

Graduate School Catalog | 2009–11

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Note: The information in this catalog PDF is subject to change without notice.
Many departments make changes in their degree requirements and course descriptions between updates of the online catalog and PDF.
For the most current information, check with the department offices.

UNIVERSITY OF MINNESOTA
Driven to DiscoverSM

Introduction

Mission

The University of Minnesota, founded in the belief that all people are enriched by understanding, is dedicated to the advancement of learning and the search for truth; to the sharing of this knowledge through education for a diverse community; and to the application of this knowledge to benefit the people of the state, the nation and the world.

The University's mission, carried out on multiple campuses and throughout the state, is threefold:

Research and Discovery—Generate and preserve knowledge, understanding and creativity by conducting high-quality research, scholarship and artistic activity that benefit students, scholars and communities across the state, the nation and the world.

Teaching and Learning—Share that knowledge, understanding and creativity by providing a broad range of educational programs in a strong and diverse community of learners and teachers, and prepare graduate, professional and undergraduate students, as well as non-degree-seeking students interested in continuing education and lifelong learning, for active roles in a multiracial and multicultural world.

Outreach and Public Service—Extend, apply and exchange knowledge between the University and society by applying scholarly expertise to community problems, by helping organizations and individuals respond to their changing environments, and by making the knowledge and resources created and preserved at the University accessible to the citizens of the state, the nation and the world.

In all of its activities, the University strives to sustain an open exchange of ideas in an environment that embodies the values of academic freedom, responsibility, integrity and cooperation; that provides an atmosphere of mutual respect, free from racism, sexism and other forms of prejudice and intolerance; that assists individuals, institutions and communities in responding to a continuously changing world; that is conscious of and responsive to the needs of the many communities it is committed to serving; that creates and supports partnerships within the University, with other educational systems and institutions, and with communities to achieve common goals; and that inspires, sets high expectations for and empowers the individuals within its community.

Graduate School Location

The Graduate School's main administrative offices are on the East Bank of the University of Minnesota's Twin Cities campus in Johnston Hall, 101 Pleasant Street S.E., Minneapolis, MN 55455. See Campus Maps online at www.umn.edu/twincities/maps/index.html and www.d.umn.edu/maps/buildings.html. Johnston Hall is wheelchair accessible.

Publications

Graduate School Catalog—Prospective and current graduate students are responsible for all of the information contained in this catalog PDF that is pertinent to graduate study and to their specific fields.

The first section, General Information, is the official source of information about Graduate School policies and procedures. The next section, Majors and Degrees, lists approximately 170 programs offered through the Graduate School.

The largest sections, Twin Cities Degree Programs and Faculty, and Courses, list contact names and addresses for the programs and their offices, graduate faculty who teach in each discipline, and present requirements and course descriptions for the various

programs offering graduate degrees. At the beginning of the Courses section, the Course Numbers and Symbols page explains the numbering system, punctuation, department designators, and symbols used throughout the course descriptions. At the back is a complete listing of Course Designators.

This catalog PDF, produced by University Relations, is also available in HTML format at www.catalogs.umn.edu/grad/index.html.

Updates to Catalog Information—Changes in Graduate School policies and procedures relating to admission, registration, financial assistance, and commencement are accessible online at www.grad.umn.edu.

Other Publications—The *Class Schedule* lists courses, class hours, locations, instructors, and basic costs and regulations. It is available online at <http://onestop.umn.edu/index.html>. Separate catalogs are available for the College of Continuing Education, the Duluth campus, and the professional colleges; see the catalog Web site at www.catalogs.umn.edu.

Policies

Catalog Use—The information in this catalog and other University catalogs, publications, or announcements is subject to change without notice. University offices can provide current information about possible changes.

This electronic publication is available in alternative formats on request. Contact the Office of Admissions, University of Minnesota, 240 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455 (612-625-2008; admissions@umn.edu).

Equal Opportunity—The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

Inquiries regarding compliance may be directed to the Director, Office of Equal Opportunity and Affirmative Action, University of Minnesota, 419 Morrill Hall, 100 Church Street S.E., Minneapolis, MN 55455 (612-624-9547).

Disability Services—The University's mission is to provide optimal educational opportunities for all students. The University recognizes that students with disabilities sometimes have unique needs that must be met in order for them to have access to campus programs and facilities. In general, University policy calls for accommodations to be made on an individualized and flexible basis. It is the responsibility of students to seek assistance at the University and make their needs known.

The first place to seek assistance is Disability Services. This office promotes program and physical access, which means ensuring the rights of students with disabilities and assisting the University in meeting its obligations under federal and state laws. Disability Services provides direct assistance such as information, referral, support, and academic accommodations for enrolled and prospective students, as well as consultation to faculty and staff to ensure access to their programs and facilities.

The office also assists students with disabilities in obtaining services from other University or community resources and serves as a liaison between the University and the Division of Rehabilitation Services. Campus accessibility maps also are available from Disability Services and general building accessibility information is also available at the online Department Directory, www.umn.edu/systemwide/directories/building.html. More detailed accessibility information for campus buildings is available by selecting the appropriate building from the menu at www1.umn.edu/twincities/maps.

For more information, contact Disability Services, University of Minnesota, 180 McNamara Alumni Center, 200 Oak Street S.E., Minneapolis, MN 55455 (612-626-1333 voice or TTY). For online access, go to <http://ds.umn.edu>.

Access to Student Educational Records—In accordance with Regents policy on access to student records, information about a student generally may not be released to a third party without the student's permission. (Exceptions under the law include state and federal educational and financial aid institutions.) The policy also permits students to review their educational records and to challenge the contents of those records.

Some student information—name, address, electronic (e-mail) address, telephone number, dates of enrollment and enrollment status (full time, part time, not enrolled, withdrawn and date of withdrawal), college and class, major, adviser, academic awards and honors received, and degrees earned—is considered public or directory information. Students may prevent the release of public information. To do so, they must request suppression from the records office on their campus.

Students have the right to review their educational records and to challenge the contents of those records. The Regents policy is available for review online at http://onestop.umn.edu/grades_and_transcripts/student_education_records_policy.html, at 200 Fraser Hall, Minneapolis, and at records offices on other campuses of the University. Questions may be directed to the One Stop Services Center, 200 Fraser Hall (612-624-1111; helpingu@umn.edu).

Immunization—Students born after 1956 who take more than one University course are required under Minnesota law to submit a Student Immunization Record Form.

The form, which is accessed through the official Graduate School online admission letter, should be downloaded, filled out, and returned to Boynton Health Service as soon as possible, but absolutely no later than 45 days after the beginning of the first term of enrollment, in order for students to continue registering for courses at the University. Complete instructions accompany the form.

Smoke-Free Campus Policy—Smoking is prohibited in all facilities of the University of Minnesota, Twin Cities campus except for designated private residence hall rooms.

E-Mail—E-mail is the University's official means of communication with students. Students are responsible for all information sent via their University e-mail account. Students who forward their University e-mail account are still responsible for all information, including attachments, sent to the account.

The Campus and Community

On the Twin Cities campus, Graduate School students enjoy the vast academic and cultural opportunities of a major university and a unique metropolitan area.

Two Campuses in One—The Twin Cities campus, the largest and oldest in the University system, is technically two separate campuses: one just east of downtown Minneapolis on the Mississippi River, the other just west of the State Fairgrounds, a few miles from downtown Saint Paul.

The Mississippi River divides the Minneapolis campus into two banks connected by the double-decker Washington Avenue Bridge. The picturesque mall of the main East Bank is bordered by stately traditional buildings—including Johnston Hall, home of the Graduate School. Next door at the head of the mall is Northrop Memorial Auditorium and its plaza. At the opposite end of the mall, overlooking the Mississippi, Coffman Memorial Union offers a good place to relax between classes. Nearby are the health sciences complexes.

Just across the river is the West Bank. Newer and smaller, it boasts sleek brick buildings including the Elmer L. Anderson and Wilson Libraries, the Humphrey Institute of Public Affairs, Mondale Hall (the Law School), Ted Mann Concert Hall, the Carlson School of Management, and the Arts Quarter.

Three miles away and connected by a free express transit way, is the Saint Paul campus, where animal barns, croplands, flowers, and wooded areas evoke a small college atmosphere.

Urban Diversity—The Dinkytown, Stadium Village, Seven Corners, and Cedar-Riverside areas near the Minneapolis campus, and the St. Anthony Park neighborhood alongside the Saint Paul campus, all feature shops and restaurants tailored to students' interests and budgets.

Minneapolis (the largest city in Minnesota) and Saint Paul (the state capital) are both flourishing centers of commerce, industry, and the arts, and where grandiose historic buildings complement bold new skyscrapers. Focal points of a progressive metropolitan area of more than 3 million people, the two downtowns offer many opportunities for entertainment, research, volunteer or part-time work, internships, and careers.

Arts and Entertainment—The Twin Cities are renowned for their innovative and varied cultural attractions, such as the Guthrie Theater, Ordway Music Theater, Orchestra Hall, Science Museum, and Omnitheater. Northrop Memorial Auditorium, the campus centerpiece, hosts performances by popular musical and dance artists and outstanding University bands and ensembles. Students can see or star in plays at the Rarig Center. Or they can enjoy the Walker Art Center and the Minneapolis Institute of Arts, the Minnesota and Como Zoos, the Mall of America, the Renaissance Festival and Valleyfair, and the

Minneapolis Aquatennial and Saint Paul Winter Carnival. Overlooking the Mississippi River is the University's Frederick R. Weisman Art Museum, with award-winning design by Frank Gehry.

Recreation and Sports—The University's Recreational Sports program, one of the largest of its kind on any campus in the country, offers curling, cycling, racquetball, crew, ballroom dance, and 100 other teams, clubs, and fitness activities. Sports fans can attend Golden Gophers football at the new TCF Bank Stadium on campus, Minnesota Vikings football and Twins baseball at the Metrodome, Timberwolves basketball at the Target Center, and Wild hockey at the Xcel Energy Center. Many women's and men's intercollegiate athletic events also take place right on campus.

Outdoor enthusiasts can explore the Twin Cities' 150 parks and 200 lakes, which are ideal for picnicking, hiking, biking, swimming, canoeing, sailing, fishing, rollerblading, ice skating, cross-country skiing, or simply sitting and thinking. The Boundary Waters Canoe Area Wilderness, one of the most unsullied wilderness treasures in the entire nation, is only a few hours drive north.

The warmth of spring, greenery of summer, and bright colors of autumn are followed by at least three months of winter snow, but even then, daytime temperatures generally average an invigorating 10 to 30 degrees above zero.

University Counseling and Consulting Services

University Counseling and Consulting Services (UCCS), 109 Eddy Hall on the East Bank and 199 Coffey Hall on the Saint Paul campus (612-624-3323 for both), offers counseling for academic, career, personal, or relationship concerns.

Besides counseling, UCCS features a variety of services. Its Career Development Program and Student Academic Success Services offer workshops, courses, and materials for career development or academic skills improvement. UCCS also offers a series of workshops for graduate students, as well as ongoing dissertation support groups. The Organizational Development Program offers consultation, assessment, team building, conflict mediation, training, and workshops. The Student Affairs Office of Measurement Services (OMS) scores exams, surveys, and research instruments and provides consultation to University faculty and staff. The Testing Center administers computerized national tests. For more information, see www.ucs.umn.edu.

Libraries and Research Opportunities

The **University of Minnesota Libraries** include 14 library facilities on the Twin Cities campus, holding nearly 7 million volumes with current subscriptions to over 77,000 journals, making it the 15th largest of 113 North American research libraries. Five major library buildings provide anchors on both sides of the Mississippi River in Minneapolis and St. Paul: Wilson Library (humanities and social sciences), Walter Library (physical sciences and engineering), Bio-Medical Library, Magrath Library (natural, agricultural, environmental, and biological sciences), and Elmer L. Andersen Library (archives and special collections).

To support the many disciplines at an institution as comprehensive as the University of Minnesota, the University Libraries acquire, catalog, and maintain information in practically every field of knowledge, in every language, from every time period, and in every format. The online catalog, **MNCAT Plus**, provides a nearly complete listing of book and journal holdings and serves as a gateway to local, national, and global information sources including e-books, full-text periodicals, academic journal articles, and newspapers.

In addition to strong comprehensive research collections, subject librarians specialize in different research areas and are available for research assistance. The Libraries also offer a variety of free workshops on database literature searching and using the more complicated research materials and resources in the collections. Information about these and other services tailored especially to graduate students is available at www.lib.umn.edu/site/grads.phtml.

Research support is provided by the Offices of the Vice President for Research and the Vice Provost and Dean of Graduate Education, as well as by the public and private sectors. The Graduate School distributes a total of \$6 million annually in competitive fellowship awards to students. Another \$6 million annually is awarded competitively to faculty for research support and endowed professorship support. The University also ranks among the top research universities receiving federal research money.

Use of Human or Animal Subjects in Research

All research on the Twin Cities, Duluth, Morris, Crookston, and Rochester campuses that involves the use of human or animal subjects must be reviewed and approved before initiation by the Institutional Review Board: Human Subjects Committee (IRB) or the Institutional Animal Care and Use Committee (IACUC). This policy, approved by the University Senate and Board of Regents, applies to funded and nonfunded faculty, staff, and student research. All research, including Plan B projects, theses, and dissertations, that involves human or animal subjects must be approved by the appropriate committee to ensure that the rights and welfare of the subjects are protected. For more information, contact the Research Subjects Protection Office, University of Minnesota, MMC 820, 420 Delaware Street S.E., Minneapolis, MN 55455 (612-626-5654; fax 612-626-6061).

University Research Centers

The University has numerous research centers and institutes. A partial list can be found at www.mbbnet.umn.edu/res.html.

Administration

University Regents

Clyde E. Allen Jr., Congressional District 7, *Chair*

Linda A. Cohen, At Large, *Vice Chair*

Anthony R. Baraga, Congressional District 8

Richard Beeson, Congressional District 4

Dallas Bohnsack, Congressional District 2

John Frobenius, Congressional District 6

Venora Hung, Congressional District 5

Steven D. Hunter, At Large

Dean Johnson, At Large

David M. Larson, Congressional District 3

Maureen Ramirez, At-Large

Patricia S. Simmons, Congressional District 1

University Administrators

Robert H. Bruininks, President

E. Thomas Sullivan, Senior Vice President for Academic Affairs and Provost

Frank B. Cerra, Senior Vice President for Health Sciences and Dean of the Medical School

Robert J. Jones, Senior Vice President for System Academic Administration

Nancy “Rusty” Barceló, Vice President and Vice Provost for Equity and Diversity

Kathryn F. Brown, Vice President and Chief of Staff

Carol Carrier, Vice President for Human Resources

Steve Cawley, Vice President and Chief Information Officer

Karen L. Himle, Vice President for University Relations

R. Timothy Mulcahy, Vice President for Research

Charles Muscoplat, Vice President for Statewide Strategic Resource Development

Kathleen O’Brien, Vice President for University Services

Richard Pfitzenreuter, Vice President and Chief Financial Officer

Mark B. Rotenberg, General Counsel

Graduate School Administrators

R. Timothy Mulcahy, Interim Vice Provost and Dean of Graduate Education

Douglas Ernie, Ph.D., Associate Dean of Graduate Education

Shirley Nelson Garner, Ph.D., Associate Dean of Graduate Education

George D. Green, Ph.D., Associate Dean of Graduate Education

Timothy B Holst, Ph.D. Director of Graduate Programs, Duluth

The Graduate School administrative structure includes six policy and review councils, consisting of faculty and students, in the areas of biological sciences; education and psychology; health sciences; language, literature, and the arts; engineering, physical and mathematical sciences; and social sciences.

These councils, together with an Executive Committee, are responsible for making general policy for the Graduate School. The Executive Committee is composed of the vice provost and dean of graduate education; chairpersons of the policy and review councils, the Graduate Research Advisory Committee, the Biomedical Research Advisory Committee, and the Fellowship Committee; and representatives from the Duluth Graduate Council, Graduate School administration and staff, and the Council of Graduate Students.

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General Information

Tuition and Fees

Tuition for the various categories of Graduate School registration and fees are listed in the *Class Schedule* online at http://onestop.umn.edu/finances/costs_and_tuition/tuition_and_fees.

Summer session tuition and fees are listed in the *Summer Session Catalog* online at www.cce.umn.edu/summer.

Residence—Because the University is a state institution, Minnesota residents pay lower tuition than nonresidents. For more information on eligibility requirements for resident status, contact the Resident Classification and Reciprocity Office, University of Minnesota, 240 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455 (612-625-6330).

Reciprocity—For residents of North Dakota, South Dakota, Wisconsin, or Manitoba who qualify for reciprocity privileges, tuition rates are lower than for nonresidents and are, in some cases, comparable to resident rates. For more information, contact the Resident Classification and Reciprocity Office (see above) or visit http://onestop.umn.edu/finances/costs_and_tuition/tuition_and_fees/reciprocity/index.html.

Resident Tuition Benefit—For information on resident tuition for graduate assistants, fellows, and trainees, see Assistantships and Fellowships. For information on the benefit for underrepresented and educationally disadvantaged students, see Office for Diversity in Graduate Education in this section.

Basic Admission Requirements

Any student with a U.S. bachelor's degree or a comparable foreign degree from a recognized college or university may apply to the Graduate School Office of Admissions. Applicants with the necessary background for their chosen major field, an excellent scholastic record from an approved college or university, and appropriate professional qualifications may be admitted for graduate work on recommendation of the graduate faculty in the proposed major field and approval of the vice provost and dean of graduate education. The Graduate School operational standard for admission is an undergraduate grade point average (GPA) of 3.00. Many programs prefer a higher GPA. Applicants should consult the program to which they are applying for more specific information about admission standards.

Graduate School Commitment to Diversity—The Graduate School embraces the University of Minnesota's position that promoting and supporting diversity among the student body is central to the academic mission of the University. The Graduate School defines diversity to encompass many characteristics including economic disadvantage, special talents, evidence of leadership qualities, race

or ethnicity, a strong work record, and disability. A diverse student body enriches graduate education by providing a multiplicity of views and perspectives that enhance research, teaching, and the development of new knowledge. A diverse mix of students promotes respect for, and opportunities to learn from, others with the broad range of backgrounds and experiences that constitute modern society. Higher education trains the next generation of leaders of academia and society in general, and such opportunities for leadership should be accessible to all members of society. The Graduate School and its constituent graduate programs are therefore committed to providing equal access to educational opportunities through recruitment, admission, and support programs that promote diversity, foster successful academic experiences, and cultivate the leaders of the next generation.

For more information on admission requirements and application procedures, contact the proposed major field at the address or phone number listed with each program in the Degree Program and Faculty section of this catalog.

Application Procedure

Applicants are required to apply online at www.grad.umn.edu/prospective_students/apply_online.html. Applicants are encouraged to apply for admission well in advance of the term in which they wish to enter the Graduate School (but no more than one year in advance of the proposed entry date). The Graduate School Application for Admission, complete with all required materials, must be submitted by the following deadlines.

Fall semester June 15
Spring semester October 15
Summer session March 15

Deadlines that fall on a holiday or weekend will be extended through the next regular workday.

Many major fields have established deadlines earlier than those listed above and also require additional application and supporting materials. It is the applicant's responsibility to obtain information about those deadlines and requirements from the director of graduate studies for the proposed major.

NOTE: More detailed and up-to-date information regarding the application fee, transcripts, and test data is included in the instructions accompanying the Graduate School Application for Admission.

Transcripts—Official transcripts of previous academic study must be submitted with the admissions application.

Experience at the University of Minnesota has been that often during the course of the program of study a student has need of a complete set of official credentials covering previous college and university training. Applicants are urged to request two sets of official credentials when preparing their admission

application—one to be submitted for permanent filing in the Graduate School and the other for personal use.

International Applicants—All international applicants must submit complete credentials. Details on the types of transcripts required are given in the instructions for the Graduate School Application for Admission.

Test Data—One or more of the following tests may be required as part of the application process (in addition, students should consult the individual program requirements under Degree Programs and Faculty).

Graduate Record Examination (GRE)—Most major fields request the GRE. It would be wise, therefore, for applicants to complete this test either in the senior year of undergraduate work or before filing an admission application.

For information about the test, contact the Educational Testing Service, CN 6000, Princeton, NJ 08541; or www.ets.org/gre. Official scores must be sent to the Graduate School Office from the testing service.

Graduate Management Admission Test (GMAT)—See the accountancy, business administration, and business taxation program descriptions under Degree Programs and Faculty. For information on registering for the GMAT, write to the Graduate Management Admission Council (GMAC), 1600 Tysons Boulevard, Suite 1400, McLean, VA 22102 (866-505-6559 toll-free in the U.S. and Canada only; 703-245-4222; or www.mba.com/mba/TaketheGMAT).

Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS), and Michigan English Language Assessment Battery (MELAB)—The TOEFL operational standard for admission to the Graduate School is a minimum total score of 79, plus minimum section scores of 21 on the writing section and 19 on the reading section on the Internet-based test, or a minimum score of 550 on the paper-based test. The IELTS operational standard is a minimum score of 6.5, and the MELAB operational standard is a minimum score of 80. Individual programs may require a higher score. One of these tests is required of all international applicants whose native language is not English, except those who will have completed 24 quarter or 16 semester credits (within the past 24 months) in residence as a full-time student at a recognized institution of higher learning in the United States before entering the University of Minnesota. These transfer students, however, may be asked to take locally administered English tests after arrival on campus.

TOEFL

www.ets.org/toefl

Educational Testing Service
P.O. Box 899
Princeton, NJ 08541-6151

Inside the U.S. and Canada: 1-877-863-3546
Outside the U.S. and Canada: 1-609-771-7100

IELTS

www.ielts.org

100 East Corson St., Suite 200
Pasadena, CA 91103
626-564-2954

MELAB

www.lsa.umich.edu/eli/testing/melab

English Language Institute
MELAB Office, TCF Building
University of Michigan
401 E. Liberty, Suite 350
Ann Arbor, MI 48104-2298
1-866-696-3522

Foreign Medical Graduate Examination in the Medical Sciences (FMGEMS)—Applicants seeking admission to graduate study in clinical medical fields whose medical degrees or qualifications were conferred by medical schools outside the United States, Puerto Rico, or Canada must submit certification by the Educational Commission for Foreign Medical Graduates or evidence of a full and unrestricted license to practice medicine issued by a state or other territory under U.S. jurisdiction that is authorized to license physicians. For more information on certification and the FMGEMS, write to the Educational Commission for Foreign Medical Graduates, 3624 Market Street, Philadelphia, PA 19104 (215-386-5900; www.ecfmg.org).

Additional Information—The Graduate School and individual programs within it reserve the right to request additional information when they believe it is necessary.

Special Applicant Categories

University of Minnesota Undergraduates—If admitted to the Graduate School, University of Minnesota undergraduate students who have no more than seven semester credits or two courses to complete for their bachelor's degree (including both distribution and total credit requirements) may register in the Graduate School to begin a graduate program while simultaneously completing their baccalaureate work. A final bachelor's transcript must be submitted before the second term of registration.

Professional Development—Applicants who wish to enroll in a field in the Graduate School but who are not interested in a graduate degree may apply for admission for “professional development coursework.” Applicants for professional development courses must complete the usual application materials and meet existing deadlines and admission standards. Because some major fields restrict admission to only those planning on pursuing an advanced degree, applicants are advised to consult with the director of graduate studies in their proposed major field before completing application materials.

Academic Staff—University of Minnesota staff holding academic appointments above the rank of instructor or research fellow are normally not permitted to complete a graduate degree at the University. Those who wish to register for courses and transfer them elsewhere may apply for admission for “professional development coursework.”

Committee on Institutional Cooperation Traveling Scholar Program—The University of Minnesota participates in the Traveling Scholar Program for graduate students enrolled in Committee on Institutional Cooperation (CIC) institutions. The 14 participating universities are the members of the Big Ten, the University of Chicago, the University of Illinois at Chicago, and the University of Wisconsin-Milwaukee.

The program enables doctoral students at any CIC university to take advantage of educational opportunities—specialized courses, unique library collections, unusual laboratories—at any other CIC university without change in registration or increase in fees. Students may take advantage of these educational opportunities for three quarters or two semesters.

Graduate students interested in graduate course offerings not available at the University of Minnesota should confer first with their major department and major adviser concerning which of the cooperating institutions to select for program enrichment and diversification. Information on procedures for participating in the Traveling Scholar Program is available in the Graduate School Admissions Office, 309 Johnston Hall (612-625-3014) or online at www.grad.umn.edu/current_students/registration/CIC_traveling_scholar.html.

Assistantships and Fellowships

Resolution of the Council of Graduate Schools in the United States—Acceptance of an offer of financial aid (such as a graduate scholarship, fellowship, traineeship, or assistantship) for the next academic year by an enrolled or prospective graduate student completes an agreement that both student and graduate school expect to honor.

When a student accepts an offer before April 15 and subsequently desires to withdraw, the student may submit a written resignation from the appointment at any time through April 15. However, an acceptance given or left in force after April 15 commits the student to that financial aid offer; she or he may not accept any other offer without first obtaining a written release from the institution to which the outstanding commitment was made.

Similarly, an offer made by an institution after April 15 is conditional on presentation by the student of a written release from any previously accepted offer. It is further agreed by the institutions and organizations subscribing to this resolution that a copy of the resolution should accompany every scholarship, fellowship, traineeship, and assistantship offer.

Graduate Assistantships

Graduate assistantships are academic appointments reserved for graduate and professional students. Appointments to teaching assistant, research assistant, or administrative fellow positions are offered through various departments. A teaching assistant helps teach

students in a specified course or courses under the general supervision of the academic staff and may be assigned primary responsibility for an entire course. A research assistant carries out activities connected with research studies assigned by the supporting department or principal research investigator. An administrative fellow performs duties of a specialized nature connected with academic administration.

NOTE: *To be eligible to hold one of these appointments, a student must have been admitted to the Graduate School or a professional school and be registered in the Graduate School or professional school each term of the appointment; this applies to appointments of any percentage or any number of hours. For more specific information, refer to the Graduate Assistant Employment Area in the Office of Human Resources (612-624-7070) or its Web site at www.umn.edu/ohr/gae.*

Benefits

All graduate assistants holding appointments as teaching assistants, research assistants, and administrative fellows may become eligible for the following benefits:

Tuition Benefits—Upon reaching minimum qualification for eligibility (refer to the graduate assistant office Web site above), students receive a tuition benefit equal to twice the percentage of time worked. For example, a 40 percent appointment for the full payroll semester period includes an 80 percent tuition benefit, which applies only to tuition and the University fee. The maximum benefit is 100 percent and applies to a maximum of 14 credits each academic term. The tuition benefit does not cover course or student services fees.

Resident Rate Privilege—Upon reaching minimum qualification for eligibility (refer to the graduate assistant office Web site above), students receive a resident rate break, which is credited on the fee statement before the tuition benefit. This privilege applies concurrently to members of the immediate family (spouse or domestic partner, children, and parents).

Extended Resident Rate Privilege—When a graduate assistant has completed two qualifying terms of assistantship, the resident rate break continues for the number of terms the appointments were held, up to a maximum of four terms. This privilege applies also to the student's immediate family. **NOTE:** For the student and family, this privilege does not extend beyond three years from the termination of the last or most recent qualifying appointment.

Each department sets its own financial aid application deadline. Unless otherwise noted, students should apply by January 15 for appointments for the ensuing academic year; applications received after January 15 are considered for available vacancies.

Graduate assistants are compensated according to a pay range established each year by the University's central administration and approved by the Board of Regents. The current pay range for graduate

assistants is available from the department or the University of Minnesota Job Center. Graduate students may not hold appointments for which there is no monetary compensation, nor are they allowed to hold appointments for which they receive only course credit or resident tuition rates.

More information may be obtained from either the head of the department offering the appointment or the Job Center, which maintains the graduate assistant office Web site and Grapevine, a newsletter for graduate assistants. More information about the assistantship program at the University may be obtained from the Job Center, University of Minnesota, 200 Donhowe Building (first floor for walk-in assistance), 319 15th Avenue S.E., Minneapolis, MN 55455 (612-624-7070; fax 612-625-9801; www.umn.edu/ohr/gae).

Graduate Assistant Health Care Plan—University-subsidized health insurance is available to most Graduate School or professional school students who hold an appointment as a teaching assistant, research assistant, or administrative fellow (some other fellows and trainees enrolled in the Graduate School are also eligible). For these students, the University pays 42.5 to 95 percent of the insurance premium during the academic year (fall through spring), the percentage depending on the level of appointment. To receive this coverage, eligible students must apply for it by the end of the second week of classes. To apply and for more information, contact the Graduate Assistant Insurance Office, N-323 Boynton Health Service, 410 Church Street S.E., Minneapolis, MN 55455 (612-625-6936; gradins@bhs.umn.edu; www.bhs.umn.edu).

Postsecondary Teaching and Learning Assistantships—Graduate students are eligible to apply for teaching assistantships in the Department of Postsecondary Teaching and Learning in mathematics, natural sciences, social sciences, ESL, and the humanities. The Department of Postsecondary Teaching and Learning offers first-year curriculum for entering students, with a particular emphasis on multiculturalism.

All graduate teaching assistantships for Postsecondary Teaching and Learning are posted for at least five days in the Job Center, University of Minnesota, 319 15th Avenue S.E., Minneapolis, MN 55455. Notices of vacancies in Postsecondary Teaching and Learning are routinely sent to related academic departments in other University colleges.

Graduate Fellowships

Graduate fellowships, awards based on academic merit, are available to new and currently enrolled graduate students. The Graduate School Fellowship Office, 314 Johnston Hall, administers several fellowship programs; a number of individual academic departments also administer field-specific fellowships. Entering students should contact their prospective graduate program. Currently enrolled students should consult the Fellowship Office and their graduate program office for current information on fellowship

opportunities. The Fellowship Office also processes applications for several international competitions, such as Fulbright Grants for graduate study abroad.

Contact the Graduate School Fellowship Office for additional information at 612-625-7579 or gsfellow@umn.edu; or visit www.grad.umn.edu/fellowships.

Resident Benefit for Graduate Fellows and Trainees—Graduate students who hold fellowships or traineeships are eligible for resident tuition rates, provided the award is administered by the University and the stipend is at least equal to a 25-percent-time graduate assistantship. This eligibility also extends to members of the immediate family (i.e., parent, spouse, child, or ward). For details and updates on this policy, contact the Graduate School Fellowship Office, 314 Johnston Hall (612-625-7579; www.grad.umn.edu/fellowships).

For New Graduate Students

Graduate School Fellowships—Intended for recruiting outstanding new students to the University's graduate programs, these fellowships provide a stipend of approximately \$21,500 for the academic year plus tuition for up to 14 credits per term and subsidized health insurance. Prospective students must be nominated by their chosen major field in late January through procedures announced during fall semester. Applicants should contact the director of graduate studies in their major field in advance.

Fellowships and Scholarships Administered Through Departments—Many academic departments have fellowships and awards from private endowment income, gifts, and other sources. Complete information is available on award amounts and purposes, deadlines, and the application process from individual departments. Students should inquire directly.

Fellowships Available For Underrepresented and Educationally Disadvantaged Students—Because eligibility varies depending on the fellowship, students should contact the appropriate program office to see if they are eligible. Information can also be obtained from the Office for Diversity in Graduate Education, 233 Appleby Hall (612-625-6858; gsoeo@umn.edu).

Diversity of Views and Experiences Fellowship (DOVE)—Students planning to enter the Graduate School for the first time in the fall semester are eligible for these one-year fellowships, which provide a stipend of approximately \$22,500 plus tuition and health insurance (fees not included) for the academic year. Departmental support following the fellowship year is included. All applicants must be nominated by the graduate program they plan to enter. About 18 fellowships are awarded each year.

Other Available Fellowships—The availability of other fellowships for underrepresented and educationally disadvantaged students changes yearly. They include the Ford Foundation Pre-doctoral and Dissertation Fellowships for Minorities, the GEM Master's Fellowship, the GEM Ph.D. Engineering

and Natural Science Fellowship, and others. Contact the Office for Diversity in Graduate Education, 233 Appleby Hall, for information. In addition, underrepresented and educationally disadvantaged students should check all regular sources of support described in this catalog.

Other Financial Assistance

Student Employment—The University's Job Center (part of the Office of Human Resources) offers graduate students a wide range of nonacademic employment opportunities both on campus and throughout the Twin Cities area. All jobs are posted at the Job Center, 200 Donhowe Building, 319 15th Avenue S.E., Minneapolis, MN 55455 (612-625-2000; gaoinfo@umn.edu). Contact the Job Center for more information, including registration requirements for graduate student eligibility.

In addition to University (on-campus) employment, the Center offers programs for off-campus employment: the Job Location and Development (JLD) Program helps locate career-related opportunities with private and public employers in the Twin Cities; Community Service Programs helps arrange employment on and off campus with nonprofit organizations and agencies.

Students who prefer more flexibility may apply for short-term, on-campus temporary positions through the Student Temporary Service (STS). STS also offers free microcomputer training and temporary job placement through the Microcomputer Training Program. Training is provided on Macintosh and IBM microcomputers. Once qualified, students are placed in temporary, on-campus microcomputer-related jobs at competitive wages.

Office of Student Finance (OSF)—To apply for financial aid, graduate students must complete the Free Application for Federal Student Aid (FAFSA), available from the financial aid office each year. Graduate students are considered for the following programs, according to their degree program, student status, and other qualifying criteria: Ford Federal Direct Subsidized and Unsubsidized Loans; Federal Perkins Loans; Student Educational Loan Fund (SELF); University Trust Fund Loan (UTFL); University of Minnesota scholarships and fellowships; regular student employment and Work-Study; Health and Human Services Health Care Professions Grants; Minnesota Medical Foundation Scholarship; Minnesota Tuition Offset for Health Professions; Peters Pharmacy Scholarship; University of Minnesota Medical School Scholarships; Health Professions Student Loan (HPSL); Loans for Disadvantaged Students (LDS) for health professions; Nursing Student Loan (NSL); Primary Care Loan (PCL) for medical students; and private loans.

International graduate students must contact International Student and Scholar Services for financial aid opportunities (see below).

Most awards are based on financial need and full-time enrollment status. Aid from the UTFL, Perkins, and Work-Study programs is awarded as applications become complete and until all funds have been spent. Students who submit their FAFSAs early to the federal processor receive first priority consideration for limited funds. Prospective students may apply before admission to the University.

For detailed information, students should obtain the most recent edition of the *Scholarships and Financial Aid Handbook*, a comprehensive guide to the financial aid process at the University of Minnesota. The handbook is accompanied by the FAFSA, which must be completed for aid consideration.

Students may write to the One Stop Student Services Center at either University of Minnesota, 210 Fraser Hall, 106 Pleasant Street S.E., Minneapolis, MN 55455, or University of Minnesota, 130 Coffey Hall, 1420 Eckles Avenue, Saint Paul, MN 55108; call 612-624-1111 or from July through September, 1-800-400-UofM (8636); fax 612-624-9584; helpingu@umn.edu; http://onestop.umn.edu/finances/financial_aid). To receive disability accommodations when in Fraser Hall or information in an alternative format, call the disability services liaison for financial aid at 612-625-9578; TTY 612-626-0701.

International Students and Scholars—International Student and Scholar Services (ISSS) provides counseling, advising, and educational and career services to students and scholars from other countries. ISSS staff members offer counseling and advising services regarding visa requirements and other immigration issues; social, personal, and financial matters; international and intercultural educational opportunities; academic issues; and English language requirements.

International students new to the University of Minnesota must participate in ISSS's International Student Orientation Program, which introduces students to academic, social, and practical matters relevant to their study in the United States. In addition, ISSS coordinates many cross-cultural training programs and events for students, faculty, staff, and the Twin Cities communities. All admitted international students and scholars are mailed materials pertaining to pre-arrival, arrival, and transition to the University system. Prospective student inquiries may be addressed to International Student and Scholar Services, 190 Hubert H. Humphrey Center, 301 19th Avenue South, Minneapolis, MN 55455 (612-626-7100) or visit the Web site at www.iss.umn.edu.

Army and Air Force ROTC—Graduate students may pursue a two-year Army or Air Force ROTC program. For information, see the University's Undergraduate Catalog for the Twin Cities campus or call the Army ROTC (612-624-7300) or Air Force ROTC (612-624-2884).

Office for Diversity in Graduate Education

The Office for Diversity in Graduate Education (233 Appleby Hall, 612-625-6858, gsoeo@umn.edu) works closely with other University of Minnesota offices that are concerned with diversity and multiculturalism. The office

- provides service to prospective and currently enrolled graduate students, faculty, funding representatives, and university colleagues;
- provides information about the University of Minnesota and its commitment to enrolling a diverse student population;
- supports a diverse student body in recruiting, funding, retention, and graduation with strategies for clarifying goals; selecting an appropriate graduate program; preparing the best possible graduate school application; and funding graduate work through assistantships and fellowships;
- serves as the administrative unit for funding programs that support a diverse graduate student body;
- promotes professional development and scholarship across disciplines and works toward creating the institutional environment necessary for facilitating the academic achievements of graduate and professional students; and
- encourages undergraduate students to consider graduate study by participating in research and other academic projects outside of their regular coursework.

Student Grievance Procedures

Academic Complaints—The Graduate School follows the University’s policy on student academic complaints. Information about the policies related to student conduct and academic grievances are available online at www.umn.edu/regents/polindex2.html. For more information and additional resources contact the Student Conflict Resolution Center (612-624-7272; sos@umn.edu; www.sos.umn.edu).

Sexual Harassment—Policies pertaining to sexual harassment are contained in the Regents policy adopted December 11, 1998. The policy defines sexual harassment in the following manner.

Sexual harassment means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature when: 1) submission to such conduct is made either explicitly or implicitly a term or condition of an individual’s employment or academic advancement in any University activity or program; 2) submission to or rejection of such conduct by an individual is used as the basis of employment or academic decisions affecting this individual in any University activity or program; or 3) such conduct has the purpose or effect of unreasonably interfering with an individual’s work or academic performance or creating an intimidating, hostile, or offensive working or

academic environment in any University activity or program.”

All-University policies and procedures pertaining to sexual harassment are available online at www.umn.edu/regents/policies/humanresources/SexHarassment.html.

Crime Statistics—Crime statistics can be found on the University of Minnesota Police Web site at www.umn.edu/police/alerts.html.

Student Conduct Code—Matters concerning student conduct are addressed by the University’s Student Conduct Code rather than by Graduate School policies. The code applies both to academic and non-academic misconduct. Alleged violations involving graduate students in either instance are governed by the procedures outlined in the code itself. Allegations of non-academic misconduct by graduate students are dealt with directly by the University’s conduct code coordinator. See Section 5 of the Student Conduct Code (www.sja.umn.edu/conduct.html).

Because the Graduate School does not use a scholastic-standing committee or a disciplinary committee, responsibility for a full hearing concerning alleged academic misconduct by a graduate student most often lies with the department or program in which the student is majoring. When the alleged misconduct occurs in a course originating from a department or program outside of the student’s major, and the matter cannot be satisfactorily be resolved by the instructor, the allegation is forwarded to the conduct code coordinator for possible referral to a University disciplinary agency. For more information, contact the Office for Student Conduct and Academic Integrity (612-624-6073; www.umn.edu/oscai).

Housing

At the current time, the University guarantees a limited number of places in University Village and Centennial Hall for new and current graduate students who apply before May 1 for fall term. More graduate and professional students can be housed in residence halls/apartments during the spring term and will have an option of renewing for the following year. Students interested in living in a residence hall on campus or in off-campus housing in Minneapolis or Saint Paul should contact Housing and Residential Life, Comstock Hall-East, 210 Delaware Street S.E., Minneapolis, MN 55455 (612-624-2994; fax 612-624-6987; housing@umn.edu).

Listings of apartments, duplexes, houses, sleeping rooms, shared units, and sublets are maintained in the office as well as on the Web. Information on temporary housing, living costs, transportation, and day-care centers in the Twin Cities area is also available. For more information, visit the Housing and Residential Life Web site at www.housing.umn.edu.

For information on University family housing, contact Commonwealth Terrace Cooperative, 1250 Fifield Avenue, Saint Paul, MN 55108 (651-646-7526); or

Como Student Community, 1024 27th Avenue S.E., Minneapolis, MN 55414 (612-378-2434).

Orientation to the Twin Cities Campus

Designed for all incoming new graduate students in fall and spring semesters, Graduate Student Orientation (GSO) offers a wide variety of informational sessions and workshops to assist student transition into the University of Minnesota system. Sessions include “How to Navigate the U” and “The Nuts and Bolts of Graduate School” as well as basic resources such as “How to Get Your Student I.D.” All incoming graduate students (except those with foreign addresses) are mailed a brochure outlining the GSO schedule for that semester; F1 and J1 visa students receive information from International Student and Scholar Services (612-626-7100). For more information, contact Orientation and First-Year Programs (612-624-1979 or 800-234-1979; www.ofyp.umn.edu).

In addition to this University-wide orientation service, many graduate programs may offer orientation sessions specifically for their respective fields. For more information, students should contact the director of graduate studies in their major field.

Council of Graduate Students

The Council of Graduate Students (COGS) is the official governing body representing Graduate School students at the University. COGS provides opportunities for graduate students to participate actively in University and Graduate School administrative and policy decisions. Graduate students in each degree-granting program are entitled to elect one representative to serve on COGS. COGS also recruits student representatives for the Graduate School Policy and Review Councils, the University Senate, and many College of Liberal Arts and University-wide committees. In addition, COGS assists in providing ombuds services for graduate students and disseminates information, primarily through the *Gradletter*, the EXTRA! (graduate student listserv), and through general meetings held throughout the academic year. Information on University governance and grievance procedures is available from the COGS office.

Students may contact COGS at 405 Johnston Hall, 101 Pleasant Street S.E., Minneapolis, MN 55455 (612-626-1612; cogs@umn.edu; www.cogs.umn.edu).

Preparing Future Faculty

Preparing Future Faculty (PFF) welcomes graduate and postdoctoral participants from all disciplines. PFF helps participants acquire information about the teaching and learning process and the faculty role at a variety of institutions of higher education; gain a realistic perspective on the skills required for success

as a faculty member; examine their fit with a teaching career in higher education; work with a faculty mentor in a teaching opportunity at a local college or university; demonstrate, document, and reflect on their teaching skills; and market themselves for faculty or other professional positions.

To receive a letter of recognition and a certificate of program participation from the Graduate School, participants must complete GRAD 8101—Teaching in Higher Education and GRAD 8102—Practicum for Future Faculty. Other credit courses on teaching and learning or the faculty role may be recognized by PFF as substitutes for GRAD 8101 or GRAD 8102.

PFF is a program of the Graduate School, administered through the Center for Teaching and Learning (CTL) in the Office of Human Resources. For more information, drop by the CTL in 315 Science Classroom Building (612-625-3811; pff@umn.edu; www.umn.edu/ohr/teachlearn/pff).

Registration

Registration Deadlines—All graduate students must register before the term-specific, University-wide registration deadline. For University calendar and registration deadline information and the University-wide policy governing cancel/adds, refer to <http://onestop.umn.edu/onestop/calendar.html>.

For information about the summer term, including registration deadlines, refer to the *Summer Session Catalog* or the Web site above. Exceptions to University-wide registration deadlines will be considered only by written request to the Graduate School; such requests are not routinely granted.

All graduate students must register before the first day of the term to avoid a late registration fee.

Registration Requirements—To maintain their active status, graduate students must register every fall and spring term. Those who do not register in the Graduate School every fall and spring are considered to have withdrawn and their Graduate School records are deactivated. Deactivated students may not register for courses, take examinations, submit degree program or Thesis Proposal Forms, file for graduation, or otherwise participate in the University community as Graduate School students. Those who wish to résumé graduate work must request readmission to the Graduate School and, if readmitted, must register in the Graduate School for the term of readmission to regain their active status. For more information about the Graduate School’s registration requirements, refer to www.grad.umn.edu/current_students/registration.

Graduate students holding appointments as teaching assistants, research assistants, or administrative fellows must be registered for credit each term of their appointment; this applies to appointments of any percentage or any number of hours. See Graduate Assistantships under Assistantships and Fellowships for more information.

Students receiving other types of financial aid from the University or other agencies, international students with certain types of visas, and students who wish to use various University services and facilities may have specific registration requirements; these students are responsible for obtaining information about such requirements from the appropriate offices.

Special Registration Categories

GRAD 999—GRAD 999 is a zero-credit, zero-tuition, non-graded registration option for Graduate School students who must register solely to meet the Graduate School's registration requirement. GRAD 999 does not meet any other internal/external departmental or agency requirements. Other than requiring Graduate School students to hold active student status, the Graduate School does not impose any eligibility requirements on GRAD 999 registrations. However, individual graduate programs may establish their own eligibility criteria. Students considering registering for GRAD 999 should first check with their graduate program. For more information on GRAD 999, visit www.grad.umn.edu/current_students/registration/special-categories.html.

Registration Categories for Advanced Graduate Students—Advanced master's students and advanced doctoral candidates (i.e., students who have completed all their program coursework and required thesis credits, but are still working full-time on the research or writing of their thesis, papers, capstone project, or dissertation) may be eligible for special registration categories that enable them to be certified as full-time students when registered for one credit.

“Full-time status with one credit registration” courses are available only to advanced master's (8333) and doctoral (8444) students who have met eligibility criteria. Eligibility criteria are specific to advanced master's and advanced doctoral applicants. Students must meet eligibility criteria and application deadlines to qualify.

For more information concerning eligibility requirements, deadlines, and application forms, contact the Graduate School, 316 Johnston Hall, the Graduate Assistantship Office, or visit www.grad.umn.edu/current_students/registration/special-categories.html.

Readmission and Other Changes

Most requests for readmission, change of major, track or degree objective, or change of campus within the Graduate School must be made by submitting the online Change of Status/Readmission Application found at www.grad.umn.edu/current_students/registration/readmission.html. This Web page also contains information for those who should not apply online for readmission or change of status. Payment of a \$55 fee must be submitted with the application.

Readmission—To maintain their active status, graduate students must register every fall and spring term. Previously registered students who do not register in the Graduate School of the University of Minnesota every fall and spring term will be considered to have withdrawn and must apply for readmission in order to resume graduate work. More detailed information and specific examples are located at www.grad.umn.edu/current_students/registration.

Change of Major, Track, or Degree Objective—Students currently enrolled in the Graduate School who intend to change their major, track, or degree objective from that originally approved by the Graduate School should request a change of status. Students who have already been awarded a degree in the Graduate School must request a change of status if they wish to pursue another degree.

Change of Campus—Students currently enrolled in the Graduate School on one campus who wish to complete their studies on another campus should request a change of status. Graduate study is currently available on the Twin Cities campus and on the Duluth campus.

Grading System

The Graduate School uses two grading systems: A-B-C-D-F (with pluses and minuses) and S-N. Students have the option of choosing the system under which they will be graded, except in courses in which grading has been restricted to one system with approval of the Graduate School. Students choose their grading system at the time of initial registration. 5xxx and 8xxx courses with grades of A, B, C (including C-), and S may be applied to a Graduate School degree program; changes in grading option are not allowed after the second week of the term. Under some circumstances and with approval of the student's major field, 4xxx, 6xxx, and 7xxx courses may also be applied to a Graduate School degree. At least two-thirds of the total number of course credits included on any Degree Program Form must be taken A-F. Individual major fields have the option of specifying more stringent requirements regarding the application of S-N courses to a degree program. All A-F registrations in the Graduate School, regardless of course level, will be calculated in the cumulative GPA.

Incomplete Grades—The symbol “I” may be assigned by an instructor to indicate “incomplete,” in accordance with provisions announced in class at the beginning of the semester, when in the instructor's opinion there is a reasonable expectation that the student can successfully complete the work of the course. An “I” remains on the transcript until the instructor replaces it with a final A-F or S-N grade. Course instructors may, at their discretion, establish a time limit for the removal of incomplete grades. Each major field establishes for its graduate students the maximum number of credits of incompletes allowable at any given time.

Retaking Courses—The Graduate School discourages the retaking of courses to improve grades. If a course is retaken, appropriate tuition and fees will be assessed. All registrations and grades for the course remain on the student's graduate transcript and are calculated into the cumulative GPA.

Grade Changes—To preserve the integrity of the graduate transcript as an accurate record of a student's academic progress, the Graduate School does not approve requests to change final grades assigned to students in prior semesters.

Satisfactory Progress Toward the Degree

Graduate programs are required to provide their students with an annual review of their degree progress. In addition to fulfilling the Graduate School requirements, students should consult their major program's graduate studies handbook for program-specific criteria for satisfactory progress toward their degree.

Termination of Graduate Student Status

When performance is unsatisfactory in terms of grades or normal progress toward the student's degree objective, graduate student status may be terminated. All guidelines stated in this catalog are minimum requirements, and each program is free to set more specific terms by which progress is measured for purposes of continuation. Students are encouraged to check with the director of graduate studies in their major field for complete information about academic performance and degree progress standards and the procedures used to monitor these standards.

Students who do not register in the Graduate School every fall and spring term are considered to have withdrawn; their Graduate School records are deactivated (see Registration Requirements).

Postbaccalaureate Certificates

The Graduate School offers postbaccalaureate certificates (PBCs) that recognize graduate-level training beyond the award of the bachelor's degree. Graduate School certificates may be coupled with a master's or doctoral degree under special circumstances and with the approval of the graduate faculty in the degree-granting field. Refer to the list of Majors and Degrees for the fields in which PBCs are offered through the Graduate School. Graduate School PBCs require a minimum of 12 credits. Regular Graduate School application procedures and admission requirements apply.

As with master's degrees offered via the Graduate School, PBC students must complete at least 60 percent of their certificate program coursework as registered

University of Minnesota Graduate School students (See Transfer of Credits for the Master's Degree for the potential source[s] of course credits that the Graduate School will consider for transfer). For information regarding specific Graduate School requirements for PBCs, including information on the time limit for completing a certificate, refer to the Graduate School Web site at www.grad.umn.edu/faculty-staff/governance/policies/postbac_administration.html; for specific certificate requirements, see Degree Programs and Faculty in this catalog.

Master's Degree

The master's degree is awarded in recognition of academic accomplishment as demonstrated by a coherent program of coursework, passing of the required examinations, and preparation of a thesis or project(s).

Plans for the Master's Degree—The Graduate School offers the master's degree under three different plans:

- Plan A, requiring a thesis; and
- Plan B, which substitutes additional coursework and special projects for the thesis; and
- Plan C, the Coursework Only master's, which provides an alternative structure for degree completion, such as a culminating experience in the form of a capstone course and/or paper.

Minimum Graduate School requirements, including the 30-credit minimum, time limit for degree completion, double counting of credits, transfer coursework, and GPA apply to all plans. Individual major fields have the option of setting higher/more stringent requirements; students should be familiar with any special requirements in their major field. For plans offered in each major, see Degree Programs and Faculty in this catalog.

Registration Requirement for the Master's Degree—Master's degree students are required by the Graduate School to complete at least 60 percent of the coursework for their official degree programs (excluding thesis credits) as registered University of Minnesota Graduate School students; individual major fields may require a higher percentage. With approval of the adviser, director of graduate studies in the major (and director of graduate studies in the minor, if the courses are for a designated minor), and the Graduate School, transfer coursework may make up the remaining 40 percent (maximum) of the degree coursework (see Transfer of Credits for the Master's Degree below).

Master's Plan A students must enroll for a minimum of 10 thesis credits (8777) before receiving the degree.

Double Counting—Students may have a maximum of 8 credits in common between two master's-level degrees.

Transfer of Credits for the Master's Degree—Unless otherwise specified under a student's major in Degree Programs and Faculty, the following rules apply to transfer of credits.

Master's degree students are required by the Graduate School to complete at least 60 percent of the coursework for their official degree programs (excluding thesis credits) as registered University of Minnesota Graduate School students. With approval of the adviser, director of graduate studies in the major (and director of graduate studies in the minor, if the courses are for a designated minor), and the Graduate School, the transfer of up to 40 percent of the degree program coursework from any combination of the following is permitted.

1. Graduate-level coursework completed at other accredited graduate institutions
2. Graduate-level coursework taken as a non-admitted U of M student—students may be able to register for graduate credit when not admitted to the Graduate School. Non-admitted students interested in taking graduate-level courses must work with the respective departments (generally the director of graduate studies or his/her designee) to gain admission to non-degree status. For information about registering for graduate credit as a non-admitted student, refer to the One Stop Web site at www.onestop.umn.edu/non-degree/registration/graduate/index.html.
3. Graduate-level coursework completed through other University of Minnesota units (e.g., College of Education and Human Development, Law School) in pursuit of graduate-level degrees;
4. Adult special, summer session, and College of Continuing Education coursework completed at the University of Minnesota *before spring semester 2001*. Any registrations in these categories during spring semester 2001 or later will not be accepted towards any Graduate School degree requirement.

In all cases, official transcripts of the work must be attached to the Degree Program Form, unless they have already been included in the student's Graduate School file. Individual graduate programs have the option of specifying a lower percentage of coursework for transfer.

Work to be transferred must be graduate level (post- baccalaureate) and have been taught by faculty authorized to teach graduate courses. It is the student's responsibility to provide appropriate course documentation (e.g., course syllabi, faculty status information) supporting proposed transfer credits to the program.

In the case of a transfer from a non-U.S. institution, the credits must have been earned in a program judged by the Graduate School to be comparable to a graduate degree program in a graduate school of a regionally accredited institution in the United States.

Regarding the transfer of coursework from either a U.S. or non-U.S. institution, if conditions are placed on a student's admission to exclude certain coursework from transfer to a Graduate School degree program, that coursework may not be transferred regardless of the level of the coursework or the status of the school or college in which it was earned.

Credits are transferred by including the courses in the proposed degree program. Credits not accepted as part of a student's degree program cannot be transferred.

Courses taken before the awarding of a baccalaureate degree cannot be transferred.

Time Limit for Earning the Master's Degree—

All requirements for the master's degree must be completed and the degree awarded within seven years. The seven-year period begins with the earliest coursework included on the official Degree Program Form, including any transfer work. The graduate faculty in a specific program may set more stringent time requirements.

Students who are unable to complete the degree within the seven-year limit may petition the Graduate School for an extension of up to one additional year. Extensions beyond one year are considered only in the most extraordinary circumstances. To ensure timely consideration, petitions should be filed early in the term in which the time limit expires.

If a petition is approved, the student is notified of the expectations for progress and completion of the degree. If the petition is denied, the student is terminated from the graduate program.

Students who have been terminated under such circumstances may apply for readmission to the Graduate School; however, readmission under these circumstances is not assured. The faculty in the major field and the Graduate School set any readmission conditions on the student's resumption of work toward the degree, such as registering for additional coursework, retaking written examinations, completing the degree within a specified time period, or other appropriate terms.

For more information about the master's degree time limit and petitioning procedure, visit www.grad.umn.edu/current_students/forms/masters.html.

Official Degree Program Form—At the time of publication of this catalog PDF, Degree Program Forms were being filed in paper format. *However, filing and tracking of Degree Program Forms will, be changing to an electronic system. Updated information about the filing and tracking of these forms will be made available by the Graduate School, 316 Johnston Hall, and on the Graduate School's Web site at www.grad.umn.edu.*

The Graduate School expects master's students to submit an official degree program by filing a Degree Program Form (available online at www.grad.umn.edu/current_students/forms/masters.html) by the time they have completed 10 credits, but no later than one term prior to completion of the degree; however, individual graduate programs may establish their own deadlines for submission of the degree program to the Graduate School. Graduate School approval of the degree program as submitted on the form is required prior to obtaining the master's graduation packet, taking the master's final examination, and/or degree clearance. Students are strongly encouraged to plan ahead to avoid unexpected delays.

The official Degree Program Form lists all coursework, completed and proposed, that the student will complete in fulfillment of degree requirements, including transfer work (see Transfer of Credits for the Master's Degree). If a foreign language is required for the degree, it must also be specified on the Degree Program Form. The members of a student's final examining committee (who are the thesis reviewers for Plan A) are appointed by the vice provost and dean of the Graduate School on recommendation of the faculty in the major field at the time the student's official degree program is approved.

The minimum credit requirements for the program are specified under the Plan A and Plan B sections below.

A Degree Program Form must be on file and approved by the Graduate School before reviewers report, examination, or graduation forms can be released to the student.

Changes in Approved Program—Once approved, the degree program must be fulfilled in every detail to meet graduation requirements. Changes to the degree program should be requested by completing a Graduate School Petition Form. The Petition Form is available from the Graduate School, 316 Johnston Hall, or online at www.grad.umn.edu/current_students/forms/masters.html.

Minimum Grade Requirements—The Graduate School requires a minimum GPA of 2.80 (on a 4.00 scale) for courses included on any official master's Degree Program Form. Courses with grades of A, B, C (including C-), and S may be included in the official degree program, but grades of S are not calculated in the GPA. Students pursuing a Plan A master's degree are required to register for thesis credits (8777); these registrations are not graded and therefore cannot be used to meet course credit requirements. At least two-thirds of the course credits included on any Degree Program Form must be taken A-F.

Individual major fields have the option of setting higher grade requirements and specifying more stringent requirements regarding the application of S-N courses to a degree program; students should be familiar with any special requirements in their major field.

Language Requirement—See Degree Programs and Faculty to determine the language requirement, if any, for a specific major field. The Graduate School monitors the fulfillment of language study when a major field requires a language. Information on how to demonstrate proficiency, and on conditions under which proficiency is recorded on the official transcript, is available from the Graduate School, 316 Johnston Hall, or online at www.grad.umn.edu/current_students/forms/masters.html.

More Information—Students who have questions about the master's degree after reading this entire section (including the following on Plan A and Plan B) may review online information at www.grad.umn.edu/current_students or contact the Graduate School by e-mail at gsmast@umn.edu.

NOTE: Many commonly used forms are available on the Graduate School Web site at www.grad.umn.edu/forms.

Plan A: Master's Degree With Thesis

Minimum Credit Requirements—Students must complete an approved program of coursework consisting of a minimum of 14 credits in the major field and a minimum of 6 credits in one or more related fields outside the major. All credits included on the official Degree Program Form must be in graduate-level courses. Courses included on the official Degree Program Form cannot be used to meet both major and outside credit requirements. A 2.80 minimum GPA must be maintained for all courses in the degree program. Students must also register for a minimum of 10 master's thesis credits (8777); these registrations are not graded and therefore cannot be used to meet course credit requirements.

Students who wish to complete a designated minor (which is certified on the transcript—unlike the related fields option, which is not) must complete 6 or more credits in a single field. A designated minor must be approved by the director of graduate studies in the minor field. Minors generally are declared when the Degree Program Form is filed; they must be declared prior to the final examination.

For majors in clinical branches, the minor or related fields must be in nonclinical fields that will serve as a basis for the proposed clinical specialization. This fundamental work should be taken early in the program. Familiarity with those phases of the nonclinical disciplines essential to proficiency in the major specialty is required.

Thesis Credits—Students must enroll for a minimum of 10 master's thesis credits (8777) before receiving the degree. Students cannot include thesis credits in the total program credits when determining maximum transfer allowed (see Transfer of Credits for the Master's Degree). In addition, they cannot transfer thesis credits from other graduate institutions, double-count thesis credits between two master's degrees, or use thesis credits to meet the minimum major and related field coursework requirements for the degree.

Master's Thesis

Students must demonstrate familiarity with the tools of research or scholarship in their major field, the ability to work independently, and the ability to present the results of their investigation effectively by completing a master's thesis.

Language of the Thesis—Theses must normally be written in English or in the language of instruction. If a thesis is to be written in a foreign language, including a language of instruction other than English, a letter should be attached to the degree program when it is submitted to the Graduate School. This letter should confirm that the recommended thesis reviewers (including the outside reviewer) are qualified to read, comprehend, and criticize a thesis in the foreign language.

Published Work Included as Part of the

Thesis—The thesis may include materials that students have published while University of Minnesota graduate students, provided the research was carried out under the direction of the graduate faculty and approved by the adviser for incorporation into the thesis. Such publication is welcomed as the best demonstration of quality in a student's research, and the Graduate School encourages the practice. The adviser should notify the Graduate School in writing of the intention to publish part of the thesis material, but the Graduate School's approval is not required.

In cases where the thesis research is to be presented to the examining committee in the form of one or more articles that have been published, or are in a form suitable for publication, the student should contact the Graduate School (gsmast@umn.edu; 316 Johnston Hall) for information on accommodating such a presentation to the required thesis format.

Thesis Reviewers—The thesis is read by the entire examining committee, which is appointed by the vice provost and dean of graduate education on recommendation of the faculty in the major field at the time the student's official degree program is approved. This examining committee consists of at least three members: two representatives from the major field and one from the minor or a related field. Committee members cannot represent more than one field simultaneously.

To permit faculty to allocate sufficient time to read the thesis and decide whether it is ready for defense, students must notify their adviser and other members of the final oral committee at least two weeks in advance that the thesis will be delivered on a particular date. All members of the examining committee must then have at least two weeks to read the thesis after it has been delivered. These are minimum standards; individual programs may establish other standards for their students.

The entire committee must be unanimous in certifying that the thesis is ready for defense, as indicated by their signatures on the Thesis Reviewers Report Form. Students request this form, part of the graduation packet, online at www.grad.umn.edu/current_students/masters/index.html, or in person at 316 Johnston Hall. The form will be released to the student only if she or he has a Degree Program Form approved by and on file with the Graduate School and has maintained active status (see Registration Requirements under Registration). When the signed Thesis Reviewers Report Form is returned to the Graduate School, 316 Johnston Hall, the student is provided with the Final Examination Report Form.

Final Examinations—Candidates for the master's degree, Plan A, must pass a final oral examination; a final written examination may also be required at the discretion of the graduate faculty in the major field. If both a written and an oral examination are specified, the written examination must precede the oral examination. The final examinations cover the

major field and the minor or related fields, and may include any work fundamental to these fields. The final oral for the master's degree is conducted as a closed examination, attended by only the student and the examining committee.

Final examinations are coordinated by the chair of the student's examining committee. All committee members must be present at the examination; the absence of any member results in an invalid examination. The results of the examinations are reported to the Graduate School on the Final Examination Report Form. A majority vote of the committee, all members present and voting, is required to pass the examination. A student who fails the examination may be terminated from the graduate program or may be allowed, on unanimous recommendation of the examining committee, to retake the examination, providing the reexamination is conducted by the original examining committee.

Changes in the Examining Committee

Substitutions on the examining committee may be necessitated by such circumstances as a faculty member's temporary absence on leave from the University. The adviser or the director of graduate studies must request the Graduate School's approval of such substitutions well in advance of the examination. Substitutions for an oral examination that are necessitated by emergency situations must also be approved in advance. In such cases, the adviser should consult with the Graduate School staff before the start of the examination.

Preparation and Submission of the Thesis—Two unbound copies of the thesis must be submitted to the Graduate School. The student's adviser(s) must sign the thesis to confirm that it is complete and satisfactory in all respects and that all revisions required by the final examining committee have been made. Instructions for the preparation of the thesis, including format specifications and adviser's signature requirements, should be obtained from the Graduate School, 316 Johnston Hall, or online at www.grad.umn.edu/current_students/forms/masters.html.

Plan B: Master's Degree Without Thesis

Minimum Credit Requirements—Students must complete an approved program of coursework consisting of a minimum of 14 credits in the major field and a minimum of 6 credits in one or more related fields outside the major. The balance of credits to be completed to meet the 30-credit minimum requirement for the degree is chosen by agreement between the adviser and the student, subject to whatever restrictions the graduate faculty in the major field may place on that choice. Courses included in the student's official degree program cannot be used to meet both major and outside credit requirements. All credits included in the official degree program must be earned in graduate-level courses. A 2.80 minimum GPA must be maintained for all courses included in the program.

Students who wish to complete a designated minor (which is certified on the transcript—unlike the related fields option, which is not) must complete 6 or more credits in a single field. A designated minor must be approved by the director of graduate studies in the minor field.

Plan B Project(s)—Students must demonstrate familiarity with the tools of research or scholarship in their major field, the ability to work independently, and the ability to present the results of their investigation effectively, by completing at least one Plan B project. The graduate faculty in each major field may require as many as three such projects.

The Plan B project(s) should involve a combined total of approximately 120 hours (the equivalent of three full-time weeks) of work. The graduate faculty in each major field specifies both the nature and extent of the options available to satisfy this requirement, and whether the requirement is to be satisfied in conjunction with, or independent of, the courses in the student's program.

Final Examinations—The Graduate School requires a final examination for Plan B candidates; this may be written, oral, or both, at the discretion of the graduate faculty in the major field. The final examinations cover the major field and the minor or related fields, and may include any work fundamental to these fields. Students should make the Plan B project(s) available to the examining committee for its review well in advance of the final examination. If a final oral examination is held, it is conducted as a closed examination, attended by only the student and the examining committee. All committee members must be present at the oral examination; the absence of any member results in an invalid examination.

A committee of at least three examiners is appointed by the vice provost and dean of graduate education upon recommendation of the faculty in the major field at the time the official degree program is approved. This committee consists of two representatives from the major field and one from the minor or a related field. Committee members cannot represent more than one field simultaneously. The examination is coordinated by the chair of the student's examining committee. The results of the examination are reported on the Final Examination Report Form, which the student must obtain from the Graduate School, 316 Johnston Hall, or by requesting a graduation packet online at www.grad.umn.edu/current_students/masters/index.html before the examination is held. This form is released only if the student has a Degree Program Form approved by and on file with the Graduate School and has maintained active status (see Registration Requirements under Registration). A majority vote of the committee, all members present and voting, is required to pass the examination. A student who fails the examination may be terminated from the graduate program or may be allowed, on unanimous recommendation of the examining committee, one retake of the examination, providing the reexamination is conducted by the original examining committee.

Changes in the Examining Committee—

Substitutions on the examining committee may be necessitated by such circumstances as a faculty member's temporary absence on leave from the University. The adviser or the director of graduate studies must request the Graduate School's approval of such substitutions well in advance of the examination. Substitutions for an oral examination that are necessitated by emergency situations must also be approved in advance. In such cases, the adviser should consult with the Graduate School staff before the start of the examination.

More Information—Students who have questions about the master's degree may review online information at www.grad.umn.edu/current_students or contact the Graduate School by e-mail at gsmast@umn.edu. **NOTE:** Commonly used forms are available on the Graduate School Web site at www.grad.umn.edu/current_students/forms/masters.html.

Professional Master's Degree in Engineering

A number of engineering departments offer programs, with emphasis on design methods, leading to a designated professional master's degree in engineering. The design emphasis of the program is on applications rather than development of engineering methods or material behavior, and on application of knowledge and methods of the physical and social sciences as well as of engineering. The programs are primarily for students who have already earned a bachelor's degree in a related engineering field. Students normally are expected to be recent graduates of a bachelor of science in engineering program accredited by the Engineers' Council for Professional Development (ECPD). Full-time students should be able to complete the program in one calendar year. The professional master's degree in engineering is considered a terminal degree. Students should also note that only under exceptional circumstances will the Graduate School and the participating programs permit students to transfer from this program to a master of science program.

Fields in Which the Program is Offered—Refer to the appropriate engineering department sections under Degree Programs and Faculty for information about the fields in which the professional master of engineering program is offered.

Regular Graduate School application procedures should be followed. Applicants should designate the master of engineering as their degree objective, to distinguish it from the master of science degree also available in the engineering fields.

Two Options for the Professional Master's Degree in Engineering—The Graduate School offers the professional master's degree in engineering with two options depending on the major field: a design project option and a coursework only option.

Design Project Option

This option requires 14 credits in the major field, a minimum of 6 credits in one or more related fields outside the major, and a design project measured as a minimum of 10 (8777) credits. Students who wish to complete a designated minor must complete 6 or more credits in a single field. Courses included on the official Degree Program Form cannot be used to meet both major and outside credit requirements. The design project emphasizes problem solving based on engineering design criteria extant in industry. Performance of professional caliber able to withstand the scrutiny and critique of both senior industry design engineers and University engineering faculty is expected.

Preparation and Submission of the Design Project

Two unbound copies of the design project must be submitted to the Graduate School. The student's adviser(s) must sign the project to confirm that it is complete and satisfactory in all respects and that all revisions required by the final examining committee have been made. Instructions for the preparation of the design project, including format specifications and adviser's signature requirements, should be obtained from the Graduate School, 316 Johnston Hall, or online at www.grad.umn.edu/current_students/forms/masters.html.

Coursework Only Option

This option requires a minimum of 30 semester credits distributed to include 14 credits in the major field, a minimum of 6 credits in one or more related fields outside the major, and the remaining credits to be determined by the student and adviser subject to whatever guidelines the graduate faculty in the major field may place on such elective choices. Students who wish to complete a designated minor must complete 6 or more semester credits in a single field. Courses included on the official degree program cannot be used to meet both major and outside credit requirements. No projects or papers specific to this track are required.

For information regarding degree completion requirements, which includes the submission of a Final Examination Report Form for both the design project and coursework only options, the student may contact the Graduate School by e-mail at gsmast@umn.edu.

Master of Fine Arts

Admission to master of fine arts programs is limited to students with the bachelor's degree or its equivalent from an accredited university or college and who demonstrate exceptional promise as creative artists in one or more of the subfields in their major area. For a list of the subfields and for specific program requirements, see Art, Creative Writing, Design, and Theatre Arts under Degree Programs and Faculty.

Specialist Certificate in Education

The Graduate School offers two-year specialist certificates in several education fields (see Educational Policy and Administration, Educational Psychology—Counseling/Personnel, Educational Psychology—School Psychological Services, and Educational Psychology—Special Education under Degree Programs and Faculty for descriptions). The specialist certificate requires a minimum of 60 credits.

Transfer of Credits—With approval of the adviser, director of graduate studies in the major, and the Graduate School, transfer of up to 50 percent of the degree program coursework from any combination of the following is permitted.

1. Graduate-level coursework completed at other accredited graduate institutions;
2. University of Minnesota coursework meeting specific registration criteria (see "Registering for Graduate Credit," www.onestop.umn.edu/non-degree/registration/graduate/index.html for registration instructions);
3. Graduate-level coursework completed through other University of Minnesota units (e.g., College of Education, Law School) in pursuit of graduate-level degrees;
4. Adult special, summer session, and College of Continuing Education coursework at the University of Minnesota completed before spring semester 2001. Any registrations in these categories completed during spring semester 2001 or after will not be accepted toward any Graduate School degree requirement.

Individual graduate programs have the option of specifying a lower percentage of coursework allowed for transfer.

Work to be transferred must be graduate level (post-baccalaureate) and have been taught by faculty authorized to teach graduate courses. It is the student's responsibility to provide appropriate course documentation (e.g., course syllabi, faculty status information) supporting proposed transfer credits to the program.

In the case of a transfer from a non-U.S. institution, credits must have been earned in a program judged by the Graduate School to be comparable to a graduate degree program in a graduate school of a regionally accredited institution in the United States.

In transferring coursework from either U.S. or non-U.S. institutions, if conditions are placed on a student's admission to exclude certain coursework from transfer to a Graduate School degree program, that excluded coursework may not be transferred—regardless of the level of the coursework or the status of the school or college from which it was earned.

Credits are transferred by including the courses in the proposed degree program. Credits not accepted as part of a student's degree program cannot be transferred.

Courses taken before the awarding of a baccalaureate degree cannot be transferred.

Degree Requirements—Students pursuing the specialist certificate ordinarily complete the requirements for the master's degree with a major in the field of the specialty as the first year of the program. All first-year students must meet regular admission, candidacy, and examination requirements for the master of arts degree and should specify as their degree objective the master's degree on the application. A decision regarding continuation beyond the master's degree in a specialist program depends on an evaluation of performance in meeting the master's requirements.

Time Limit for Earning the Specialist Certificate—The specialist certificate can be completed in two years but must be completed and awarded within 12 years. The 12-year period begins with the earliest coursework included on the program form, including any transfer work. Graduate credits earned before the 12-year span are evaluated by the faculty in the area of specialization and may be recommended to the Graduate School for acceptance. Students who expect to exceed the 12-year limit may petition the Graduate School for an extension of time; contact the Graduate School, 316 Johnston or see www.grad.umn.edu/current_students for more information.

Final Examinations—The Graduate School requires a final examination for specialist certificate candidates; this may be written, oral, or both, at the discretion of the graduate faculty in the major field. A committee of at least three examiners is appointed by the vice provost and dean of graduate education upon recommendation of the faculty in the major field at the time the official degree program is approved. This committee is comprised of three members from the student's major field.

The examination is coordinated by the chair of the student's examining committee. The results of the examination are reported on the Final Examination Report Form which the student must obtain before the examination is held from the Graduate School, 316 Johnston, or by requesting a graduation packet online at www.grad.umn.edu/current_students/specialist/index.html. The Final Examination Report Form will be released only if the student has a Degree Program Form approved by and on file with the Graduate School and has maintained active status (see Registration Requirements under Registration). A majority vote of the committee, all members present and voting, is required to pass the examination. A student who fails the examination may be terminated from the graduate program or may be allowed, on unanimous recommendation of the examining committee, one retake of the examination providing the reexamination is conducted by the original committee.

Except as noted in this section, the requirements and procedures for completing the specialist certificate are comparable to those described under Plan B: Master's Degree Without Thesis.

More Information—Students who have questions about the specialist certificate after reading this entire section may review online information at www.grad.umn.edu/current_students or e-mail gsmast@umn.edu. **NOTE:** Commonly used forms are available on the Graduate School Web site at www.grad.umn.edu/current_students/forms/masters.html.

Doctor of Philosophy Degree

The doctor of philosophy degree (Ph.D.) is awarded chiefly in recognition of high attainment and ability in a special subject field as demonstrated by passing the required examinations covering both a candidate's general and special subject fields, and by preparing and successfully defending a dissertation based on original research that makes a significant contribution to knowledge in the student's field.

Registration Requirement for the Doctoral Degree—Doctoral students are generally required to register for major field and minor or supporting program coursework. Students should consult their graduate program to determine whether coursework completed while pursuing a University of Minnesota master's degree may be used to meet their doctoral coursework requirement.

Doctoral students are required to enroll for a minimum of 24 thesis credits (8888) while writing the doctoral dissertation. Students may not register for thesis credits until the semester after they have passed their preliminary oral examination.

Doctoral Pre-Thesis Credits (8666)—These credits are available for doctoral students who have not yet passed their preliminary oral examination but need to be registered in the Graduate School to meet requirements of agencies or departments outside the Graduate School (e.g., loan agencies). Doctoral pre-thesis credits are not graded. **NOTE:** Registration for doctoral pre-thesis credits cannot be used to meet any Graduate School degree requirements other than to maintain active status (refer to Registration Requirements).

Transfer of Credits for the Doctoral Degree—Students may request from the Graduate School the transfer of the following types of course credits by including the courses in the proposed degree program. In all cases, official transcripts of the graded work must be attached to the Degree Program Form, unless they have already been included in the student's Graduate School file. Transfer of graduate credit is not allowed for courses taken before the awarding of a baccalaureate degree.

From other graduate institutions—Graduate credits earned at other accredited graduate institutions may be applied to doctoral degrees if the coursework is graduate level and was taught by faculty authorized to teach graduate courses. The number of credits

accepted for transfer is determined by the graduate program faculty.

From other University of Minnesota graduate-level degrees—Graduate credits earned while admitted to pursue University of Minnesota graduate-level degrees (offered by a unit other than the Graduate School) may be applied to doctoral degrees. The number of graduate credits accepted for transfer is determined by the graduate program faculty.

In the case of a transfer from a non-U.S. institution, credits to be transferred must have been earned in a program judged by the Graduate School to be comparable to a graduate degree program of a regionally accredited institution in the United States.

In the case of a student's transfer from either a U.S. or non-U.S. institution, if conditions are placed on a student's admission to exclude certain coursework from transfer to a Graduate School degree program, that excluded coursework may not be transferred—regardless of the level of the coursework or the status of the school or college from which it was earned.

From other registration categories—A maximum of 12 semester credits of completed graduate-level coursework, in any combination of the specific registration categories listed below, may be considered for transfer.

Registrations for graduate credit by non-admitted students—Students may be able to register for graduate credit when not admitted to the Graduate School. Non-admitted students interested in taking graduate-level courses must work with the respective departments (generally the director of graduate studies or his/her designee) to gain admission to non-degree status. The registration procedure outlined in the current *Class Schedule*, “Registering for Graduate Credit,” must be followed for courses to be considered for transfer by the Graduate School. See <http://onestop.umn.edu/non-degree/registration/graduate>

Adult special, summer session, and College of Continuing Education (CCE) registrations prior to spring semester 2001—The Graduate School will accept only adult special, summer session, and CCE coursework taken at the University of Minnesota before spring semester 2001. Any registration in these categories taken during spring semester 2001 or later will not be accepted towards any Graduate School degree requirements.

Time Limit for Earning the Doctoral Degree—All requirements for the doctoral degree must be completed and the degree awarded within five calendar years after passing the preliminary oral examination (see Preliminary Written and Oral Examinations).

Students who are unable to complete the degree within the five-year limit may petition the Graduate School for an extension of up to one additional year. Extensions beyond one year are considered only in the most extraordinary circumstances. To ensure timely

consideration, petitions should be filed no later than early in the term in which the time limit expires.

If the petition is approved, the student is notified of the expectations for progress and completion of the degree. If the petition is denied, the student is terminated from doctoral candidacy and from the graduate program.

Students who have been terminated under such circumstances may apply for readmission to the Graduate School; readmission under these circumstances is not assured, however. The faculty in the major field and the Graduate School set any readmission conditions on the student's resumption of work toward the degree, such as registering for additional coursework, retaking written examinations, filing a revised thesis proposal, completing the degree within a specified time period, or other appropriate terms.

For more information about the doctoral degree time limit and petitioning procedure, visit www.grad.umn.edu/current_students/forms/doctoral.html.

Official Program for the Degree—At the time of publication of this catalog PDF, Degree Program Forms were being filed in paper format. *However, filing and tracking of Degree Program Forms will be changing to an electronic system. Updated information about the filing and tracking of these forms will be made available by the Graduate School, 316 Johnston Hall, and on the Graduate School's Web site at www.grad.umn.edu.*

The Graduate School expects doctoral students to file an official program for the degree during their second year of study using the Degree Program Form; however, individual graduate programs may establish their own deadlines for submission of the degree program to the Graduate School. Graduate School approval of the Degree Program Form is required well in advance of scheduling of the preliminary oral examination. Students are strongly encouraged to plan ahead to avoid unexpected delays.

The Degree Program Form should list all coursework, completed and proposed, that will be offered in fulfillment of degree requirements in the major field and in the minor field or supporting program, including any transfer work (see Transfer of Credits for the Doctoral Degree). If the student's major field requires proficiency in one or more foreign languages, these should be specified as well. The members of a student's preliminary oral examining committee are appointed by the vice provost and dean of graduate education on recommendation of the faculty in the major field at the time the student's official degree program is approved.

A Degree Program Form approved by the Graduate School must be on file before the student is permitted to schedule the preliminary oral examination.

Changes in Approved Program—Once approved, the student's degree program must be fulfilled in every detail to meet graduation requirements and before the final oral examination can be scheduled.

Program changes should be requested by completing a Graduate School Petition Form. The form is available from the Graduate School or online at www.grad.umn.edu/current_students/forms/doctoral.html.

Minimum Grade Requirements—The Graduate School does not define a minimum GPA for courses included on an official doctoral Degree Program Form, although individual programs are free to do so as part of their effort to monitor their students' academic achievement and degree progress. Courses with grades of A, B, C (including C-), and S may be included in the official degree program, but grades of S are not calculated in the GPA. Students pursuing a doctoral degree must register for doctoral thesis credits (8888); these registrations are not graded and therefore cannot be used to meet course credit requirements. At least two-thirds of the total number of course credits included in any degree program must be taken A-F. Individual major fields have the option of specifying more stringent requirements concerning the application of S-N courses to a degree program.

Major Field Credits—The Graduate School does not specify a minimum number of credits in the major field for the doctoral degree. Depending on previous preparation and the nature of the research undertaken, the number of credits required for individual students, even within the same major field, may vary considerably. Courses included in the official degree program cannot be used to meet both major and outside credit requirements

Minor Field or Supporting Program Work—For the doctoral degree, a minimum of 12 credits must be completed in the minor field or supporting program. With a traditional minor, this work is in a single field related to the major; the minor field must be declared before the student passes the preliminary oral examination. If the student chooses a supporting program, it must be composed of a coherent pattern of courses outside the major, possibly embracing several disciplines. Both the minor and supporting program options may require students to take written preliminary examinations in the fields included, but students electing the supporting program option are not expected to have competency in each of the fields comparable to that of a person with a traditional minor.

For majors in clinical branches, the minor field or supporting program must be in nonclinical fields that will serve as a basis for the proposed clinical specialization. This fundamental work should be concentrated early in the program. Familiarity with those phases of the nonclinical disciplines essential to proficiency in the major specialty is required.

Language Requirement—See Degree Programs and Faculty to determine the language requirement, if any, for a specific major field. The Graduate School monitors the fulfillment of language study when a major field requires a language. Information on how to demonstrate proficiency, and on conditions under which proficiency is recorded on the official transcript, is available from the Graduate School, 316 Johnston

Hall, or online at www.grad.umn.edu/current_students/forms/doctoral.html.

Doctoral Candidacy—Doctoral candidacy is established when a student passes the preliminary oral examination (including a “pass with reservations”).

More Information—Students who have questions about the doctoral degree, including information on examinations and the dissertation, may review online information at www.grad.umn.edu/current_students/doctoral/index.html or contact the Graduate School by e-mail at gsdoc@umn.edu.

NOTE: Many commonly used forms are available on the Graduate School Web site at www.grad.umn.edu/current_students/forms/doctoral.html.

Preliminary Written and Oral Examinations

Preliminary Written Examination—All doctoral students are required to pass a written examination in the major field. This examination covers all work completed in the major field and may include any work fundamental to this field. The results of the examination are reported on the Preliminary Written Examination Report Form, signed by the student's adviser and the director of graduate studies in the major field. The Preliminary Written Examination Report Form is available online at www.grad.umn.edu/current_students/forms/doctoral.html. It is the student's responsibility to ensure that this form is received by the Graduate School, 316 Johnston Hall, before scheduling the preliminary oral examination.

Preliminary Oral Examination—Students take the preliminary oral examination after completing a substantial part of the coursework and passing the preliminary written examination, but before writing the dissertation.

Preliminary Oral Examining Committee—The examination is administered by the committee appointed by the vice provost and dean of graduate education on recommendation of the faculty in the major field at the time the student's official doctoral degree program is approved. The examining committee includes a minimum of four members: three (including the student's adviser) from the major field and one from the minor field or supporting program. Committee members cannot represent more than one field simultaneously.

All assigned members must be present at the preliminary oral examination; the absence of any member results in an invalid examination.

Changes in the Preliminary Oral Examining Committee—Substitutions on the examining committee may be necessitated by such circumstances as a faculty member's temporary absence or leave from the University. The adviser or the director of graduate studies must request the Graduate School's approval of such substitutions well in advance of the examination. *Substitutions necessitated by emergency situations must also be approved in advance. In such*

cases, the adviser should consult with the Graduate School staff before the start of the examination.

Scheduling the Preliminary Oral Examination—

It is the responsibility of the student to schedule the preliminary oral with the examiners and with the Graduate School, 316 Johnston Hall, at least one week in advance. In certain health science fields, however, the faculty requires 30 days' notice of the date of the preliminary oral. The Preliminary Oral Examination Scheduling Form is available online at www.grad.umich.edu/current_students/forms/doctoral.html.

Preliminary oral examinations should not be scheduled during the summer unless the members of the assigned committee can be assembled without substitution.

Before the oral examination can be scheduled, a degree program (and form) approved by the Graduate School must be on file, along with a Written Examination Report Form indicating that the student has passed the preliminary written examination. The Graduate School must also confirm that the student has maintained active status (see Registration Requirements under Registration).

If these documents are on file and the student has active status, the Graduate School issues the Preliminary Oral Examination Report Form and instructions for conducting the preliminary oral examination to the chair of the examining committee. A copy of the student's Degree Program Form is also sent to the chair of the examining committee; this may be useful to the committee in reviewing the student's preparation and in confirming the completion of degree requirements, including coursework and any language requirements. The preliminary oral examination may be authorized in spite of deficiencies in these requirements, unless more stringent standards have been established by the major field. All requirements must be completed before the final oral examination may be scheduled.

Preliminary Oral Examination Content and Outcome—All doctoral students are required to pass a preliminary oral examination in the major field. The preliminary oral examination covers the major field, the minor field or supporting program, and any work fundamental to these areas, including possible plans for dissertation research. Unlike the doctoral final oral examination, the preliminary oral examination is conducted as a closed examination, attended by only the student and the examining committee.

Immediately before the preliminary oral examination, the committee chair stipulates the objectives of the examination and, in consultation with other members of the examining committee, determines how the examination is to be conducted. Immediately after the examination, the candidate is excused from the room and a written secret ballot is taken before discussing the examination. Following the discussion, a second and final vote is taken, and the participants sign (in the appropriate place on) the report form, which is to be returned to the Graduate School, 316 Johnston Hall, no later than the first workday after the examination.

The outcome of the examination, with all committee members present and voting, is recorded in one of three ways: pass, pass with reservations, or fail. The voting proportions necessary for these decisions are as follows: if the committee consists of four members, a favorable verdict for passing consists of either a unanimous vote or a vote of 3–1; if the committee consists of five members, a unanimous vote or a vote of 4–1 is needed; if the committee consists of six members, a unanimous vote or a vote of 5–1 or 4–2 is needed; and if there are seven members, a unanimous vote or a vote of 6–1 or 5–2 is needed. Candidates who do not earn committee votes in these proportions fail the examination. If, to achieve the minimum number of votes to reach a verdict of pass, any vote of pass with reservations is included, then the outcome will be recorded as a pass with reservations. A vote to pass the student with reservations still constitutes a passing vote.

Pass With Reservations—If the student passes the examination with reservations, the student is informed immediately, but the committee is permitted one week in which to convey its reservations to the student in writing, informing the student of the steps that must be taken to remove them. A copy of this letter must be sent to the Graduate School and should accompany the signed Oral Examination Report Form. When the student has satisfied the committee's reservations, a second letter informing the student and the Graduate School that the reservations have been removed and that the student may proceed toward the degree is also required. Both letters should be written by the committee chair. The final oral examination may not be scheduled until the Graduate School has received a copy of the letter indicating that the reservations have been removed.

If the committee members disagree as to whether the reservations have been satisfactorily removed, the committee chair asks for another vote, the results of which are subject to the same voting proportions as the initial vote. If the student is unable to satisfy the committee's reservations, his or her doctoral candidacy and graduate student status may be terminated.

Failure of the Preliminary Oral Examination—Students who fail the examination may be excluded from candidacy for the degree or may be allowed, on unanimous recommendation of the examining committee, to retake the examination, providing the reexamination is conducted by the original preliminary oral examining committee.

In no case may the reexamination take place before 10 weeks have passed. No more than one reexamination is allowed.

Recess of a Preliminary Oral Examination—If the preliminary oral examining committee recesses without having determined whether a student has passed the examination, the chair of the committee must send a letter to the vice provost and dean of graduate education explaining the reasons for the recess and noting the date on which the examining

committee will reconvene. If the recess will be longer than one week, the Preliminary Oral Examination Report Form must be returned to the Graduate School, 316 Johnston Hall, and the student must reschedule the examination with the Graduate School one week in advance. A new Preliminary Oral Examination Report Form will be mailed to the chair of the committee one week before the date on which the committee will reconvene. The reconvened committee must be composed of the same members as the original preliminary oral examining committee.

Cancellation of a Preliminary Oral

Examination—If the preliminary oral examination cannot be held on the scheduled date, the Graduate School must be notified of the cancellation. The Preliminary Oral Examination Report Form must be returned to the Graduate School in 316 Johnston Hall. The student must reschedule the examination with the Graduate School one week in advance of the rescheduled exam date. A new Preliminary Oral Examination Report Form will be issued.

Ph.D. Dissertation

The dissertation must demonstrate the student’s originality and ability for independent investigation, and the results of the research must constitute a contribution to knowledge. The dissertation must exhibit the student’s mastery of the literature of the subject and familiarity with the sources. The subject matter must be presented with a satisfactory degree of literary skill.

Thesis Proposal—Students must file a Thesis Proposal Form with the Graduate School no later than the first semester after passing the preliminary oral examination. Individual graduate programs may have internal guidelines for submission of the thesis proposal. Graduate School approval of the Thesis Proposal Form is required prior to obtaining the graduation packet and scheduling the final doctoral oral examination. The form must include the proposed thesis title and a thesis proposal, about 250 words in length, describing the research to be undertaken and the methods to be employed in carrying it out.

The thesis reviewers and other members of the final oral examining committee are appointed by the vice provost and dean of graduate education upon recommendation of the faculty in the major field at the time the student’s thesis proposal is approved.

Changes in the Thesis Title or the Thesis

Proposal—Changes in the wording of the thesis title may be made without special approval; however, changes cannot be made after the final thesis copy is submitted to the Graduate School. If substantive changes are made in the nature of the research itself, the student must submit a revised thesis proposal to the Graduate School immediately.

Language of the Dissertation—Dissertations must normally be written in English or in the language of instruction. If a dissertation is to be written in a foreign language, including a language of instruction other than English, a letter should be attached to the

Thesis Proposal Form when it is submitted to the Graduate School. This letter should confirm that the recommended thesis reviewers (including the outside reviewer) are qualified to read, comprehend, and criticize a dissertation in the foreign language.

Published Work Included as Part of the Dissertation

—The dissertation may include materials that students have published while University of Minnesota graduate students, provided the research was carried out under the direction of the graduate faculty and approved by the adviser for incorporation into the dissertation. Such publication is welcomed as the best demonstration of quality in a student’s research, and the Graduate School encourages the practice. The adviser should notify the Graduate School in writing of the intention to publish part of the dissertation material, but the Graduate School’s approval is not required.

In cases where the dissertation research is to be presented to the examining committee in the form of one or more articles that have been published, or are in a form suitable for publication, the student should contact the Graduate School, 316 Johnston Hall, for information on accommodating such a presentation to the required dissertation format.

Thesis Reviewers—All members of the final oral examining committee read the dissertation, although only those designated as thesis reviewers sign the report form certifying that the dissertation is ready for defense.

The designated thesis reviewers consist of the adviser, representing the major field, and at least two other members of the final oral examining committee, including at least one representative from the major field and one representative from the minor or supporting program. Part of this group of reviewers should come from outside of the graduate program’s thesis advisory committee, if the program uses such a committee. Reviewers cannot represent more than one field simultaneously.

Certification of the dissertation as ready for defense is a necessary step toward the final oral examination, but in no way diminishes the significance of that examination.

The Thesis Reviewers Report Form is obtained by the student from the Graduate School, 316 Johnston, or by requesting a graduation packet online at www.grad.umn.edu/current_students/forms/doctoral.html. The form will be released to the student only if he or she student has a Graduate School-approved Thesis Proposal Form on file and has maintained active status (see Registration Requirements under Registration).

Delivery of the Dissertation to Thesis

Reviewers—At the time the candidate submits a draft of the dissertation to the thesis reviewers, copies must also be provided to all other members of the final oral examining committee. The dissertation abstract must be included with the dissertation when it is distributed to the committee.

To permit faculty to allocate sufficient time to read the dissertation and decide whether it is ready for defense, students must notify their adviser and other members of the final oral committee at least two weeks in advance that the dissertation will be delivered on a particular date. All members of the examining committee must then have at least two weeks to read the dissertation after it has been delivered.

When signing the Thesis Reviewers Report Form, reviewers have three options for certifying the dissertation: acceptable for defense as presented; acceptable for defense with minor revisions; or not acceptable for defense as presented/requires major revisions.

Reviewers must be unanimous in certifying that the dissertation is ready for defense, whether as presented or with minor revisions. If this is the case, and all other requirements have been met (see Final Oral Examination below), the Graduate School authorizes the final oral examination. In any instance where revisions are required, the committee must inform the student in writing of the revisions required, and all questions concerning such revisions must be resolved before the final copies of the dissertation are submitted and the degree is conferred. It is the adviser's responsibility to ensure that revisions required by the reviewers are satisfactorily made (see Preparation and Submission of the Doctoral Dissertation).

Final Oral Examination

All doctoral students are required to successfully defend their theses in a final oral examination and graduate within five calendar years after passing the preliminary oral examination. To be eligible for the final oral examination, a student must have completed all work on the official doctoral degree program, including the language requirement, if any; must have passed both the written and oral preliminary examinations; must have an approved thesis proposal on file with the Graduate School; must have maintained active status; and must have satisfied the thesis credit requirement. In addition, the dissertation must have been certified by the readers as ready for defense.

Scheduling the Final Oral Exam With the Graduate School—The student must schedule the examination as soon as a date is set but no later than one week before the examination with both the committee and the Graduate School (see Clearance for Graduation). In certain health science fields, the faculty requires 30 days' notice of the date of the final oral exam. The Final Oral Examination Scheduling Form is available online at www.grad.umn.edu/current_students/forms/doctoral.html.

When the examination is scheduled, the student's Graduate School file is checked to determine if the student can be cleared to take the examination as stipulated above. If so, the report form for the final oral examination will be forwarded to the chair of the examining committee. If difficulties are apparent,

Graduate School staff will contact the student immediately.

A minimum of 10 weeks must intervene between the preliminary oral and the final oral examinations. The final oral should not be scheduled during the summer unless the committee members can be assembled without substitution.

Final Oral Examining Committee—The committee must consist minimally of four members: three (including the student's adviser) from the major field and one from the minor field or supporting program. At least one committee member from the minor field or supporting program should represent a graduate program (and budgetary unit, if possible) other than that of the student's major. Committee members cannot represent more than one field simultaneously.

Although the student's adviser serves as a member of the final oral examining committee, another member of the committee is designated as the chair and functions in this capacity at the final oral examination. The chair must be a senior member or affiliate senior member of the graduate faculty and may be from either the major field or the minor field or supporting program. The chair and other members of the final oral examining committee are appointed by the vice provost and dean of graduate education upon recommendation of the faculty in the major field at the time the student's thesis proposal is approved.

All committee members must be present at the examination; the absence of any member results in an invalid examination.

Changes in the Final Oral Examining Committee—Substitutions on the examining committee may be necessitated by such circumstances as a faculty member's temporary absence on leave from the University. The adviser or the director of graduate studies must request the Graduate School's approval of such substitutions well in advance of the examination. Substitutions necessitated by emergency situations must also be approved in advance. In such cases, the committee chair should consult with Graduate School staff before the start of the examination.

Format of the Final Oral Examination—The final oral examination consists of a seminar in which the candidate presents the dissertation to the final oral examination committee and the invited scholarly community. The seminar may take place only after the dissertation has been judged ready for defense. The examination is limited to the candidate's dissertation subject and relevant areas. It will not exceed three hours. A closed meeting between the candidate and the appointed examining committee immediately follows the dissertation presentation. Immediately after the examination, the candidate is excused from the room and a written, secret ballot is taken before discussing the examination. Following the discussion, a second and final vote is taken.

Reporting the Results of the Final Oral Examination

—To be recommended for the award of the doctoral degree, candidates must receive a vote with no more than one dissenting member of the total examining committee. If the student has clearly passed or clearly failed the examination and all members have signed the Final Examination Report Form, the report form must be returned to the Graduate School no later than the first workday following the examination.

The adviser should be responsible for ensuring the inclusion of appropriate modifications and required revisions, if any, in the final dissertation. The Final Oral Examination Report Form should not be signed and submitted to the Graduate School until all revisions have been made. If the form will be held for more than one week, a letter or e-mail must be sent to the Graduate School stating that the form is being held pending required revisions.

Once the final report form has been returned to the Graduate School indicating that the student has either passed or failed the final oral examination, a hold is placed on the student's records to prevent further registration in the Graduate School. If the adviser indicates that the student needs additional time to make minor revisions to the dissertation before it is submitted to the Graduate School, the student is permitted to register for one additional semester. Once the dissertation has been submitted, no further registration in the Graduate School is permitted unless the student has been admitted to professional development status or to another major field.

Recess of a Final Oral Examination—On rare occasions, the examining committee may conclude that the final oral examination should be recessed, to be reconvened at a later date. Guidelines for such circumstances are sent to the chair of each examining committee along with the Final Oral Examination Report Form.

The Graduate School need not be notified until after the fact of informal recesses of up to a week. In the case of a longer recess, the committee must inform the student in writing of the reasons for recessing the examination, including any deficiencies noted in the student's dissertation or defense, and must indicate when they expect to reconvene and resumé the examination. A copy of this letter must be sent to the Graduate School, along with the unsigned Final Examination Report Form. When the student and the committee are ready to reconvene the examination, it should be scheduled in the normal way with the Graduate School. A new examination report form will be mailed to the chair of the committee one week before the date on which the committee will reconvene. The reconvened committee must be composed of the same members as the original final oral examining committee.

Preparation and Submission of the Doctoral Dissertation

The most current information on preparing and submitting the doctoral dissertation can be found at, www.grad.umn.edu/current_students/degree_completion/doctoral/ElectronicDissertationSubmission.html. The student's adviser(s) must sign the signature page to confirm that it is complete and satisfactory in all respects and that all revisions required by the final examining committee have been made. Instructions for the preparation and submission of the dissertation, including format specifications and adviser's signature requirements, can be obtained from the Graduate School, 316 Johnston Hall, or online at www.grad.umn.edu/current_students/forms/g16.pdf.

Pursuit of a Second Ph.D. Degree

Students are not permitted to earn two Ph.D. degrees at the same time in two fields using the same program of study and dissertation. Although students are generally discouraged from doing so, special circumstances may warrant taking a second Ph.D. degree at a later date, but only when a completely separate program and dissertation are involved.

Doctor of Education

The University of Minnesota awards the doctor of education (Ed.D.), its highest professional degree in educational policy and administration and work and human resource education, in recognition of satisfactory academic preparation and demonstrated competence for professional activity in those fields.

Standards and procedures for admission, and expectations for scholastic performance, are comparable to those for the Ph.D. A major part of the program must be conducted in full-time residence, including at least one continuous academic year at advanced stages of the program. Rules and procedures governing examinations, candidacy, time limits, appointment of committees, and the dissertation for the Ph.D. apply in general to the Ed.D.

For requirements, see Doctor of Philosophy Degree, or contact the Graduate School by e-mail at gsdoc@umn.edu. **NOTE:** Some commonly used forms are available on the Graduate School Web site at www.grad.umn.edu/current_students/forms/doctoral.html.

Doctor of Musical Arts

The program for the professional doctor of musical arts (D.M.A.) degree has a performance-teaching orientation. Standards and procedures for admission, and expectations for scholastic performance, are comparable to those for the Ph.D. Emphases offered, and details concerning major and minor requirements for the D.M.A., are included in the Music section under Degree Programs and Faculty. Rules and

procedures governing examinations, candidacy, time limits, and appointment of committees for the Ph.D. apply in general to the D.M.A.; in place of the dissertation, a project document or paper is required. This document is submitted only to the music graduate program office.

For requirements, see Doctor of Philosophy Degree, or contact the Graduate School by at gsdoc@umn.edu.

NOTE: Many commonly used forms are available on the Graduate School Web site at www.grad.umn.edu/current_students/forms/doctoral.html.

Doctor of Audiology

The doctor of audiology degree (Au.D.) prepares clinical practitioners in the field of audiology with a primary interest in the disorders of hearing and balance, their diagnoses, and treatment. Program requirements include coursework, laboratory experiences, and clinical practicums and externships. Doctoral thesis credits do not apply and a dissertation is not required. Au.D. graduates qualify for clinical certification in audiology from the American Speech-Language-Hearing Association (ASHA), the primary professional organization for the field of speech, language, and hearing sciences. Graduates are also eligible for licensure in audiology from the Minnesota Department of Health and other states. For admission standards and program requirements, see Audiology under Degree Programs and Faculty.

Doctor of Physical Therapy

The professional doctor of physical therapy (D.P.T.) degree prepares graduates for physical therapy practice. The degree requires three years of year-round graduate study, including academic coursework, research activity, and clinical internships. Doctoral thesis credits do not apply and a dissertation is not required. D.P.T. graduates are eligible to apply for state registration or licensure according to the given state's law. The program is accredited by the Commission on Physical Therapy Education (CAPTE). For admission standards and program requirements, see Physical Therapy under Degree Programs and Faculty.

Joint Degrees

The University offers the opportunity for study toward degrees in the following areas: M.D./Ph.D. program; M.D. and master of science (M.S.) in biomedical Engineering; M.D. and master of health informatics (M.H.I.); master of social work (M.S.W.) and master of public policy (M.P.P.); M.S.W. and master of public health (M.P.H.); M.P.P. and M.S. in health services research, policy, and administration; J.D. and master of arts (M.A.) in mass communication; J.D. and M.P.P.; M.P.P. and Ph.D. in political science; M.P.P. and master of business administration (M.B.A.); M.S.

in nursing and M.P.H.; doctor of veterinary medicine (D.V.M.) and M.S./Ph.D. in veterinary medicine; M.S.W. and master of urban and regional planning (M.U.R.P.); M.U.R.P. and master of landscape architecture (M.L.A.); M.U.R.P. and M.S. in civil engineering; J.D. and M.U.R.P.; master of science in industrial and systems engineering (M.S.I.Sy.E.) and M.S. in civil engineering; doctor of dental surgery (D.D.S.) and Ph.D. program; and a joint J.D./M.S./Ph.D. program in law, health, and life sciences.

For more information, students should contact the individual program. See Degree Programs and Faculty for contact information.

Clearance for Graduation

Degrees are awarded on the last business day of each month. To qualify for graduation for a particular month, a student must submit the Application for Degree Form on or before the first business day of that month and must complete the examination and all other requirements (including necessary forms and fees) by the last business day of that month. Transcripts showing the award of the degree are available by request two-to-three weeks following the official date of conferral. Diplomas are issued by the Office of the Registrar and should be received in the mail four-to-six weeks following the official date of conferral.

Commencement Ceremony

Two Graduate School commencement ceremonies are held each year—in late spring and in late fall. Graduates are encouraged, but not required, to attend. Commencement information, including deadlines and forms, can be found online at www.grad.umn.edu/current_students. To make sure their names appear in the program distributed at the commencement ceremony, students must submit the Commencement Attendance Form by the deadline specified. Degree completion procedures can be found online at www.grad.umn.edu/current_students/degree_completion/index.html.

All-University

(Twin Cities and Duluth Campuses)

Research Degrees (Ph.D., M.S.)

Majors	Degrees Offered
Integrated Biosciences.....	M.S., Ph.D.
Toxicology.....	M.S., Ph.D.
Water Resources Science	M.S., Ph.D.

All-University

(Twin Cities and Rochester Campuses)

Research Degrees (Ph.D., M.S.)

Majors	Degrees Offered
Biomedical Informatics and Computational Biology.....	M.S., Ph.D.

Majors and Degrees

Twin Cities Campus

Research Degrees (Ph.D., M.A., M.S.)

Majors	Degrees Offered
Aerospace Engineering and Mechanics.....	M.S., Ph.D.
American Studies	M.A., Ph.D.
Animal Sciences.....	M.S., Ph.D.
Anthropology	M.A., Ph.D.
Applied Economics	M.S., Ph.D.
Applied Plant Sciences	M.S., Ph.D.
Art History	M.A., Ph.D.
Asian Literature, Cultures, and Media.....	M.A., Ph.D.
Astrophysics	M.S., Ph.D.
Biochemistry, Molecular Biology, and Biophysics..	M.S., Ph.D.
Biomedical Engineering.....	M.S., Ph.D.
Biophysical Sciences and Medical Physics	M.S., Ph.D.
Bioproducts and Biosystems Science Engineering and Management.....	M.S.B.B.S.E.M., Ph.D.
Biostatistics	M.S., Ph.D.
Business Administration.....	Ph.D.
Cellular and Integrative Physiology.....	M.S., Ph.D.
Chemical Engineering.....	Ph.D.
Chemical Physics	M.S., Ph.D.
Chemistry	M.S., Ph.D.
Child Psychology	M.A., Ph.D.
Civil Engineering.....	M.S., Ph.D.
Classical and Near Eastern Studies.....	M.A., Ph.D.
Cognitive Science	Ph.D.
Communication Studies	M.A., Ph.D.
Comparative and Molecular Biosciences.....	M.S., Ph.D.
Comparative Literature.....	M.A., Ph.D.
Comparative Studies in Discourse and Society	M.A., Ph.D.
Computer Science.....	M.S., Ph.D.
Conservation Biology.....	M.S., Ph.D.
Control Science and Dynamical Systems.....	Ph.D.
Design	M.A., M.S., Ph.D.
Ecology, Evolution, and Behavior	M.S., Ph.D.
Economics.....	M.A., Ph.D.
Education, Curriculum, and Instruction	M.A., Ph.D.
Educational Policy and Administration ¹	M.A., Ph.D.
Educational Psychology ¹	M.A., Ph.D.
Electrical Engineering.....	M.S.E.E., Ph.D.
English.....	M.A., Ph.D.
Entomology	M.S., Ph.D.
Environmental Health.....	M.S., Ph.D.
Epidemiology	M.S., Ph.D.
Family Social Science.....	M.A., Ph.D.
Feminist Studies.....	M.A., Ph.D.
Food Science.....	M.S., Ph.D.
French.....	M.A., Ph.D.
Geography	M.A., Ph.D.
Geology	M.S., Ph.D.
Geophysics	M.S., Ph.D.
Germanic Studies.....	M.A., Ph.D.
Health Informatics.....	M.S., Ph.D.
Health Services Research, Policy, and Administration	M.S., Ph.D.
Hispanic and Luso-Brazilian Literatures and Linguistics	Ph.D.
History	M.A., Ph.D.
History of Science, Technology, and Medicine.....	M.A., Ph.D.
Human Resources and Industrial Relations.....	Ph.D.
Industrial and Systems Engineering	M.S.I.Sy.E., Ph.D.
Kinesiology	M.A., Ph.D.
Linguistics	M.A., Ph.D.
Mass Communication	M.A., Ph.D.
Materials Science and Engineering	M.S.Mat.S.E., Ph.D.
Mathematics.....	M.S., Ph.D.
Mechanical Engineering	M.S.M.E., Ph.D.
Medicinal Chemistry	M.S., Ph.D.
Microbiology, Immunology, and Cancer Biology	M.S., Ph.D.
Molecular, Cellular, Developmental Biology and Genetics.....	M.S., Ph.D.
Music.....	M.A., Ph.D.
Natural Resources Science and Management	M.S., Ph.D.
Neuroscience.....	M.S., Ph.D.
Nursing	Ph.D.
Nutrition.....	M.S., Ph.D.
Oral Biology.....	M.S., Ph.D.
Otolaryngology.....	M.S., M.S.Otol., Ph.D.Otol.
Pharmaceutics	M.S., Ph.D.
Pharmacology	M.S., Ph.D.
Philosophy	M.A., Ph.D.
Physics	M.S., Ph.D.
Plant Biological Sciences	M.S., Ph.D.
Plant Pathology	M.S., Ph.D.
Political Science	M.A., Ph.D.
Psychology	M.A., Ph.D.
Rehabilitation Science	M.S., Ph.D.
Rhetoric and Scientific and Technical Communication.....	M.A., Ph.D.
Scientific Computation	M.S., Ph.D.
Social, Administrative, and Clinical Pharmacy.....	M.S., Ph.D.
Social Work.....	Ph.D.
Sociology	M.A., Ph.D.
Soil Science	M.S., Ph.D.
Speech-Language-Hearing Sciences.....	Ph.D.
Statistics.....	M.S., Ph.D.
Theatre Arts	M.A., Ph.D.
Veterinary Medicine	M.S., Ph.D.
Work and Human Resource Education.....	M.A., Ph.D.

Research Degrees (Master's Only)

Majors	Degrees Offered
Architecture	M.S.
Bioethics	M.A.
Clinical Laboratory Science	M.S.
Clinical Research.....	M.S.
Geological Engineering.....	M.S.
Hispanic and Lusophone Literatures, Cultures, and Linguistics	M.A.
Landscape Architecture.....	M.S.
Microbial Engineering.....	M.S.
Sport Management.....	M.A.
Stem Cell Biology.....	M.S.

¹ See also Certificate of Specialist in Education offerings on page 21.

Professional Degrees

Majors	Degrees Offered
Accountancy.....	M.Acc.
Aerospace Engineering.....	M.Aero.E.
Architecture	M.Arch.
Art.....	M.F.A.
Audiology	Au.D.
Biological Science.....	M.B.S.
Business Taxation.....	M.B.T.
Chemical Engineering	M.Ch.E.
Civil Engineering	M.C.E.
Computer Science.....	M.C.S.
Creative Writing.....	M.F.A.
Dentistry	M.S.
Design	M.F.A.
Educational Policy and Administration.....	Ed.D.
English as a Second Language	M.A.
Experimental Surgery.....	M.S.Exp.Surg.
Financial Mathematics.....	M.F.M.
Geographic Information Science	M.G.I.S.
Geological Engineering.....	M.Geo.E.
Geology	M.S.
Health Informatics.....	M.H.I.
Health Journalism and Communication.....	M.A.
Human Resources and Industrial Relations.....	M.A.
Infrastructure Systems Engineering.....	M.S.I.S.E.
Landscape Architecture.....	M.L.A.
Liberal Studies.....	M.L.S.
Management of Technology	M.S.MOT.
Materials Science and Engineering	M.Mat.S.E.
Molecular, Cellular, Developmental Biology and Genetics.....	M.S.
Music.....	M.M., D.M.A.
Occupational Therapy	M.S.
Physical Therapy	D.P.T.
Public Affairs.....	M.P.A.
Public Policy.....	M.P.P.
Science, Technology, and Environmental Policy.....	M.S.
Scientific and Technical Communication	M.S.
Security Technologies.....	M.S.S.T.
Social Work.....	M.S.W.
Software Engineering.....	M.S.S.E.
Speech-Language-Hearing Sciences.....	M.A., Au.D.
Strategic Communication	M.A.
Surgery	M.S.Surg., Ph.D.Surg.
Theatre Arts	M.F.A.
Urban and Regional Planning	M.U.R.P.
Work and Human Resource Education	Ed.D.

Certificate of Specialist in Education

Counseling and Student Personnel Psychology
Educational Policy and Administration
School Psychology
Special Education
Special Education Administration

Minor Only

Bioinformatics
Complementary Therapies and Healing Practices
Development Studies and Social Change
Education Sciences
Family Policy
Gerontology
Human Factors/Ergonomics
Human Genetics
Human Rights
International Education
Interpersonal Relationships Research
Italian Studies
Law
Literacy and Rhetorical Studies
Medieval Studies
Microbial Ecology
Museum Studies
Nanoparticle Science and Engineering
Political Psychology
Population Studies
Prevention Science
Program Evaluation
Public Art
Public Health
Quaternary Paleoecology
Religious Studies
Risk Analysis for Introduced Species and Genotypes
Social and Philosophic Studies of Education
Studies in Africa and the African Diaspora
Studies of Science and Technology
Sustainable Agriculture Systems

Postbaccalaureate Certificates

Applied Developmental Psychology
Complementary Therapies and Healing Practices
Early Childhood Policy
French Studies
Housing Studies
Nonprofit Management
Policy Issues on Work and Pay
Stream Restoration Science and Engineering
Technical Communication
Transportation Studies

Post-Master's Certificate

Nursing

Duluth Campus

Research Degrees (Master's Only)

Majors	Degrees Offered
Applied and Computational Mathematics.....	M.S.
Chemistry	M.S.
Computer Science.....	M.S.
Criminology	M.A.
Electrical and Computer Engineering	M.S.E.C.E.
Engineering Management.....	M.S.E.M.
English.....	M.A.
Geological Sciences	M.S.
Physics.....	M.S.

Professional Degrees

Majors	Degrees Offered
Art.....	M.F.A.
Business Administration.....	M.B.A.
Communication Sciences and Disorders	M.A.
Education—Teaching and Learning.....	Ed.D.
Engineering Management.....	M.S.E.M.
Liberal Studies.....	M.L.S.
Music.....	M.M.
Social Work.....	M.S.W.
Teaching and Learning	Ed.D.

Minor Only

Linguistics