and noncompetitive experiences. Extramural competition, with outside institutions and sports groups, is available in baseball, basketball, boxing, crew, cycling, equestrianism, fencing, golf, gymnastics, ice hockey, lacrosse, power lifting, rugby, running, sailing, ski racing, soccer, squash, synchronized skating, table tennis, tennis, triathlon, Ultimate Frisbee, volleyball, and water polo. Noncompetitive special-interest clubs include aikido, karate, taekwon do, and judo. Clubs are student directed.

Drop-in recreation periods are scheduled throughout the day and evening at Blomquist Recreation Center, Patten Gymnasium, and the Henry Crown Sports Pavilion, Norris Aquatics Center, and Combe Tennis Center. Included are facilities for badminton, basketball, cardiovascular activities, floor hockey, group fitness programs, jogging, racquetball, squash, swimming, tennis, volleyball, and weight training.

Noncredit instructional sports classes are offered in a variety of areas. Students can register for sports and fitness classes by visiting the recreation registration office in the sports pavilion and paying a nominal fee. Free cardiovascular and strength training group fitness classes are available for registration at any time. The Sailing Center offers instructional and informal sailing programs for beginning and novice sailors; the fleet consists of 420 class and laser sailboats as well as Windsurfers. Information about all class offerings can be found in the *FitRec* guide and on the Fitness and Recreation web site (www.fitness.northwestern.edu).

International Office

International students, visiting scholars, and staff will find assistance for themselves and their families at the International Office. Although the main focus is immigration related, the office provides a variety of programs and services that enhance the educational experience of the international population. Students and scholars have an opportunity to explore Chicago and the surrounding communities; deal with cultural adjustment issues; and attend workshops on immigration issues and career and employment seminars. The office also coordinates new student orientation for international students and scholars and serves as an information center for locating services and activities available both on and off campus.

A volunteer organization, the Community Council for International Students, works effectively with the office to provide international visitors such services as English language tutoring, the International-American Women's group, and a play group for children.

More information on the office's services can be found at www.northwestern.edu/international.

Women's Center

The Women's Center is a gathering place for all students, staff, and faculty where the achievements of women are celebrated. It serves the needs of all University women across lines of race, class, and sexual orientation, with the goal of achieving gender equity. The center provides educational programming with a particular emphasis on women's health, women and leadership, career and professional development, safety and self-defense, stress management, and issues of balancing work and family or other work/life concerns. The center provides advocacy services for women and men who have experienced sexual harassment, sexual assault, relationship violence, and discrimination. Many of its goals are achieved through outreach and coalition building. Counseling services are provided through individual appointments and support groups. Additional services include a referral service and resource library. Students can call 847-491-7360 or 312-503-3400 for information on programs or services, or they can check out the web site www.northwestern.edu/womencenter.

UNIVERSITY POLICE

The University Police Department is responsible for crime prevention, law enforcement, parking control, special events, and emergency management on both the Evanston and Chicago campuses. University Police officers are on duty 24 hours a day, seven days a week. All officers are police academy graduates with full police authority; most have bachelor's degrees.

The police division on the Evanston campus provides a number of services, including customized crime prevention programs. Specialty training programs include rape aggression defense and CPR. Other services provide

unlocking of vehicles, residence hall security checks, sale of bicycle locks (at cost), and loan of battery jumper cables. Emergency phones on campus, located in yellow or black boxes with blue lights above, automatically connect with University Police when a person pushes the button.

Additional information about campus crime and crime prevention programs is available on the University Police web site (www.northwestern.edu/up) or by requesting a copy of "Campus Safety: A Shared Responsibility" from the University Police Department, 1819 Hinman Avenue, Evanston, Illinois 60208-1320.

Motor Vehicles

Regulations governing the possession, operation, and parking of motor vehicles on the Evanston campus are described in the parking regulations handout available at the Parking Office, 1819 Hinman Avenue, or online at www.northwestern.edu/up/parking.

Parking permits are required in campus lots from 7:30 a.m. to 4 p.m. Monday through Friday (official holidays excluded), except in lots that are designated in the regulations as 24-hour enforced. Parking on campus is available only to seniors living on campus and to students living outside the designated walking zone. Ryan Field remote parking is available to all students. Exceptions to these rules may be granted only by the Parking Committee.

Personal Losses

The University is not responsible for the loss of or damage to personal property belonging to students in any building it owns, whether the loss or damage occurs by theft, fire, or an unknown cause.

IDENTIFICATION CARDS

The University identification card (WildCARD) identifies registered students and should be carried at all times. The WildCARD is the property of the University and is not transferable; its privileges may be canceled at any time the card is misused. Students are required to surrender their WildCARD to University officials upon request.

The student's ID number is encoded on the card and indicates whether the student is currently registered and if the card is valid. The card identifies the holder for admission to the library during hours of limited access and is needed at all times to borrow books. If a student has a meal plan, the WildCARD admits the student to residence hall dining facilities. It also identifies the holder at the Health Service, Norris University Center, student functions and elections, and University athletic events.

Lost or stolen cards should be reported to the WildCARD office, where replacement cards are issued. For the cost of replacing an ID card, see Service Fees under Tuition and Fees in the next section of this catalog.

Undergraduate Education

ADMISSION

General Requirements for Admission

Northwestern University attracts and enrolls a student body of high ability that reflects a variety of talents, ideas, backgrounds, and experiences, thereby contributing to the diversity of the campus community.

Candidates for admission should demonstrate a level of performance in curricular and extracurricular areas that indicates they will be able to compete successfully in a competitive academic environment. In the selection of students, careful attention is given to the ability of each candidate as evidenced by academic records and the results of entrance tests as well as by character and personality. The University attempts to select students who are committed to scholarship and who have shown a willingness to become involved in their expressed interest areas. In determining whether to accept a candidate, the University considers

- secondary school record
- college record (required for transfer candidates)
- recommendations from school officials and other persons who have information pertinent to the candidate's probable success at Northwestern
- results of required or recommended tests (All candidates must submit the Scholastic Assessment Test [SAT] Reasoning Test or the American College Test [ACT] Plus Writing. Candidates for certain special admission programs and all home-schooled applicants must submit the SAT Subject Tests specified in the following sections. SAT Subject Tests are recommended for other candidates.)
- music audition (required of Bienen School of Music candidates)
- the candidate's statements on the application and other evidence of special skills, such as writing, art, music, mathematics, and science, or of special accomplishments in extracurricular areas of interest
- any other information received by the University that bears on the candidate's readiness for study at Northwestern

SAT Subject Tests

Recommended for All Applicants

- Weinberg College of Arts and Sciences, School of Communication, School of Education and Social Policy, Medill School of Journalism, and Bienen School of Music: three of student's choice, in three different subject areas (math, English, social sciences, natural sciences, or foreign language)

- McCormick School of Engineering and Applied Science: Mathematics I or IIC, Chemistry or Physics, and a third subject of choice

Required for Special Admission Programs and Home-Schooled Applicants

- Honors Program in Medical Education: Mathematics IIC and Chemistry
- Integrated Science Program: Mathematics IIC, Chemistry or Physics, and an additional science
- Home-schooled applicants: Mathematics I or IIC and two other SAT Subject Tests of the applicant's choice from different subject areas (i.e., not two science, two foreign language, or two history, etc.).

Required Subjects

A broad academic experience in high school is the best preparation for admission to Northwestern. Whatever fields of study students follow, the best foundation consists of reading, writing, and mathematics. The value of thorough training in fundamental subjects cannot be overemphasized.

In considering the academic record of a candidate for admission to Northwestern, the Office of Undergraduate Admission notes the subjects studied and the grades received. The student's record should include a minimum of 16 units. (A unit represents a course studied for one year.)

The subject recommendations in the following list represent the minimum requirements for entrance to the University. Allowances are made to permit students to pursue special areas of academic interest. Most applicants present more academic subjects than the minimum.

Required Units

Weinberg College of Arts and Sciences, School of Communication, School of Education and Social Policy, Medill School of Journalism, and Bienen School of Music: 16 units, divided among the following academic areas:

- English: 4 units
- foreign language: 2 to 4 units
- mathematics: 3 to 4 units
- laboratory science: 2 to 3 units
- history/social studies: 2 to 4 units
- electives: 1 to 3 units in the above academic areas

Students preparing for college are strongly advised to take four years of work in English with as much emphasis

on composition as the curriculum allows. Two units of the same foreign language should be taken; three or four years are strongly recommended.

The McCormick School of Engineering and Applied Science requires a sound secondary school education as described above, with strong preparation in mathematics and science. Specifically recommended are

- mathematics: 3½ to 4 units (the minimum requirements for mathematics include algebra [2 units], plane geometry [1 unit], and trigonometry [½ unit]; many entering McCormick freshmen will have taken calculus [1 unit])
- science: 2 units (credit in both chemistry and physics is recommended)

Credit in other subjects should bring the total to 16 units or more, including 4 units of English and work in social studies and foreign languages.

Admission Notification

Northwestern offers freshman candidates a choice of two notification plans, Early Decision and Regular Decision. Early Decision is a binding admission commitment. Candidates accepted to Northwestern under Early Decision must withdraw all other university applications.

The table on the next page outlines these plans, the notification plans for transfer students, and the financial aid application procedure, including deadlines and the forms available through the College Scholarship Service.

Admission Procedure

To be considered for admission to Northwestern, candidates must complete the following three steps:

- Complete both the Common Application and the Northwestern Supplement. You may apply online at www.commonapp.org or request a paper application from the Office of Undergraduate Admission, Northwestern University, 1801 Hinman Avenue, P.O. Box 3060, Evanston, Illinois 60204-3060. Applications for admission may be submitted before candidates take the standardized tests required for college admission.
- Arrange with the officials of their high school to complete and forward the Secondary School Report to the Office of Undergraduate Admission. All candidates should have their records through the sixth semester sent to Northwestern as early in the senior year as possible. Regular Decision candidates should have seventh-semester grades sent as soon as they are available.
- Take standardized tests as described on pages 16 and 18.
- If applying for admission to the Bienen School of Music, present a music audition in person or a high-quality recording. (Audition guidelines will be furnished on request.)

Application to Dual Bachelor's Degree Programs

A student interested in taking advantage of the opportunity to receive bachelor's degrees from two different

Northwestern undergraduate schools in five years must apply to both schools. It is possible to be admitted to only one or both schools, since applicants are considered for each school separately.

Programs available include the following:

- BA/BS in liberal arts and engineering
- BA/BMus in liberal arts and music
- BS/BMus or BS/BAMus in engineering and music
- BSJ/BMus or BSJ/BAMus in journalism and music

To apply to any of the first three programs, simply select it on the Northwestern Supplement to the Common Application.

Students interested in the liberal arts and engineering program need to apply and be accepted to the McCormick School first. As soon as possible after enrolling, they should consult with Weinberg's Office of Undergraduate Studies and Advising and the McCormick undergraduate engineering dean about enrolling in the BA/BS program.

For descriptions of the dual bachelor's degree programs, see page 34 in the Cross-School Options chapter.

Special Admission Programs

The following undergraduate programs at Northwestern have special application requirements.

Honors Program in Medical Education

A student wishing to be considered for the Honors Program in Medical Education (HPME), which provides simultaneous admission to undergraduate study and medical school at Northwestern, indicates interest by submitting the HPME Application Request (available at www.feinberg.northwestern.edu/hpme/application.html) before December 1 and sending the required standardized test scores to Northwestern. If the request is approved, the student then must submit the special HPME application by the appropriate deadlines (see the Application and Testing Deadlines table on page 18) in addition to the regular Application for Admission to Weinberg College, the School of Communication (human communication sciences major only), or the McCormick School.

For information about HPME, see page 35 in the Cross-School Options chapter of this catalog.

Integrated Science Program

A student wishing to be considered for Weinberg College's Integrated Science Program (ISP), which provides a rigorous background in the major scientific disciplines and mathematics and can lead to a bachelor's degree in three years, must complete the special ISP application (available at www.isp.northwestern.edu/admissions/applying.html). The Common Application and Northwestern Supplement to the Common Application are also required.

For information on ISP, see page 113 in the Weinberg College chapter of this catalog.

APPLICATION AND TESTING DEADLINES: NOTIFICATION PLANS

Regular Programs for Fall Quarter Matriculation

Freshman candidates for other quarters should request information from the Office of Undergraduate Admission.

	Early Decision	Regular Decision
Apply by	November 1	January 1
Take SAT Reasoning Test or ACT Plus Writing by	November test	January test
If taking SAT Subject Tests, take by	November test	January test
To apply for financial aid, file CSS PROFILE by	December 1	February 15
and file FAFSA by	May 15	February 15
Northwestern mails decision letter by	December 15	April 1
Applicant's reply and nonrefundable tuition deposit by	February 1	May 1

Honors Program in Medical Education

	Regular Decision
HPME preapplication deadline	December 1
HPME application deadline	January 1
Freshman application to Northwestern by	January 1
Take SAT Reasoning Test (or ACT Plus Writing) by	December test
Take two SAT Subject Tests by	December test
To apply for financial aid, file FAFSA and CSS PROFILE by	February 15
Northwestern mails decision letter by	April 1
Applicant's reply and nonrefundable tuition deposit by	May 1

Transfer Students for Any Quarter of Matriculation

	Fall	Winter	Spring	Summer
Apply by	May 1	November 1	February 1	May 1
(Because space is limited in some programs, transfer candidates should apply well before these dates)				
Take tests by	May 1	November 1	February 1	May 1
(SAT Reasoning Test or ACT Plus Writing; scores from previous academic years are acceptable)				
Apply for financial aid by	April 1	October 1	January 1	April 1
(Consult with Office of Undergraduate Admission)				
Northwestern mails decision letter as soon as possible after the application deadline; a reply is due within two weeks.				

Mathematical Methods in the Social Sciences

A student interested in Weinberg College's program in Mathematical Methods in the Social Sciences (MMSS), which is designed for students with high mathematical aptitude and strong interest in social problems and issues, must complete the special MMSS application (available at www.mmss.northwestern.edu/admission/freshman.html). The Common Application and Northwestern Supplement to the Common Application are also required.

For more information on MMSS, see page 122 in the Weinberg College chapter of this catalog.

Advanced Placement

In nearly all areas Northwestern awards credit for Advanced Placement Examination scores of 5; in some cases credit is also awarded for scores of 3 and 4. Specific questions concerning Northwestern's advanced placement policies should be addressed to the Weinberg College Office of Undergraduate Studies and Advising. In some fields, advanced placement and/or credit can be earned through appropriate performance on examinations administered by Northwestern departments.

Northwestern awards credit for distinguished performance on the British General Certificate of Education (A-Level) Examinations, the higher-level examinations of the International Baccalaureate, and certain other foreign university entrance examinations.

Northwestern also recognizes college credits earned by students before entering the University as freshmen. To qualify for such recognition, the courses must be similar to courses offered at Northwestern, must have been taken at a college or university whose accreditation is recognized by Northwestern, must not have been submitted in partial fulfillment of the normal secondary school graduation requirement, and must have been given on the campus of a college or university and taken primarily by bona fide college students (i.e., high school graduates pursuing a college degree). If candidates have taken college courses that do not qualify for credit under these conditions, they should take Advanced Placement Examinations in the appropriate subjects.

Transfer Candidates

Students may be considered for admission as transfers from another college or university provided they have completed one full year of university studies by the application deadline, are in good standing at their postsecondary institution, and have maintained at least a B average in rigorous academic courses. If students have been enrolled full-time at any institution except Northwestern, they cannot be considered for freshman admission and must meet the criteria to apply as transfer candidates. Some undergraduate schools at Northwestern enroll transfer students in the fall quarter only. Transfer students must complete at least the last 23 quarter-courses and six full-time quarters in residence at Northwestern to be eligible for a bachelor's degree.

Transfer Admission Procedure

To be considered for admission, transfer students must complete the following steps:

- File the completed Common Application and Northwestern Supplement, available from the Office of Undergraduate Admission, Northwestern University, 1801 Hinman Avenue, P.O. Box 3060, Evanston, Illinois 60204-3060.
- The application can also be downloaded or completed online at www.commonapp.org.
- Arrange with the officials of the high school to forward the complete high school report to the Office of Undergraduate Admission.
- Submit results of the SAT Reasoning Test or the ACT Plus Writing.
- Arrange with the registrar of each college previously attended to forward transcripts of record to the Office of Undergraduate Admission.
- Request a statement of good academic and social standing from the dean of students at the college from which the student is transferring.
- Present a music audition (in person or a high-quality recording) if applying for admission to the Bienen School of Music (audition guidelines will be furnished on request).
- Submit application for admission before the deadline of May 1 (for admission in the fall quarter), November 1 (winter), February 1 (spring), or May 1 (summer).

Evaluation of Credits

Transfer candidates who are accepted by Northwestern will receive a preliminary evaluation of the credits they have earned to date before matriculation, assuming all pertinent transcripts have been received. An official evaluation of credits earned will be made by the Office of the Registrar when an admitted student matriculates. To read the transfer credit policy, go to www.registrar.northwestern.edu/graduation/transferring_non-NU_Courses.html#coll_credit_hs.

Foreign Students

In addition to meeting all regular admission requirements, foreign students are required to present evidence of their ability to speak, read, and write the English language and to meet the financial obligations associated with their study at Northwestern. Students for whom English is a second language must present the results of the Test of English as a Foreign Language (TOEFL). Foreign students must have achieved outstanding school records to be considered for admission. Foreign transfer candidates may apply for fall quarter admission only and must submit their completed applications by May 1.

Returning Adult Students

Adults who interrupt their education following high school or during college and, after several years, decide to

complete their undergraduate education are considered “returning adult students” by the Office of Undergraduate Admission. Ordinarily, returning adult students have been out of high school for seven years or more. Depending on the amount of college credit previously earned, they apply as returning adult or transfer candidates.

Evening Students

The School of Continuing Studies (SCS), Northwestern’s continuing education division, offers courses in the evenings and on Saturdays for adult students seeking personal enrichment or professional mobility, preparation for graduate study, or pursuit of a degree or a certificate. Quarter-long courses are offered on the Chicago and Evanston campuses.

SCS allows adults with a college degree, or some college credit and good standing, or a high school diploma but no prior college work to enroll in courses as students at large. Students who wish to earn a degree or a certificate should speak with an academic adviser about admission.

More information about SCS is available on its web site, www.scs.northwestern.edu.

Special Students

Properly qualified persons who demonstrate a need for certain courses required for their academic or professional advancement may apply to the University as special nondegree-seeking students. Applicants must present official transcripts of previous study and show evidence of successful academic achievement. Persons who do not meet these requirements should not apply.

Enrollment as a special student does not constitute admission to any degree program at the University, and credits earned as a special student may not be counted toward a degree at Northwestern. (Exception: Special students who subsequently become eligible for admission into the School of Continuing Studies may apply these credits toward a degree.) Special students are granted academic credit for course work satisfactorily completed, and these credits may be transferred to another institution.

Special students are admitted with the understanding that they may register only after students working toward Northwestern degrees have registered. Some classes will be closed, and some schools or departments may not accept nondegree students. These restrictions do not apply to Summer Session.

Special students are not permitted to enroll in 399 or 499 Independent Study courses.

All tuition and fees for special students are charged at the undergraduate rate. Complete instructions and application forms may be obtained from the Office of Special Students, 162 Walter Annenberg Hall, Northwestern University, Evanston, Illinois 60208-2650.

Auditors

Course audits for degree-seeking undergraduates are not given formal recognition by either Northwestern or the Office of the Registrar. Only students in the School of Continuing Studies or summer nondegree students are permitted to formally audit classes.

Auditors are persons who enroll in a course to observe or listen only; they are not permitted to engage in class discussion, submit written or oral assignments, or take examinations, and they do not receive academic credit. Auditors are charged a special tuition rate. Consult with the Office of Special Students or the School of Continuing Studies.

FINANCIAL AID

The University awards financial aid on the basis of need as determined by the financial circumstances of the family. Aid can be a loan, part-time employment, a grant/scholarship, or a combination of these. The funds may come from state, federal, institutional, or private sources. Students are required to reapply for financial assistance each year and maintain the requirements established by the Committee on Financial Aid. The amount of financial aid may change based on the family’s financial circumstances. For entering freshmen, financial aid generally is renewable for up to 12 quarters of enrollment. If a student has been enrolled and has not applied for and/or has not received financial aid, the quarters of enrollment will count toward the maximum eligibility. For transfer students, the maximum number of quarters of assistance depends on the number of quarters of transfer credit accepted, as determined by the Office of the Registrar (i.e., a student who transfers with 3 quarters of acceptable credit is eligible for 9 quarters of assistance). Transfer students requiring additional quarters of aid must petition the Committee on Financial Aid.

During the 2008–09 academic year, undergraduate students at Northwestern received more than \$89 million in grant assistance: \$78 million from Northwestern, \$7.4 million from federal and state governments, and \$4.4 million from outside sources. The average Northwestern need-based grant for the 3,660 students receiving aid was \$23,844. In addition, \$21.5 million in loan assistance and 3,000 campus jobs were available.

Assistance that is not need based is provided by the Reserve Officers Training Corps (see Military Studies) and from other sources discussed in the Northwestern publication “Financial Aid at Northwestern,” distributed by the Office of Undergraduate Admission. For more information consult www.ugadm.northwestern.edu/freshman/financing.

Who Should Apply

Any undergraduate students who believe they cannot afford the full cost of a Northwestern education may apply for financial aid. Since funding is limited, institutional assistance may not be available to transfer students for the first year of study.

Application Procedure

Applicants request consideration for financial aid when submitting the Application for Admission. The Committee on Financial Aid cannot make a decision until the University has admitted the applicant. Candidates should do the following:

- Complete and submit the Common Application and the Northwestern Supplement.
- File the Free Application for Federal Student Aid (FAFSA) and the College Scholarship Service/Financial Aid PROFILE (CSS PROFILE) and request that copies of both reports be sent to Northwestern.
- Submit parent and student federal tax returns to the College Board's Institutional Documentation Service.
- File the applications as soon as the need for assistance is realized but not later than the dates indicated in the table titled Application and Testing Deadlines: Notification Plans (page 18).

Returning students should consult the web site <http://ug-finaid.northwestern.edu> for reapplication instructions, deadlines, and updated policies.

Students are expected to consult their CAESAR accounts to verify that all required applications and additional information have been received by the Office of Financial Aid.

Satisfactory Academic Progress and Financial Aid

Satisfactory academic progress at Northwestern means the completion of a minimum full-time course load (9 academic units) at the end of each 3- or 4-quarter cycle of enrollment. Withdrawn, incomplete, and repeated courses are not counted toward that minimum.

Eighteen full-time quarters are the maximum for completing a four-year program, 22.5 quarters for completing a recognized five-year program.

Each school at the University has specific qualitative measurements of progress, which are listed in its chapter of this catalog. Although Northwestern does not require students to have a C average at the end of their sophomore year as long as they have made progress toward a degree, federal regulations state that a student without a C average or equivalent or the required academic standing at the end of the second academic year may not receive further federal aid.

If a student fails to maintain academic progress as described above, financial aid eligibility is limited to one more quarter of enrollment as a probationary period. During this quarter the student must complete course

work equivalent to at least three units and earn a C or better in each class. The student will lose financial aid eligibility if he or she fails to meet these requirements but may reestablish eligibility by successfully completing a full-time quarter of enrollment at Northwestern without federal or institutional assistance.

A student may submit a written appeal within two weeks of being notified of aid cancellation because of failure to meet satisfactory academic progress requirements. The appeal must be specific and document any unusual or mitigating circumstances such as illness, family hardship, or a death in the family.

The above procedure is followed except in these cases:

- Students returning to the University after academic dismissal are eligible only for federal assistance during the first quarter of full-time study, when satisfactory academic progress is being reestablished. After completing course work equivalent to three units with a grade of C or better in each class, students are considered to be making satisfactory academic progress and become eligible for federal and institutional financial assistance in subsequent quarters.
- When students have been in attendance at Northwestern for 12 quarters or the equivalent, they are ineligible for more financial assistance from the University even if they are maintaining satisfactory academic progress. The exceptions are students admitted to the five-year BA/BMus and BS in engineering/BMus programs; they are eligible for University funds for up to 15 quarters of enrollment. Students pursuing other double-degree opportunities are eligible for only federal and state funding.
- The Committee on Financial Aid may grant a continuation of aid when unusual circumstances exist and students demonstrate academic promise.

FINANCIAL REGULATIONS

Tuition and Fees

The cost of education at Northwestern is only partly covered by tuition charges. The balance is met by the income from invested funds and by the gifts of alumni and other supporters of the University.

Tuition and fees listed below are for 2008–09 unless noted otherwise. Rates are subject to change without notice, and increases should be expected in subsequent years. For tuition purposes, the term course refers to course credit. Some course offerings carry more than one course credit.

Undergraduate Tuition

All undergraduate students in degree programs must conform to the Undergraduate Residence Requirement (see page 23). Full-time registration for all undergraduate degree-seeking students is three or more units of credit.

Tuition: each quarter	\$12,696
A student who takes more than four units of credit in a quarter will be subject to an overload charge if these credits are used to accelerate graduation. See the Undergraduate Residence Requirement for more complete information.	

Acceleration tuition: each course, each quarter	\$3,174
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Undergraduate Tuition:

Nondegree-Seeking Students and Exceptions

Full-time tuition: three or four courses each quarter	\$12,696
Registration exceptions (less than full-time or more than four units): each course, each quarter	\$4,518

Service Fees

Student Hospitalization Plan	
Required for all students unless they have equivalent hospitalization coverage	\$2,360
Study abroad administrative fee (not refundable)	
Non-Northwestern summer study abroad	\$750
Term fee (semester or quarter)	\$2,265
Annual fee (academic or calendar year)	\$3,700
Tuition deposit fee	\$400
Required for each new undergraduate student; applied on the first tuition bill and not refundable	
Application fee (not refundable)	\$65
Returned check service fee	\$35
Replacement WildCARD fee	\$15
Transcript fee	\$5
Makeup laboratory time, breakage fee	varies

Other Fees

Late registration fee	\$25
If fee is billed	\$30
For registering at other than the scheduled times	
Retroactive registration fee	\$225
For registering for a term after the last day of classes for that term	
Housing deposit fee	\$200
Late payment penalty fee	\$100
Associated Student Government	\$46
Activity fee, each quarter	
Athletic events fee	\$37
Student Health fee	\$67
For new students	
Dependent Hospitalization Plan	
Contact Student Health Office	
Field trip fee	varies
For courses in which field trips are required to earn credit	

Bills and Payments

The Office of Student Accounts issues student bills. A due date is shown on each University bill, and payment must be received by that date. Failure to receive bills is not sufficient cause to extend due dates.

Electronic Billing and Payment

Northwestern's preferred means of transmitting bills and receiving payments for tuition and fees is QuikPAY, the University's electronic billing and payment service. QuikPAY provides e-mail notification of each new bill, allows payments to be made online, and offers the option of receiving paper bills. QuikPAY is free to students and authorized payers such as their parents. Additional information can be found at www.northwestern.edu/sfs.

Installment Payment Plan

The University provides a tuition and fee installment payment plan, 9PAY, which offers the benefit of dividing the educational costs for the academic year into nine monthly payments. For information, contact the Office of Student Accounts, Northwestern University, 555 Clark Street, Evanston, Illinois 60208-1221, phone 847-491-5224, fax 847-467-2451.

Withdrawal from the University: Refunds

Students who withdraw from the University must immediately file a withdrawal form, available at the Office of the Registrar. The completed form, bearing the required signatures, must be filed at the Office of the Registrar.

The Office of Student Accounts considers the date the completed form is received at the Office of the Registrar as the effective date in making financial adjustments.

Tuition deposits are not refundable under any circumstances. Tuition, less the tuition deposit, and refundable fees are refundable depending on the percentage of time the student was enrolled in the quarter. The following policy applies to withdrawals:

- When or before the first 10 percent of the quarter has elapsed, 100 percent of the tuition (less the deposit) is refunded.
- After 10 percent but not more than 25 percent of the quarter has elapsed, 75 percent of the tuition is refunded.
- After 25 percent but not more than 50 percent of the quarter has elapsed, 50 percent of the tuition is refunded.
- After 50 percent of the quarter has elapsed, no refunds are given.

Residence and meal contracts are signed for the full school year. Students who leave a residence before the end of the year are liable for the entire year's rent or for charges up to the date another student takes the vacated space. Meal charges are assessed until the end of the week in which withdrawal is in effect. Adjustments may be made at the discretion of the Housing Office for students who for financial reasons

must make room and board arrangements other than those for which they first contracted.

Financial aid recipients who withdraw from the University may be required to return a portion of their Title IV funds to the federal programs as well as some of their state assistance, outside scholarships, and/or institutional financial aid. Three different calculations — the Institutional Refund, Return of Title IV Funds, and Return of Non-Title IV Funds — are used to determine such repayments. Students may request samples of the applications of these refund policies from the Office of Student Accounts or the Office of Financial Aid.

Changes of Registration

No refund or bill reduction is made on any course dropped after the fifth day of classes in the quarter.

Financial Obligations

Students whose University bills are overdue may not be given an academic transcript until all financial obligations are paid in full. Students whose accounts are overdue must pay a late payment penalty fee of \$100. The director of student accounts may cancel or prevent the registration of a student whose bills are past due.

Each student is liable for any costs associated with the collection of his or her past-due account, including but not limited to collection agency costs, court costs, and legal fees.

Supplemental Enrollment Benefit

Students who are unable to complete bachelor's degree requirements in 12 quarters due to circumstances beyond their control, and who have paid full-time tuition to Northwestern for 12 quarters, may petition the Residence Requirement Appeals Committee to enroll in their final quarter at no additional tuition charge. Transfer students who have paid full-time tuition to Northwestern for 9 quarters are also eligible.

A final quarter at no tuition charge is not available for students who choose a program that may take more than 12 quarters to complete or for students who have graduated. A final quarter at no charge is also not available for students who choose an optional program, such as study abroad, a double degree, double major, minor, or extra course work beyond that normally required for the degree. Further information is available from the Office of the Registrar at www.registrar.northwestern.edu.

UNDERGRADUATE RESIDENCE REQUIREMENT

The Undergraduate Residence Requirement (URR) is predicated on the principle that when a student receives a bachelor's degree from Northwestern University, the majority — and certainly the most advanced portion — of his or her academic work was completed on a Northwestern campus

as a full-time student under the instruction of Northwestern faculty during the regular academic year. Thus, being “in residence” for a quarter means that the student is enrolled during the fall, winter, or spring quarter at Northwestern, is being taught by or is under the supervision of Northwestern faculty, and completes three or more credits. It includes, for instance, the practicum in the School of Education and Social Policy and the Journalism Residency in the Medill School of Journalism. It does not include the Walter P. Murphy Cooperative Engineering Education Program in the McCormick School or most study abroad credits (see details below).

The URR applies only to undergraduate students seeking a bachelor's degree and must be completed in addition to the degree requirements established by the various school faculties. Its provisions are:

1. A student entering as a freshman is required to be in residence for 12 quarters in a four-year degree program or 15 quarters in an approved dual bachelor's degree program involving two schools. See page 34 for information on approved dual bachelor's degree programs.
2. A student entering as a freshman may gain exemption from up to three quarters of the required residency through any combination of a maximum of 12 credits earned through the Advanced Placement or the International Baccalaureate programs; a maximum of 12 credits earned through approved study abroad; credits earned through “credit by examination” at Northwestern; credits earned at Northwestern through less than full-time enrollment; and a maximum of four transfer credits from other (domestic) colleges or universities earned at any time prior to the final three quarters of residence. Each four such credits confer one-quarter exemption from the URR. Certain courses offered during the academic year through Northwestern's own study abroad programs (those carrying Northwestern course numbers and the SA designation) count directly as courses taken while in residence rather than toward exemptions from the URR.
3. A student who completes three or more credits in a single Northwestern Summer Session will gain exemption from one quarter of the URR. A second quarter of exemption may be earned by completing four credits in a second Summer Session. Summer courses offered through Northwestern's own study abroad programs and carrying Northwestern course numbers and the SA designation are also subject to these regulations.
4. A student who receives Northwestern transfer credit for non-Northwestern study abroad courses that do not carry Northwestern course numbers and the SA designation must be in residence for either the final three quarters or 4 of the last 6 quarters before the awarding of the degree.
5. A student who takes more than four credits in one quarter will be subject to an overload charge if these credits are used to accelerate graduation. (Acceleration

occurs when the total quarters completed by the student, including those exemptions allowed in items 2 and 3 above, at graduation total less than 12 for a single-degree program or 15 quarters in an approved dual bachelor's degree program involving two schools.)

6. A student entering as a transfer student will have his or her residence requirement determined at the time of transfer. In no case will the residence requirement be less than 6 quarters and 23 credits. The following regulations also apply:
 - o Each four units of credit transferred will reduce the 12-quarter residence requirement by one quarter. Transfer students may further reduce the residence requirement by up to one additional quarter by applying accepted AP credit. A maximum of four AP credits may be applied toward residency, regardless of the total number of AP credits accepted.
 - o Transfer students who have a residence requirement of 7 or more quarters may reduce the residence requirement by up to 1 additional quarter by participating in an approved study abroad program. Transfer students with a residence requirement of 6 quarters may participate in study abroad, but participation will not further reduce their residence requirement. (Study abroad on Northwestern programs with course work carrying Northwestern course numbers and the SA designation counts as described in items 2 and 3 above.)
 - o With the exceptions of limited AP credit and study abroad course work outlined above, those entering as transfer students from another institution may not apply any additional course work taken outside the University toward the URR. Such courses may be useful in meeting academic requirements but may not be used toward the URR.
7. Students may appeal for URR variances to the Residence Requirement Appeals Committee, which consists of the associate provost for University enrollment, the associate provost for undergraduate education, the University registrar, and two undergraduate school representatives from different schools who are appointed by their deans and serve three-year terms on a rotating basis.

For additional information, interpretation, or application of the URR, contact the Office of the Registrar, 633 Clark Street, Evanston, Illinois 60208-1118, 847-491-5234.

Returning Students

Students who withdraw from the University and wish to return must submit a Returning Student Application Form to the Office of the Registrar six weeks before the desired date of reentry. Students who want credit for course work taken at another institution must submit an official transcript to the Office of the Registrar. The Office of the Registrar will determine the extent to which credit earned away from Northwestern may apply toward the 12-quarter URR.

ACADEMIC REGULATIONS

Registration for All Students

The Office of the Registrar maintains a complete, up-to-date online class schedule, which can be found by selecting the "View the Quarterly Class Schedule" link at www.northwestern.edu/caesar.

- A quarterly reference copy may be downloaded from www.registrar.northwestern.edu/registration. Failure to read the registration information at www.registrar.northwestern.edu/registration or the printed class schedule does not excuse students from compliance with the information and regulations stated therein.
- The dates of registration for each quarter are announced in advance. Students whose initial registration occurs during the late registration period are subject to a late-registration fee. Inconvenience, illness, and other personal reasons for registering late are not accepted as reasons for waiving the fee. Late registration is permitted only through the fifth full day of classes in any quarter.
- Credit is not given for work in a course in which a student is not properly registered.
- Duplicate course entries remain on the student's permanent record and are used to calculate the cumulative grade point average. However, credit is awarded only once.
- Credit is not given for certain courses that are prerequisites for a more advanced course if the prerequisite is taken after the more advanced course has been completed. Waiver of prerequisites for admission to courses may be obtained from the instructor concerned or the department in which the course is offered.
- Undergraduate students may not enroll in fewer than three quarter-courses except by permission of the dean of their school. Permission is given only in extraordinary circumstances.
- In Weinberg College, undergraduate students may not enroll for more than four quarter-courses except by permission of the dean's office. This regulation applies to total credit for courses taken in other institutions in addition to credit obtained in residence at Northwestern. Additional tuition may be charged for excess registration (see Undergraduate Residence Requirement).

Changes of Registration

Changes in registration in fall, winter, and spring quarters are subject to the following provisions:

- In no case may a course be added after the fifth day of classes. No course may be dropped after the sixth Friday of classes.
- Undergraduate students may change registrations from grade to the pass/no credit (P/N) option or vice versa through the third Friday of the quarter. Check regulations of the individual schools for specific information on the P/N option.

- To add a class, students must log on to CAESAR and add the course to their record. Consent of the department or instructor may be required. See the class schedule for specific course information.
- To drop a course, students must log on to CAESAR and drop the course from the record. In most cases no special consent is required.
- Changes in ungraded sections (laboratory or discussion) before the add deadline must be made in CAESAR. Changes in ungraded sections after the add deadline may be made in the department and do not require notifying the registrar.
- A course dropped by the sixth Friday of a quarter does not appear on the permanent academic record, and no grade is recorded.
- Failure to drop a course within the time allowed is regarded as a failure and is recorded with a grade of F. (See also Withdrawal from the University: Refunds and Change of Registration under Financial Regulations.)

Registration in the School of Continuing Studies

The School of Continuing Studies, with locations in Evanston, Chicago, and the Chicago Loop, operates on the quarter system. SCS courses are designed primarily for working adults, and enrollment caps limit the registration of students enrolled in an undergraduate school. Undergraduates may take SCS courses only with the approval of the office of the dean of their school and only when the courses are not given during the day or when there are clear cases of conflict. Priority is given to students who need a course to complete a major. Such work is counted as a regular part of a student's registration.

To register for SCS courses, students must

- pick up a Dual Registration Form from the Office of the Registrar in Evanston
- secure approval from the office of the dean of their school
- turn in the form at the Office of the Registrar in Evanston before the first meeting of the class

To drop an SCS course, students must log on to CAESAR and drop the course.

Interschool Transfers

Undergraduate students who wish to transfer from one school or college of the University to another must have an interschool transfer approved by the dean's office of each school. A return to the original school must be approved in the same way. Approval of an interschool transfer is usually contingent on satisfactory performance in the original school. The policy concerning interschool transfer can be found at www.registrar.northwestern.edu/graduation/Inter-School_Transfers.html. Consult the academic calendar at www.registrar.northwestern.edu/calendars for appropriate dates to process an application for interschool transfer.

Cancellation of Registration

Students who complete advance registration for a quarter and later decide not to attend classes that quarter must notify the Office of the Registrar in writing before the first day of classes of the quarter to avoid being charged the applicable tuition and fees.

Withdrawal from the University

Students who wish to withdraw from the University after registering for classes in any quarter must file a withdrawal form (available at the Office of the Registrar). The withdrawal takes effect the day the completed form, bearing the required signatures, is received at the Office of the Registrar. Students who have taken the final exam may not withdraw and must take the grade they earned. (See also Withdrawal from the University: Refunds under Financial Regulations.)

Readmission to the University

Undergraduate and graduate students who have not registered for one or more quarters of an academic year must file at the Office of the Registrar an application to reenter no later than six weeks before the first day of registration of the quarter in which they plan to return.

Students are not required to file the application to reenter if they

- have registered during the spring quarter and intend to return in the fall
- have registered in the spring quarter and intend to return during Summer Session of the same year
- are students in the Graduate School who have attended the preceding Summer Session and intend to register during the next Summer Session and have not registered during the academic year

Students must obtain advance approval from the dean of their school if they wish to transfer credit for work taken elsewhere during an absence from Northwestern. An official signed and sealed transcript of that work must be furnished to the Office of the Registrar before the end of the next quarter in residence at Northwestern, or credit for such work is not allowed.

If a student interrupts a program of study for an extended period of time and if degree requirements are changed during this period, the new requirements normally must be met. Any modification of the requirements is made by the appropriate administrative officers of the school in which the student is registered.

Work at Other Institutions

After enrolling at Northwestern, students who want to study at other accredited institutions and transfer credit for that work to Northwestern must obtain advance approval of their proposed study. Forms for obtaining such approval are available at www.registrar.northwestern.edu/graduation/transferring_non-NU_Courses.html.

The McCormick School Academic Services Office also has forms available for engineering students, and the Medill Office of Student Life has forms available for journalism students. Students in Weinberg College should secure the appropriate Weinberg College forms (and a copy of the regulations governing study away from Northwestern) in the Weinberg College Office of Undergraduate Studies and Advising. Students also should check the regulations for the Undergraduate Residence Requirement.

If courses are taken elsewhere during an absence from Northwestern (or during the summer), an official transcript of the work must be on file in the Office of the Registrar before the end of the next quarter in residence at Northwestern, or credit for such work is not allowed.

Students may not register concurrently at Northwestern and at another institution and receive transfer credit for work taken at the other institution unless permission is granted in advance by the office of the dean of their school. This applies to evening courses as well as to regular courses in residence.

Application for a Degree

Undergraduates must file a degree application one calendar year before anticipated graduation. Students in Weinberg College, the Schools of Communication and Education and Social Policy, the Medill School of Journalism, and the Bienen School of Music must file their applications with the Office of the Registrar. McCormick School students must file with that school's Academic Services Office.

Academic Advising

Academic advising is an essential component of an undergraduate education. All freshmen are assigned an academic adviser through their school. Upperclass students may obtain academic advice through their major department, from the dean's office of their school, and — for issues that transcend school boundaries — through the University Academic Advising Center. For specialized academic advice — such as study abroad or field studies opportunities — consult the appropriate sources listed in the index.

Classification of Students

Students are classified as follows:

- senior: has completed at least 33 quarter-courses
- junior: has completed at least 22 but less than 33 quarter-courses (engineering co-op students are considered pre-seniors when they have completed 32 quarter-courses and seniors when they have completed 40 quarter-courses)
- sophomore: has completed at least 11 but less than 22 quarter-courses
- freshman: has completed less than 11 quarter-courses
- graduate student: has a bachelor's degree or equivalent and has been admitted to a graduate program
- special student: is not working toward a degree at Northwestern but is working for credit

- auditor: attends classes and listens to lectures but is not eligible to participate in class discussions or exercises and does not receive credit (not available to degree-seeking students)

For loan deferment and enrollment verification purposes, student status is defined as follows:

- full-time: enrolled in at least three quarter-courses or the equivalent
- half-time: enrolled in at least two but fewer than three quarter-courses or the equivalent
- part-time: enrolled in fewer than two quarter-courses or the equivalent (also referred to as less than half-time)

Grading Policies

The following grading system is used in computing the grade point average:

<i>Grade</i>	<i>Grade Points</i>
A	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	1.7
D	1.0
F	0
X Failed to earn credit: missed final examination	0
Y Failed to earn credit: work incomplete	0

The following notations are ignored in computing the grade point average:

- P Pass with credit
- N No grade, no credit
- K In progress
- S Satisfactory: noncredit course
- U Unsatisfactory: noncredit course
- W Withdrawn by permission

Northwestern University does not rank its students.

Pass/No Credit (P/N)

The P (pass) or N (no credit) option allows full-time students to explore fields beyond the areas of their specialization without concern about grade point average. Many undergraduate courses are open to the P/N option. For information about a particular school's P/N policy, see that school's chapter in this catalog.

Incomplete Course Work

At the end of a quarter a grade of X or Y will be given only if the instructor believes the student has a reasonable

chance of passing the course by taking an examination or turning in the required work, or both. Some undergraduate schools prohibit the posting of X or Y grades without the approval of the dean's office. Students should contact their school for its regulations concerning X and Y grades.

If a grade of X or Y is to be changed and credit established, the deficiencies must be made up before the end of the next quarter in which the student is in residence in any school of Northwestern, or within one year after the course was offered if the student is not in residence, or credit is forfeited.

A notation of K must be resolved before graduation. An unresolved K will be changed to Y and the grade point average recomputed.

Regular Examinations

Regular course examinations are held during the last week of each quarter at the times indicated in the quarterly class schedule and online at www.registrar.northwestern.edu/registration. Summer Session examinations are usually held at the last class meeting. Students are responsible for knowing the time and location of each examination. Early examinations are not permitted. Permission to be absent from the final examination is given by the instructor and the dean only for cause beyond the student's control. Normally such permission must be secured in advance of the date of the examination. Any deficiency must be made up before the end of the next quarter in which the student is in residence in any school of Northwestern, or within one year after the course was offered if not in residence, or credit is forfeited.

Makeup of Course Work and Examinations

All undergraduate students in residence in any school of Northwestern University must make up grades of X (absent) and Y (incomplete) before the end of the next quarter, or credit is forfeited. Students not in residence must make up all such grades within one year after the course was offered, or credit is forfeited. Those not in residence must also apply for any makeup examinations in advance. Permission to take a makeup examination to remove a grade of X must have the written approval of the instructor and the dean. Makeup examinations are conducted by the departments concerned early in each quarter. An application for a makeup examination must be filed several weeks in advance at the office of the school in which the course is offered. (See the academic calendar at www.registrar.northwestern.edu/calendars for exact dates the applications are due.)

Class Attendance and Absence

Students are expected to attend all sessions of the courses for which they are registered. Excessive absence is cause for failure in the course. Some courses require attendance at the first class meeting; students may

be dropped for nonattendance (see the online class schedule at www.northwestern.edu/caesar).

Grade Reports

Quarterly grades are not mailed but are delivered through CAESAR (www.northwestern.edu/caesar). A printout of the CAESAR record may be made for verification purposes. Notices of deficiencies in scholarship may be reported to the student before the end of the quarter, but the University does not assume the responsibility of issuing such warnings.

Transcripts

Students who have satisfied all financial obligations to the University are entitled to an official transcript of their academic record, which they may order from the Office of the Registrar. A fee is charged for all transcripts (see Service Fees under Tuition and Fees).

Except for internal educational uses or as otherwise required by law, Northwestern issues official transcripts only upon written authorization of the student concerned. Because of the confidential nature of a student's record, telephone or e-mail requests for transcripts will not be accepted. Written requests should be submitted to the Office of the Registrar.

Requests for transcripts initiated by persons or agencies other than the student or appropriate educational agencies will not be filled until written authorization has been secured from the student. When these requests can be anticipated, students can avoid delay by providing such authorization in advance. Complete information about obtaining an official transcript may be found at www.registrar.northwestern.edu/transcripts/index.html.

Current students can print unofficial copies of their transcripts by accessing their student records on CAESAR. Former students who no longer have access to CAESAR should follow the procedures at www.registrar.northwestern.edu/academic_records/obtaining_a_transcript.html.

Northwestern University does not release or certify copies of transcripts received from other schools or institutions. Students needing official transcripts from study abroad experiences must request such transcripts from the institution or program attended.

Access to Student Records

Under the Family Educational Rights and Privacy Act (FERPA), all students have certain rights with regard to their educational records. A copy of Northwestern's student records policy is available at www.registrar.northwestern.edu/academic_records/FERPA_policy.html.

FERPA grants students various rights, including the rights to

- inspect and review their educational records at Northwestern University
- request an amendment of their records to ensure that

the records are not inaccurate, misleading, or otherwise in violation of privacy or other rights

- consent to release or to restrict disclosure of personally identifiable information contained in their educational records, except under certain limited circumstances when, by law, consent is not required
- file a complaint with the U.S. Department of Education concerning alleged failures by Northwestern University to comply with FERPA requirements

The University's Use of E-mail

E-mail is the University's mechanism for official communication with students, and Northwestern has the right to expect that students will read official e-mail in a timely fashion.

All students are assigned a u.northwestern.edu address that is maintained in the University e-mail directory. Northwestern provides a convenient mechanism for students who want to forward e-mail from the University address to another e-mail address of their choice, but students assume the risk of forwarding e-mail. Failure to receive or read University communication that was sent to the u.northwestern.edu address does not absolve a student from knowing and complying with the content of the communication.

Faculty may use e-mail for communicating with students registered in their classes so that all students will be able to comply with course requirements.

Academic Integrity

Academic integrity at Northwestern is based on a respect for individual achievement that lies at the heart of academic culture. Every faculty member and student, both graduate and undergraduate, belongs to a community of scholars in which academic integrity is a fundamental commitment.

Students enrolled at Northwestern are expected to adhere to the University's standards of academic integrity. Questions about the acceptability of specific behavior should be addressed to the appropriate faculty member or school dean. The following is a nonexhaustive list of types of behavior that violate the standards of academic integrity:

- *cheating*: using unauthorized notes, study aids, or information on an examination; altering a graded work after it has been returned, then submitting the work for regrading; allowing another person to do one's work and submitting that work under one's own name; submitting identical or similar papers for credit in more than one course without prior permission from the course instructors
- *plagiarism*: submitting material that in part or whole is not entirely one's own work without attributing those same portions to their correct source (material discussing the use and acknowledgment of sources is available in the Office of the Provost)
- *fabrication*: falsifying or inventing any information,

data, or citation; presenting data that were not gathered in accordance with standard guidelines defining the appropriate methods for collecting or generating data and failing to include an accurate account of the method by which the data were gathered or collected

- *obtaining an unfair advantage*: stealing, reproducing, circulating, or otherwise gaining access to examination materials prior to the time authorized by the instructor; stealing, destroying, defacing, or concealing library materials with the purpose of depriving others of their use; unauthorized collaborating on an academic assignment; retaining, possessing, using, or circulating previously given examination materials, where those materials clearly indicate that they are to be returned to the instructor at the conclusion of the examination; intentionally obstructing or interfering with another student's academic work; otherwise undertaking activity with the purpose of creating or obtaining an unfair academic advantage over other students' academic work
- *aiding and abetting dishonesty*: providing material, information, or other assistance to another person with knowledge that such aid could be used in any of the violations stated above; providing false information in connection with any inquiry regarding academic integrity
- *falsification of records and official documents*: altering documents affecting academic records; forging signatures of authorization or falsifying information on an official academic document, grade report, letter of permission, petition, ID card, or any other official University document
- *unauthorized access to computerized academic or administrative records or systems*: viewing or altering computer records; modifying computer programs or systems; releasing or dispensing information gained via unauthorized access; interfering with the use or availability of computer systems or information

It is the responsibility of every member of the academic community to be familiar with the specific policies of his or her school. A student who violates these policies may be subject to sanctions, including but not limited to one or more of the following: a letter of warning; a defined period of probation with the attachment of conditions; a period of suspension with or without the attachment of conditions; course failure; notation on the official record; exclusion from the University, with notation on the transcript; or revocation of an awarded degree. A student may not change his or her registration in a course in which a violation of academic integrity has been alleged, regardless of whether the allegation has been referred to the designated school official. Nor may a student receive a University degree while a finding is pending or while a suspension has been imposed pursuant to a finding. Information on procedures that will be followed in cases of alleged dishonesty can be obtained from the dean's office of each school. A complete statement of the University's principles regarding academic integrity can be obtained from the Office of the Provost.

The student-faculty Undergraduate Academic Conduct Committee works to maintain a high level of academic integrity at Northwestern; on the request of the provost, that committee also hears appeals from students of school decisions concerning academic dishonesty. Such appeals must be in writing and include a detailed statement setting forth the grounds for the appeal. Appeals to the provost are limited to alleged errors in procedures, interpretation of regulations, or the question of whether a finding or sanction appears manifestly contrary to the evidence. The provost will receive appeals only after a sanction has been specified for the alleged violation and the appropriate appeal process at the school level has been exhausted; an appeal to the provost may concern the finding and/or the proposed sanction.

Academic Standing

The decision concerning the academic standing of a student is the responsibility of the faculty of the school in which the student is registered.

Academic probation constitutes notice of unsatisfactory academic performance; it is a warning that minimum standards for graduation are not being met. Unless a student demonstrates significant scholastic improvement during the period of probation and thereby indicates ability to fulfill degree requirements within a reasonable period of time, the student may be dismissed from the University. A student will be notified in writing no later than the middle of a term that, because of unsatisfactory work in a previous term or terms, he or she will be excluded in the event of unsatisfactory work during the term for which the notice is issued.

Academic Probation

The following are ordinarily placed on academic probation:

- students who have received final grades below C in two or more courses in any quarter or Summer Session
- sophomores, juniors, or seniors who have a cumulative academic record below a C average on all work attempted at Northwestern University
- students who have failed to complete at least three quarter-courses or the equivalent in each of two consecutive quarters
- students who, on account of dropped courses, failure, or uncompleted courses, have failed to earn credit for an average of three quarter-courses per quarter after 6 quarters of residence
- students who have failed to maintain a C average in the major or a professional field of study

The faculty of each school may impose such additional conditions of academic probation as they may deem appropriate.

Removal from Academic Probation

Students on academic probation are ordinarily removed from probation if the deficiencies that resulted in probation have been remedied during the next succeeding quarter in

residence. Students are rarely removed from probation on the basis of a program consisting of less than four courses graded on a basis other than the pass/no credit option.

If students on probation who receive grades of X or Y are not dismissed, probation continues until they have completed all courses or until the end of the next quarter in residence, when the students' records are again subject to scrutiny.

In no case are students removed from probation at the end of a quarter in which they have failed any course.

Academic Dismissal

The following is a partial list of categories of students who may be dismissed for academic deficiencies (in every case the decision is determined in part by the student's cumulative academic record):

- students on academic probation whose academic records have not improved significantly during the period of probation (which will not normally exceed two consecutive quarters)
- students not on academic probation who fail in half the work in any quarter or Summer Session
- students who demonstrate flagrant neglect of academic work at any time
- students who do not make satisfactory progress toward completion of degree requirements

As a matter of general policy, the probation period for a freshman may be extended to the third quarter of residence if such extension appears to be in the best interests of the student and the University. Such consideration is not granted to a freshman whose record clearly discloses lack of aptitude or flagrant neglect of work.

Disciplinary Dismissal

Students suspended from Northwestern by the University Hearing and Appeals Board or the Sexual Assault Hearing and Appeals System may not receive Northwestern credit for academic work at any other institution during the period of suspension.

HONORS AND PRIZES

Graduation with School Honors

Degrees with honors are awarded to the top 16 percent of the graduating class within each undergraduate school, as determined by grades in all work at Northwestern University. Students in the highest 3 percent of the class are awarded degrees *summa cum laude*; those in the next 5 percent, *magna cum laude*; and those in the next 8 percent, *cum laude*. Graduation honors are not announced before Commencement.

Graduation with Departmental Honors

Departmental honors may be granted to graduating seniors who have done outstanding work in a department

in connection with a research project or work of an integrative nature. Students are nominated for these honors by their departments. The faculty of the school concerned makes the final awards. See the school chapters of this catalog for more information on departmental honors.

Honorary Organizations and Prizes

Students who qualify by reason of superior scholarship or other outstanding achievement are eligible for membership in certain honorary societies. Some of these recognize outstanding performance within one of the undergraduate schools, while others recognize distinction in a specific field of study, certain extracurricular options, or other endeavors.

In addition, several prizes established through gifts and endowments are awarded each year to undergraduate students at Northwestern. Some are all-University prizes, and others are available only to students in the school, department, or program that administers the awards. Prizes may recognize past achievements or provide students with funding for research projects or creative activities. See the section on funding for student research on page 31.

SPECIAL ACADEMIC OPPORTUNITIES

Double Major

Some students complete two majors. Often both majors are in the same undergraduate school, but completing majors in two different schools may also be an option. See the relevant school and department sections in this catalog for details.

Self-Designed Major

A self-designed major permits students, with the permission of the school's curriculum committee or dean, to concentrate advanced study in an area other than one of those recognized through a departmental or interdisciplinary major. This option is identified as an ad hoc major in Weinberg College and the Bienen School of Music, as the interdepartmental studies major in the School of Communication, and as the Combined Studies Program in the McCormick School.

Dual Bachelor's Degree Programs

Qualified students may undertake a program to receive bachelor's degrees from two different undergraduate schools at Northwestern. Five years of full-time study are usually required. The following options are available:

- BA/BS in liberal arts and engineering
- BA/BMus in liberal arts and music
- BS/BMus or BS/BAMus in engineering and music
- BSJ/BMus or BSJ/BAMus in journalism and music

For information on applying to these programs, see Application to Dual Bachelor's Degree Programs on page 17. For descriptions of the programs, including requirements, see the Cross-School Options chapter of this catalog.

Accelerated Degree Programs

Honors Program in Medical Education

The Honors Program in Medical Education (HPME) provides an opportunity for highly talented high school seniors to be admitted to an undergraduate program and to the Feinberg School of Medicine and to complete their formal premedical and medical studies in seven or eight years. Each year a small number of students are admitted to the program and to Weinberg College, the School of Communication, or the McCormick School. For information on applying to HPME, see Special Admission Programs on page 17. For a description of the program, including requirements for students in the different undergraduate schools, see the Cross-School Options chapter of this catalog.

Integrated Science Program

The Integrated Science Program (ISP) is a highly selective undergraduate program of integrated science studies within Weinberg College. The curriculum provides a thorough and rigorous background in the major scientific disciplines and mathematics and offers special research opportunities. ISP can lead to a bachelor's degree in three years or, after a fourth year at Northwestern, to a double major or an advanced degree. For information on applying to ISP, see Special Admission Programs on page 17. For a description of the program, see page 113 in the Weinberg College chapter of this catalog.

Accelerated Master's Programs

Combined bachelor's/master's degree programs enable exceptional undergraduates in the McCormick School, the Medill School of Journalism, and certain departments of Weinberg College to receive both degrees in less than the usual time. The programs are highly demanding intellectually and require early commitment to a discipline and careful planning. See Accelerated Master's Programs in the McCormick, Medill, and Weinberg College chapters of this catalog for more information on options and requirements.

Teaching Certification

Weinberg College students may complete the requirements of the secondary teaching program and qualify for Illinois state certification. See Teacher Certification at Northwestern in the School of Education and Social Policy chapter of this catalog.

Study Abroad

Northwestern encourages qualified students to study abroad when such study promises to enrich their academic programs. With early planning, most students, regardless of school or major, should be able to study abroad during the academic year and still graduate within four years. Students may also study abroad during the summer on one

of Northwestern's summer programs or on an approved non-Northwestern program.

The Study Abroad Office provides information and advising services to all students interested in study abroad. Approval from the University Study Abroad Committee and the Study Abroad Office is required before the study abroad experience. Students must submit a study abroad application, including signatures from school advisers and, in many cases, department advisers, to the Study Abroad Office. All students approved by Northwestern to study abroad remain registered at Northwestern while abroad.

Most Northwestern students studying abroad do so on one of more than 100 programs administered by or affiliated with the University. Students participating in University exchange programs continue to pay Northwestern tuition. For all other programs, students pay the program fee plus a Northwestern administrative fee. Students participating in affiliated programs may apply for financial aid, including Northwestern grant assistance, to help offset the cost of their programs.

Students who wish to participate in unaffiliated programs must petition for permission to apply through the Study Abroad Office. No financial aid is available from the University for students on unaffiliated programs, and Northwestern cannot process their outside aid.

Since study abroad often requires special language or other preparation, interested students should consult with the Study Abroad Office early in their Northwestern careers. The office hosts information sessions and has an extensive resource library with detailed information on affiliated programs and study abroad policies. For more information please see its web site at www.northwestern.edu/studyabroad.

Field Study and Internships

Many off-campus field studies and internships, and research opportunities sponsored by various schools and departments, are available to Northwestern students. The programs vary greatly: Some carry academic credit and/or a stipend. Some are done in conjunction with course work, while others require full-time commitment and may involve living away from campus. Field study and internship opportunities are available during both the regular academic year and Summer Session. See the individual schools and departments in this catalog for details. Additional information on internship opportunities is available from University Career Services.

Special Courses

Student-Organized Seminars (SOS)

Students who wish to pursue studies not included in the catalog can plan and initiate their own courses under the supervision of sponsoring faculty members. SOS credit courses may be developed in all undergraduate schools except the Medill School of Journalism.

Residential College Tutorials

With the sponsorship and participation of a faculty member, students in a Residential College may organize a course on a topic of special interest. Proposals must be approved by the dean's office of the appropriate school, and enrollment is normally limited to up to 10 members of the Residential College.

Independent Study (399)

Many departments offer undergraduate seminars and independent studies for qualified students. A 399 course in any department enables a student to engage in individual special study and research, which may involve work in a laboratory or library, fieldwork outside the University, or the creation of a work of art. The maximum credit a student may receive for 399 (or equivalent independent study) during any one quarter is two units.

Funding for Student Research

Undergraduates interested in taking advantage of opportunities to engage in research or creative projects under faculty guidance may inquire about funding from their school or department or apply for an Undergraduate Research Grant. Coordinated and administered by the Office of the Provost, the Undergraduate Research Grants Program offers three types of support for which any undergraduate student in any discipline may apply: academic-year grants of up to \$1,000 to fund quarterlong research projects; summer grants of \$3,000 to cover research and living expenses for full-time (eight-week) summer projects; and conference travel grants of up to \$500 for the development and presentation of creative productions or research findings at an academic meeting. Projects entailing international research travel are eligible for additional funds. Each spring the Office of the Provost organizes an Undergraduate Research Symposium to showcase student research and creative projects funded through the program.

Northwestern Immersion Experience

Open to all Northwestern undergraduates, the Northwestern Immersion Experience allows students to focus intensively on one project for one quarter or longer. Limited only by the student's interests and imagination, the project may be pursued on campus or off, in the United States or abroad. As part of the program, the Office of the Provost offers language grants of \$2,000 each to fund intensive summer language study at approved centers around the country and the world.

Key to Course Numbers

Although the course numbers in this catalog are as complete and exact as is possible at the time of printing, some changes may occur later, and courses may be dropped or added. The class schedule is issued for each quarter at www.northwestern.edu/caesar and contains a complete and updated listing of classes for that quarter. The University reserves the right to cancel classes for which registration is not sufficient.

Course Credits and Quarters

Daytime work in all the schools on the Evanston campus is on the quarter system. A quarter-course, the unit of instruction, is the work done in a class meeting at least three hours per week and carries the value of one unit of credit. Exceptions are courses meeting less than three hours per week, which may carry less than one unit, and 15-week courses, which carry 1.5 units. A quarter-course is the equivalent of $2\frac{2}{3}$ semester hours. (For transfer to other institutions or for certification stated in credit hours, undergraduates may consider a quarter-course equivalent to four quarter hours of credit.)

Numbering System

Three sets of characters denote all courses:

- The first set is the subject code indicating the area of study.
- The second set is a three-digit course number:
 - 100-level* courses are primarily for freshmen and sophomores, usually without college prerequisite.
 - 200-level* courses are primarily for freshmen, sophomores, and juniors, sometimes with the prerequisite of a 100-level course in the same or a related department.
 - 300-level* courses are primarily for upperclass students, with the prerequisite of junior standing or a 100- or 200-level course in the same or a related department.
 - 400-level* courses or seminars, in which the major part of the work is not research, are primarily for graduate students; they may be open to advanced undergraduate students with permission.
 - 500-level* courses or seminars are graduate courses in which the work is primarily research.
- The third set (one, two, or more numbers) usually indicates whether the course is part of a sequence.
 - 0 = one-quarter course
 - 1,2 = two-quarter sequence
 - 1,2,3 = three-quarter sequence

Special characters identify certain groups of courses. If a course is taught only through a Northwestern study abroad program, the designation SA is included with the course number. Other designations may be used by the individual departments; see departmental listings for details.

If a course carries less or more than one unit of credit, the number of units follows the course title in parentheses — e.g., (1.5) or (1.5 units) = 1.5 units of credit.

Cross-School Options

Northwestern values interdisciplinarity. Many Northwestern faculty are members of more than one department or program, and many of their academic endeavors cut across traditional fields of study. Similarly, many Northwestern students have interests that span traditional academic boundaries.

Each of Northwestern's six undergraduate schools has its own unique curriculum, but many courses across the University are open to students from all six undergraduate schools. In addition, each school offers majors, minors, certificates, field studies, or other programs in which students from other schools may participate. Collaborative efforts involving more than one undergraduate school, an undergraduate school and a graduate program, or a University center or institute provide additional options for students. The University is committed to developing programs that build pedagogical and intellectual bridges between disciplines and across schools to create new interdisciplinary opportunities for undergraduates.

SCHOOL-BASED OPTIONS FOR ALL UNDERGRADUATES

In the Weinberg College of Arts and Sciences

Nearly all majors and minors in Weinberg College are open to students from Northwestern's other undergraduate schools. These include traditional fields of study in the social sciences, the humanities, mathematics, and the natural sciences, as well as many interdisciplinary majors and minors. Students from throughout Northwestern may also participate in the Chicago Field Studies programs housed within Weinberg College. For more information on these options, see the Weinberg College chapter of this catalog.

In the School of Communication

The School of Communication offers several programs open to students from other schools. These include the following:

- Adjunct major in animate arts
- Dance minor
- Film and media studies minor
- Human communication sciences minor
- Internship program
- Sound design minor
- Theatre minor

See the School of Communication chapter of this catalog for more information.

In the School of Education and Social Policy

The School of Education and Social Policy offers two programs that are open to Northwestern undergraduates regardless of school: the Civic Engagement Certificate Program and the Summer Field Studies programs in Chicago, Washington, D.C., and San Francisco. For more information on these programs, see the School of Education and Social Policy chapter of this catalog.

Additionally, Weinberg College students may pursue secondary teaching certification in a variety of subject areas through the School of Education and Social Policy's teacher preparation program.

In the McCormick School of Engineering and Applied Science

The certificate in engineering design, administered by the Segal Design Institute of the McCormick School, is open to undergraduates from other schools. For details on requirements, see the McCormick School chapter of this catalog.

In collaboration with McCormick School departments, Weinberg College offer majors and/or minors in computer science, environmental sciences, and materials science. For details on these options, see the Weinberg College chapter of this catalog.

In the Medill School of Journalism

The Medill School offers a certificate in integrated marketing communications open to undergraduates throughout Northwestern and including prerequisite courses from the other undergraduate schools. Details on prerequisites and requirements can be found in the Medill School chapter of this catalog.

In the Bienen School of Music

Several minors in the Bienen School are open to students from other schools. These include the following:

- Commercial music
- Jazz studies
- Music cognition
- Music composition
- Musicology
- Music technology

In addition, any nonmusic major may complete a concentration in music. Information on these options, including course requirements and application instructions, can be found in the Bienen School chapter of this catalog.

DUAL BACHELOR'S DEGREE PROGRAMS

Cross-school collaborations provide opportunities for undergraduate students to complete course work in two Northwestern schools concurrently and to receive bachelor's degrees from both schools. Students may choose from four dual bachelor's degree programs:

- BA/BS in liberal arts and engineering
- BA/BMus in liberal arts and music
- BS/BMus or BS/BAMus in engineering and music
- BSJ/BMus or BSJ/BAMus in journalism and music

Completion of any of these programs typically requires five years of full-time study, and students have an Undergraduate Residence Requirement (URR) of 15 quarters (see page 23 in the Undergraduate Education chapter of this catalog).

For information on applying to a dual bachelor's degree program, see Special Admission Programs on page 17 in the Undergraduate Education chapter of this catalog. Students receiving financial aid should also note the restrictions under Satisfactory Academic Progress and Financial Aid on page 21.

Liberal Arts and Engineering Program

Qualified Northwestern undergraduates with strong interests in the liberal arts as well as engineering may elect to earn both a bachelor of arts degree in a liberal arts discipline from Weinberg College and a bachelor of science degree in an engineering field from the McCormick School (BA/BS). Students may pursue any combination of majors from the two schools. They must complete all requirements of both schools and both majors and are subject to all regulations of both schools and a 15-quarter URR. The one exception is that students may be exempted — by decision of the Weinberg College associate dean for undergraduate academic affairs — from the rule that a maximum of 11 non-Weinberg College courses may be counted toward requirements for a Weinberg BA degree.

Interested students most often begin their studies in the McCormick School. To do the necessary planning, they should consult with Weinberg College's Office of Undergraduate Studies and Advising and the undergraduate engineering dean's office in the McCormick School as soon as possible after enrolling at Northwestern. Students should meet regularly with advisers in both schools to discuss their progress toward completion of both sets of requirements.

Liberal Arts and Music Program

Some Northwestern undergraduates choose to combine intensive study in music with a broad exploration of the liberal arts and a major in a liberal arts discipline. Students accepted into the Weinberg College–Bienen School of Music dual bachelor's degree program may simultaneously earn a bachelor of arts degree from Weinberg College and a bachelor of music degree from the Bienen School (BA/

BMus). They must complete all Weinberg College degree requirements, including at least 30 Weinberg courses, as well as all Bienen School degree requirements, including at least 30 music courses, and a 15-quarter URR.

Participants in this program must be accepted by both Weinberg College and the Bienen School. Students work closely with academic advisers from both schools to develop an individual curricular program. Most follow a balanced curriculum in which about half of the course work each year is done in each school. It is possible, however, to take mostly courses in one school in the earlier years and to then take mostly courses in the other school. Current students interested in this program should consult with the associate dean for undergraduate studies in Weinberg College and the assistant dean for admission and student affairs in the Bienen School.

Engineering and Music Program

Highly capable students who have a strong interest in and commitment to both engineering and music may apply to the McCormick School–Bienen School dual bachelor's degree program. Students accepted into this program may simultaneously earn a bachelor of science degree from the McCormick School and a bachelor of music or bachelor of arts in music degree from the Bienen School (BS/BMus or BS/BAMus). They must complete all McCormick School degree requirements, including at least 36 McCormick courses, as well as all Bienen School degree requirements, including at least 30 music courses, and a 15-quarter URR. Any field of study in engineering may be chosen, resulting in a bachelor of science degree in the chosen field.

The program may be entered no later than the beginning of the sophomore year, and admission requires concurrent approval of both the McCormick School and the Bienen School. Current students interested in this program should consult with the undergraduate engineering dean's office in the McCormick School and the assistant dean for admission and student affairs in the Bienen School.

Journalism and Music Program

This dual bachelor's degree program allows extremely talented students to earn both a bachelor of science in journalism from the Medill School and a bachelor of music or bachelor of arts in music degree from the Bienen School (BSJ/BMus or BSJ/BAMus). The program is intended to prepare students for journalism careers emphasizing music and arts reporting. Prospective students typically apply to the program while applying for undergraduate admission to Northwestern.

The program requires completion of all Medill School degree requirements, including at least 35 Medill courses, as well as all Bienen school degree requirements, including at least 30 music courses, and a 15-quarter URR. Students must fulfill all minimum GPA requirements for journalism

classes and for the Journalism Residency. The three freshman journalism classes and core music classes are taken during the freshman year. Students complete the Journalism Residency and all prerequisite course work in a concentrated 1½-year time frame — either during their second and third years or during their third and fourth years of enrollment. Students should work with advisers from both schools to develop a timeline for completing all requirements.

COLLABORATIONS WITH THE GRADUATE AND MEDICAL SCHOOLS

Accelerated Master's Programs

Accelerated master's programs enable exceptional undergraduates in Weinberg College, the McCormick School, and the Medill School to receive both bachelor's and master's degrees in less than the usual time. The programs are highly demanding intellectually and require early commitment to a discipline and careful planning.

In Weinberg College students receive permission to double-count some courses toward both bachelor's and master's degrees so that both degrees can be completed in four years. The following Weinberg College departments and programs have combined degree programs approved by the Graduate School: chemistry, earth and planetary sciences, economics, French, linguistics, and sociology. See the Weinberg College chapter of this catalog for the general information on accelerated master's programs (page 45) as well as the relevant department information.

In the McCormick School a BS/MS program in engineering allows advanced students to complete the BS requirements early (usually through Advanced Placement/International Baccalaureate or transfer credit) and to accelerate study toward a master's degree. For more information see Accelerated Master's Program in the McCormick School chapter of this catalog.

Students in the Medill School who exhibit exceptional ability in undergraduate work may apply to that school's graduate division for early admission to the graduate editorial program. This program allows students to qualify for bachelor of science in journalism and master of science in journalism degrees in 12 to 15 quarters of full-time study. For more information see Accelerated Master's Program in the Medill School chapter of this catalog.

Honors Program in Medical Education

www.feinberg.northwestern.edu/AWOME/HPME

The Honors Program in Medical Education (HPME) provides an opportunity for highly talented high school seniors to be admitted to an undergraduate program and to the Feinberg School of Medicine and to complete their formal premedical and medical studies in seven or eight years. Applicants should be able to qualify for advanced placement in chemistry and mathematics. Each year a small number of students are admitted to the program and

to Weinberg College, the School of Communication, or the McCormick School. Only candidates applying directly from high school are considered. For information on applying, see Special Admission Programs on page 17.

The first three or four years of the program are spent in undergraduate study, during which students must complete 36 courses that meet HPME requirements; these include required courses in chemistry, physics, and the biological sciences, as well as courses that meet the requirements for HPME students in an undergraduate school. To remain in the program, students must maintain designated grade point averages both in required science courses and overall. They must satisfy an Undergraduate Residence Requirement of 9 full-time quarters (see page 23 in the Undergraduate Education chapter of this catalog). Only courses taken at Northwestern or on an approved study abroad program may be used to satisfy this enrollment policy.

In addition to the required science courses, HPME students enrolled in Weinberg College fulfill the college's general education requirements by taking courses in the humanities, social sciences, and arts. In the first year they complete at least 1 freshman seminar. The third year is usually devoted to completing the requirements for a BA in Weinberg College by doing advanced course work in the major and/or to studying abroad in a Northwestern-affiliated program. Students may also take an additional undergraduate year at Northwestern.

Students in the McCormick School spend three or four years pursuing an in-depth education in mathematics, the sciences, and engineering while taking core courses in biomedical engineering. To supplement their technical courses, students also take courses in the humanities and the social sciences.

School of Communication students spend three or four years in communication sciences and disorders, studying the anatomy and physiology of hearing, speech, and the central nervous system as it relates to cognition and memory. They have opportunities to learn how people of all ages hear, speak, and learn — both normally and in the presence of disabling conditions. They also take courses in chemistry, physics, the biological sciences, the social sciences, and the humanities.

After the first three or four years, HPME students move to the Chicago campus as members of the first-year Feinberg School of Medicine class. After successfully completing their first year at the Feinberg School, Weinberg College students who have not received a BA degree qualify for a bachelor of science in medicine, and School of Communication students qualify for a bachelor of science in communication. After the second year of medical school, McCormick School students qualify for a bachelor of science in medical engineering. At the end of seven or eight years, HPME students qualify for the doctor of medicine degree from the Feinberg School.

MANAGEMENT CERTIFICATES FOR UNDERGRADUATES

www.kellogg.northwestern.edu/certificate

In cooperation with Weinberg College and the McCormick School, the Kellogg School administers a program leading to an undergraduate certificate in either financial economics or managerial analytics. The certificate requires completion of 4 courses taught at an advanced level by Kellogg professors. Building on students' existing analytical skills, the certificate curriculum serves as excellent preparation for careers in the financial services and consulting industries and/or for doctoral or professional school programs.

About 100 students each year are accepted into the certificates program through a competitive application process. They must meet rigorous course prerequisites in advanced calculus and linear algebra, intermediate probability and statistics, advanced econometrics/statistics, and microeconomics. Students apply at the end of their sophomore or junior year for participation during the following school year. Applications are due at the end of winter quarter.

In addition to course work, certificate students who start the program in their junior year may complete an internship at a company or conduct research with a Kellogg faculty member during the summer before their senior year. A dedicated career services professional helps certificate students in planning and preparing for their careers and securing both summer and full-time employment.

Certificate in Financial Economics (4 units)

Any Northwestern undergraduate who has completed the prerequisite courses — see www.kellogg.northwestern.edu/certificate for a list — is eligible to apply for this certificate, which is offered in cooperation with Weinberg College. The financial economics curriculum comprises the following 4 courses.

KELLG FE 310 Principles of Finance Foundation course for the certificate; taken in the fall. Basic principles of finance, focusing on the effects of time and uncertainty on value. First half emphasizes valuation, including discounted cash flows, equity and debt valuation, the term structure of interest rates, portfolio theory, asset pricing, and efficient market theory. Second half examines firms' financing decisions, including capital budgeting, capital structure, and payout policy.

KELLG FE 312 Investments Active portfolio strategies in bonds and stocks, optimal portfolio selection from the perspective of individual and institutional investors, and the role of style and performance benchmarks in portfolio management. Other special topics, including performance evaluation and trading costs.

KELLG FE 314 Derivatives Use and pricing of forwards and futures, swaps and options. Strategies for speculation and risk management, no-arbitrage pricing for forward

contracts, the binomial and Black-Scholes option pricing models, and applications of pricing models in other contexts.

KELLG FE 316 Topics in Financial Economics Examines different topical finance issues each year.

Certificate in Managerial Analytics (4 units)

Any Northwestern undergraduate who has completed the prerequisite courses — see www.kellogg.northwestern.edu/certificate for a list — is eligible to apply for this certificate, which is offered in cooperation with the McCormick School. The managerial analytics curriculum comprises the following 4 courses.

KELLG MA 320 Analytical Decision Modeling Foundation course for the certificate; taken in the fall. Structuring, analyzing, and solving business decision problems on Excel spreadsheets and examining problems involving resource-allocation decisions and risk analysis of decisions under uncertainty. Some data analysis and demand forecasting. Topics include analysis of resource-allocation decisions by Solver optimization; risk analysis of decisions involving uncertainty by Monte Carlo simulation; modeling and analysis of sequential decisions by decision trees; data analysis by pivot tables and filters; demand forecasting by time series analysis.

KELLG FE 310 Principles of Finance See Certificate in Financial Economics.

KELLG MA 322 Pricing Comparison of the three main ways to set prices (haggling/negotiation, posted price, and auctions) and how to choose the best method in a given situation. Customizing the price of the same product or service to different segments, using optimization models to set prices when volume is uncertain, as well as pricing multiple products. Introduction to some of the main techniques (regression, conjoint analysis, EVC) for gathering information about buyer valuations and demands.

KELLG MA 324 Operations and Supply Chain Strategy

Provides framework for determining what key capabilities an operation and a supply chain must develop to support the business strategy of a firm and the relationship between the desired capabilities and the structure of a supply chain. Exposure to methodologies and analysis that support operations and supply chain strategy and planning decisions. Analysis uses case studies and development of analytical spreadsheet models.

ADDITIONAL OPTIONS

Environmental Science, Engineering, and Policy www.wcas.northwestern.edu/esep

The program in environmental science, engineering, and policy is designed to provide students with an interdisciplinary understanding of the biological, chemical, and physical environment, the relations of humans to the environment, and the impacts of past, current, and

possible future interventions. Although many aspects of environmental problems lie within the purview of the natural sciences and engineering, others are addressed in the social sciences and humanities. Effectively confronting environmental issues requires broad training and collaboration among experts in diverse fields. Environmental science students are prepared to tackle complex environmental problems in a rigorous way and with an appreciation of the related science, engineering, and policy issues. Similarly, environmental engineering involves an understanding of engineering analysis and design combined with an understanding of human use of and effects on the environment. The development and implementation of effective environmental policy require understanding of relevant aspects of human behavior, the natural world, and their interactions.

The program in environmental science, engineering, and policy is coadministered by Weinberg College and the McCormick School. It offers two majors:

- Environmental sciences (see the Weinberg College section of this catalog for a detailed description)
- Environmental engineering (see the McCormick School section of this catalog for a detailed description)

Transportation and Logistics **<http://transportation.northwestern.edu>**

The interschool Transportation and Logistics Program offers a minor that is available to all undergraduates.

Passenger and freight transportation represents nearly a fifth of the U.S. gross domestic product and influences every aspect of our lives: where we live, where we work, and the goods we can purchase. The study of transportation and logistics is inherently interdisciplinary, reaching across disciplines, schools, and departments. Northwestern offers relevant courses through the Departments of Civil Engineering and Industrial Engineering and Management Sciences in the McCormick School and the Department of Economics and other social science departments in Weinberg College. This minor offers undergraduates the opportunity to obtain a more rounded education in transportation and logistics than that offered within their selected majors. The curriculum equips students with a broad understanding of the economics, engineering, and operations of transportation and logistics systems and the role of public policy.

The minor is administered by the Transportation Center, an interdisciplinary research center founded in 1954. The center's affiliated faculty are drawn from many of the participating departments. Additional information about the program is available from the Transportation Center.

Minor in Transportation and Logistics

Students are required to complete 7 courses, of which 1 is a required course. The other 6 courses must include at

least 3 core courses, at least 2 of which must be outside the school in which the student is majoring.

Students in the McCormick School may double-count a maximum of 2 courses from their major program toward the minor. Students from other schools are not allowed to double-count courses that are part of their major but may count courses that fulfill related course, distribution, or social science and humanities requirements. It is assumed that students will already have taken courses in calculus and in probability and statistics as part of their major.

Requirements for Minor in Transportation and Logistics (7 units)

- **Required course:** TRANS 310
- **Core courses:** ECON 310-1, 355; CIV ENV 371, 376, 382; IEMS 310 or 313, 381, 383. No substitutions are allowed for core courses.
- **Elective courses:** ECON 309, 337, 349, 350, 354, 361, 370, 381-1,2; GEOG 341, 343; HISTORY 322-2; POLI SCI 221, 321, 329; SOCIOL 301, 312; CIV ENV 304, 338, 360; IEMS 315, 317; either IEMS 326 or ECON 360; IEMS 382; 1 unit of approved independent study. Other courses may be considered for credit toward the minor if appropriate to the student's program of study and approved by the program committee. A full list of approved elective courses is available from the program office.

Courses

TRANS 310-0 Seminar in Transportation and Logistics

Yearlong senior seminar on the structure of the transportation and supply-chain industries and evaluation of relevant public policy. Students receive 1 credit in the spring quarter of their senior year.

TRANS 399-0 Independent Study Advanced work chosen by mutual agreement with a faculty member. Only 1 unit may count toward the minor. Consent of faculty required.

Undergraduate Leadership **www.northwestern.edu/ulp**

The interschool Undergraduate Leadership Program is a certificate program open to all Northwestern undergraduates. The program helps students understand the nature of leadership and prepares them to become leaders on campus, in the community, and in their professions. Participants learn the theories of leadership, experience the challenge of leading others, and create a sense of community with each other and members of the participating organizations.

Certificate Requirements

Students are required to take GEN CMN 204 Paradigms and Strategies of Leadership. At any time following that introductory course, students take 1 elective course that complements GEN CMN 204, either choosing from a preapproved list of courses (found on the ULP web site) that provide a macro-level exploration of leadership or

petitioning to take a related course. The program also requires the 2-credit CRDV 369 Field Study in Leadership, in which students critically explore and engage leadership outside the classroom.

Courses

GEN CMN 204-0 Paradigms and Strategies of Leadership

This course introduces students to theoretical models of leadership and to research on related topics such as group vision, creative problem solving, and decision making. In addition to weekly lectures, students work in small groups, taking turns facilitating meetings, discussing leadership concepts, and working to produce a final project. Extensive personal and group feedback is provided throughout the quarter.

CRDV 369-0 Field Study in Leadership In this course students attempt to leave a positive “leadership footprint” by fostering the success of a group, organization, or community. Spending at least 16 hours outside the classroom, students undertake a leadership role, an internship or externship, or a community-service experience, exploring leadership models and concepts through application.

Center for the Writing Arts

www.northwestern.edu/writing-arts

The Center for the Writing Arts was established in 1994 to highlight Northwestern’s strengths in the teaching of writing and to provide a focal point for continuing efforts to fulfill the University’s commitment to excellence in writing. The center sponsors a number of programs, including courses for advanced creative writers taught by distinguished visiting writers-in-residence, innovative writing-intensive courses for freshmen, and a variety of colloquia for the entire campus community on topics related to writing.

Courses

Center for the Writing Arts courses 301, 302, and 303 are taught by visiting writers-in-residence. Consult with a member of the Center for the Writing Arts for more information about its courses and admission requirements.

WRITING 115-5,6 Modes of Writing A team-taught course, designed specifically for freshmen, that combines rigorous exploration of a lively intellectual theme with close attention to helping students become strong writers. The format alternates between large-group lecture and discussion sessions led by an accomplished lecturer and small, intensive seminar meetings led by a skillful teacher of writing. Themes explored typically have the spark of controversy and sharp focus characteristic of topics for successful freshman seminars, but also the broader historical or theoretical scope characteristic of distribution requirement courses. Recent themes have included time and chance, the Bible and its transformations, and language and social policy. Weinberg students earn distribution requirement credit for the first quarter and freshman seminar credit for the second quarter. Students are expected to enroll for both

quarters; the first quarter is a prerequisite for the second. May not be taken P/N.

WRITING 301-0 The Art of Fiction Fundamental skills of narrative in the creation of fictional works. Extensive writing exercises. Prerequisites: background in writing, a writing-intensive course, and submission of a manuscript of 5–15 pages.

WRITING 302-0 The Art of Poetry Writing of poetry in the light of the poetic, linguistic, and historical tradition. Extensive writing exercises. Prerequisites: serious interest in poetry, a writing-intensive course, and submission of sample poems.

WRITING 303-0 The Art of Nonfiction Writing as a fundamental skill in a particular field such as science, law, journalism, literature, or political commentary. Extensive writing exercises. Prerequisites: background in writing, a writing-intensive course, and submission of a manuscript of 5–15 pages.

MILITARY PROGRAMS

The military studies programs are administered by the Office of the Provost.

Naval Science

www.northwestern.edu/nrotc

The Northwestern University Naval Reserve Officers Training Corps (NROTC) Unit was established in 1926 by congressional authorization when Northwestern became one of the original six universities to create a naval science department. The professor of naval science chairs Northwestern’s Department of Naval Science. Department faculty members are commissioned officers serving on active duty in the U.S. Navy or Marine Corps. They are selected and nominated by their respective services and screened and approved by the University. The unit is located at 617 Haven Street, Evanston, Illinois 60208-4140, phone 847-491-3324.

Naval ROTC Programs

NROTC offers young men and women the opportunity to obtain leadership and management experience as commissioned officers in the U.S. Navy (Navy option) or Marine Corps (Marine Corps option) after graduation from Northwestern, through either the Scholarship Program or the nonscholarship College Program.

At Northwestern, NROTC midshipmen lead essentially the same campus life as other students. They make their own arrangements for room and board and participate in campus activities of their choice, including the opportunity for University-sponsored overseas study. There are no prescribed academic majors for NROTC students, though scientific and technical studies are encouraged. NROTC students are required to complete the naval science curriculum, attend a weekly two-hour laboratory, and participate in four to six weeks of

active-duty summer training at sea or ashore. NROTC students are required to abide by the Midshipmen Regulations issued by the unit. Students may enroll in the NROTC program at any time from the beginning of their freshman year until the end of their sophomore year.

Courses

In addition to the required courses listed below, participants in the NROTC program must satisfactorily complete a number of other courses prescribed by the Department of the Navy, which are offered by other departments of the University. Current information on those course requirements is available from the NROTC unit.

With the exception of 110 and 355, Northwestern course credit is granted for successful completion of naval science courses; applicability to graduation requirements is subject to limitations imposed by the responsible University faculty committees and by the undergraduate schools. For more information on credit availability, consult the dean of each school. Naval science courses are open to non-NROTC students with department approval. Courses with an asterisk (*) are not required for Marine Corps option students.

NAV SCI 110-0 Introduction to the Organization and Culture of the Naval Services Composition and organization of the Naval Services; diverse missions, makeup, and manning of naval sea services with emphasis on duties and responsibilities of officers, rank and enlisted rating structure, training of subordinates, promotion and advancement, and military courtesy. Students gain a fundamental understanding of the formal and informal structures of the main warfare communities and how each contributes to completion of the U.S. Navy and Marine Corps missions.

NAV SCI 120-0 Seapower and Maritime Affairs A study of the influence of seapower on world history with a focus on U.S. naval history. Topics include the evolution and use of naval strategy; the influence of technology on tactics; naval power as an instrument of foreign policy; the Navy's interactions with the other armed services and with the executive and legislative branches of government; naval leadership in historical perspective; and past and future roles of the U.S. Navy and Marine Corps during conflict (including those in Iraq and Afghanistan) and in peacetime.

***NAV SCI 210-0 Marine Navigation** An in-depth study of marine navigation from the perspective of a deck officer aboard a naval warship. Focus on piloting, electronic navigation, and the rules governing the conduct of vessels on the high seas. Students become familiar with the proper use of navigational charts, publications, and various aids to navigation and gain understanding of the influence of environmental factors (e.g. weather, tides, and currents) on ship operations.

***NAV SCI 220-0 Naval Ship Systems II (Naval Weapons Systems)** Theory and employment of the Navy's weapons,

navigation, and communications systems. Processes of detection, evaluation, threat analysis, weapon selection, delivery, guidance, and explosives. Topics include fire control systems and major weapons types, including capabilities and limitations; physical aspects of radar and underwater sound; tactical and strategic significance of command, control, communications, computers, and intelligence with respect to weapons system integration. Supplemental review/analysis of case studies involving the moral and ethical responsibilities of leaders in employing weapons.

NAV SCI 230-0 Leadership and Management Seminar for Naval Officers Addresses leadership, management, and organizational behavior issues facing naval officers in a stressful environment, including strategic planning, time management, communication, counseling, team building, and decision making.

***NAV SCI 331-0 Naval Operations** Introduction to basic concepts and tools required for safe and proper operation of naval vessels. Students become proficient at maneuvering boards, concentrating on interception, pass-no-closer-than, and wind problems. Formation operations, external communications, replenishment at sea, and ship handling.

NAV SCI 336-0 Evolution of Warfare (Marine Corps option only) Evolution of warfare from 600 B.C. to present.

Students develop understanding and knowledge of the classic principles of war, the changes in conduct of war through time, and the actions and decisions of battlefield commanders and their soldiers.

NAV SCI 341-0 Naval Leadership and Ethics An academic, discussion-oriented course intended to provide future leaders with a broad understanding of the various moral, ethical, and leadership philosophies that help strengthen junior-officer character.

***NAV SCI 345-0 Naval Ship Systems I (Naval Engineering)** Provides an elementary overview of naval engineering systems and a detailed knowledge of the principles behind ship construction. Taught from a systems engineering standpoint. Topics include ship design, stability, and structural engineering; hydrodynamic forces; air and water systems; electrical theory, generation, and distribution systems; thermodynamics; damage control; hydraulics and ship control; theory and design of steam, nuclear, gas turbine, and diesel propulsion.

NAV SCI 346-0 History of Amphibious Warfare (Marine Corps option only) Evolution of amphibious warfare from the battle of Marathon to present. Students develop understanding and knowledge of the evolution of amphibious warfare doctrine, the impact of significant events in history relating to amphibious operations, and the problems and advantages relative to employing amphibious forces in the modern era.

NAV SCI 350-0 Naval Science Laboratory A two-hour weekly laboratory required each quarter for all NROTC students. The laboratories serve to develop students' professional leadership skills, provide a basic understanding of

the U.S. Navy and Marine Corps as part of the U.S. armed forces, and further challenge, test, and evaluate students on their potential to become commissioned officers in the U.S. Navy or Marine Corps.

NAV SCI 355-0 Directed Study Provides midshipmen with an opportunity to work under the supervision of an officer-instructor on projects related to professional development. Prerequisite: consent of department.

Aerospace Studies

Northwestern students may participate in the programs of the Air Force Reserve Officers Training Corps through a cross-enrollment agreement with the Illinois Institute of Technology (IIT). Within the limits of the Northwestern school in which the student is registered, credits earned in approved aerospace studies courses at IIT may be counted toward the degree requirements at Northwestern. Further information may be obtained from Air Force ROTC Detachment 195, Illinois Institute of Technology, 10 West 31st Street, Chicago, Illinois 60616, phone 312-567-3525. For course descriptions, see <http://afrotc.iit.edu>.

Military Science

Northwestern students may participate in the programs of the Army Reserve Officers Training Corps through a cross-enrollment agreement with the University of Illinois at Chicago (UIC). Credits earned in approved military science courses at UIC may be counted toward degree requirements within the limits of the Northwestern school in which the student is registered. Further information can be obtained from the Department of Military Science, University of Illinois at Chicago, 728 West Roosevelt Road, M/C 252, Chicago, Illinois 60607, phone 312-996-3451.