

This is the Introduction and General Information sections of the 1996-1999 University of Minnesota Graduate School Catalog

**G r a d u a t e   S c h o o l**

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### 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 at the end of this bulletin. Johnston Hall is wheelchair accessible.

### Publications

**Graduate School Bulletin**—Prospective and current graduate students are responsible for all information contained in this bulletin that is pertinent to graduate study and their specific field.

The first section, General Information, is the official source of information about Graduate School policies and procedures.

The largest section, Graduate Programs, presents faculty, requirements, and course descriptions for the various programs offering graduate degrees. The short section that follows, Related Courses, features faculty and course descriptions for units offering graduate credits but not graduate degrees. The next section is called Graduate Offerings, Duluth Campus.

At the back are a complete set of Campus Maps, an extensive Index, and an alphabetical list of Course Designators with the programs under which they are found. The inside back cover, Course Numbers and Symbols, explains the numbering system, punctuation, department designators, and symbols used throughout the course descriptions.

The bulletin is available in the Graduate School (309 Johnston Hall) or in the Office of Admissions (240 Williamson Hall), both on the East Bank; in H. D. Smith Bookstore (100 Anderson Hall), West Bank; and in 130 Coffey Hall, St. Paul campus.

**Updates to Bulletin Information**—Changes in Graduate School policies and procedures relating to admission, registration, financial assistance, and commencement are accessible on the Internet at <http://www.grad.umn.edu>.

**Other Publications**—The quarterly *Class Schedule* lists basic costs and regulations. Separate bulletins are printed for University College (formerly Continuing Education and

Extension), the Duluth campus, and other University units. Most may be obtained by visiting the Office of Admissions, 240 Williamson Hall.

### Policies

**Bulletin Use**—The University of Minnesota will change to a semester-based academic calendar beginning academic year 1999-2000. This bulletin is the last quarter-based bulletin that will be produced for the Graduate School. It covers academic years 1996-97, 1997-98, and 1998-99. Information about semester-based academic programs will be provided in the fall of 1998 in semester-transition publications.

The information in this bulletin and other University bulletins, publications, or announcements is subject to change without notice. University offices can provide current information about possible changes.

This publication is available in alternative formats upon request. Please contact the Office of Admissions, University of Minnesota, 240 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455 (612/625-2008; e-mail [admissions@tc.umn.edu](mailto:admissions@tc.umn.edu)).

This bulletin also is available in electronic format on the Internet and may be accessed via the World Wide Web.

**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.

In adhering to this policy, the University abides by the Minnesota Human Rights Act, Minnesota Statute Ch. 363; by the Federal Civil Rights Act, 42 U.S.C. 2000e; by the requirements of Title IX of the Education Amendments of 1972; by Sections 503 and 504 of the Rehabilitation Act of 1973; by the Americans With Disabilities Act of 1990; by Executive Order 11246, as amended; by 38 U.S.C. 2012, the Vietnam Era Veterans Readjustment Assistance Act of 1972, as amended; and by other applicable statutes and regulations relating to equality of opportunity.

Inquiries regarding compliance may be directed to Stephanie Lieberman, 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).

The establishment in 1988 of the Office of the Associate Vice President for Academic Affairs with Special Responsibility for Minority Affairs and Diversity has confirmed the University's long-standing commitment to the belief that all students—regardless of their social, racial, or economic backgrounds, their gender, disabilities, or lifestyle—have a right to equity and excellence in education. In conjunction with the faculty and other units of the University administration, this office acts as a catalyst and provides appropriate incentives, programs, and policies to facilitate access and retention among traditionally underrepresented groups. By placing this responsibility within Academic Affairs, the University has uniquely positioned itself in its ability to make excellence and diversity intrinsic components of its institutional makeup.

**Disability Services**—The University's mission is to provide optimal educational opportunities for all students, including for those with disabilities. The University recognizes that students with disabilities sometimes have unique needs that must be met 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 to make their needs known.

The first place to seek assistance is at Disability Services (DS). 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 statutes. DS 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 DS; building accessibility information is printed in the *Student-Staff Directory* and the *Class Schedule*. For more information, contact Disability Services, University of Minnesota, 30 Nicholson Hall, 216 Pleasant Street S.E., Minneapolis, MN 55455 (612/626-1333 voice or TTY).

**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. The regents' policy, including a directory of student records, is available for review at 150 Williamson Hall, Minneapolis; at records offices on other campuses of the University; and at <http://www.umn.edu/registrar>. Questions may be directed to the Office of the Registrar, 150 Williamson Hall (612/625-5333).

**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 sent along with the official Graduate School admission letter, should be 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.

**Extracurricular Events**—No extracurricular events requiring student participation may be scheduled from the beginning of study day to the end of finals week. Exceptions to this policy may be granted by the Senate Committee on Educational Policy. The Senate advises all faculty that any exemption granted pursuant to this policy shall be honored and that students who are unable to complete course requirements during finals week shall be provided an alternative and timely opportunity to do so.

**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.

### 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 couple of miles from downtown St. 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 is Northrop Auditorium and its plaza. On the other end of the mall, Coffman Memorial Union offers a good place to relax between classes. Nearby are unique underground facilities and the health sciences complexes.

Just across the river is the West Bank. Newer and smaller, it boasts sleek brick buildings like the main library, the Humphrey Institute of Public Affairs, the Law Center, and the new Ted Mann Concert Hall.

Three miles away is the St. Paul campus, whose 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 St. Paul campus, all feature shops and restaurants tailored to students' interests and budgets.

Minneapolis (the largest city in Minnesota) and St. Paul (the state capital) are both flourishing centers of commerce and industry, where grandiose historic buildings complement bold new skyscrapers. Focal points of a progressive metropolitan area of 2.3 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, and Dudley Riggs' Brave New Workshop. Northrop 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 and summertime Showboat. 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 St. Paul Winter Carnival. In 1993, the University Art Museum moved into its new building overlooking the Mississippi River, the Frederick R. Weisman Art Museum, with award-winning design by Frank Gehry.

**Recreation and Sports**—The Rec Sports program, one of the largest of its kind on any campus in the country, offers curling, cycling, racquetball, crew, ballroom dance, juggling, and 100 other teams, clubs, and fitness activities. Big-league sports fans can view Golden Gophers or Vikings football and Twins baseball at the Metrodome. 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, ideal for picnicking, hiking, biking, swimming, canoeing, sailing, fishing, rollerblading or ice skating, cross-country or downhill 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.

## University Counseling and Consulting Services

University Counseling and Consulting Services (UCCS), 109 Eddy Hall on the East Bank and 199 Coffey Hall on the St. Paul campus (612/624-3323 for both), offers counseling for academic, career, personal, or relationship concerns. Besides counseling, UCCS features a variety of services. The Career Development Center and the Learning and Academic Skills Center offer workshops, courses, and materials for career development or academic skills improvement. The Organizational Development Program offers consultation, assessment, team building, conflict mediation, training, and workshops. UCCS's Office of Measurement Services (OMS) scores exams, surveys, and research instruments and provides consultation to University faculty and staff. OMS operates the Minnesota Statewide Testing Program for Minnesota elementary and secondary schools. The Testing Center administers admissions, placement, and national tests. For more information, see <http://www.ucs.umn.edu/uccswww/uccs.html> on the World Wide Web.

## Libraries and Research Opportunities

The University of Minnesota, Twin Cities Libraries, with a collection of more than 5 million catalogued volumes and 46,000 serials, ranks 17th in size among American universities. Included in the system are the *Bio-Medical Library* (health sciences); *St. Paul Central Library* (agriculture, biological

sciences, human ecology); *Walter Library* (engineering, natural sciences, education, psychology); and *Wilson Library* (social sciences, humanities, special collections). Other campus libraries include those for architecture, entomology, forestry, horticulture, journalism, law, mathematics, music, plant pathology, and veterinary medicine. The library system also includes many specialized libraries and archives, such as the Children's Literature Research Collections and the Immigration History Research Center Archives. In addition to strong comprehensive research collections, the system offers a full range of reference and information services, including specialized reference assistance, interlibrary loan service, database literature searching, and library user instruction. MNCAT, the library system's on-line catalog, may be accessed from residence halls, offices, and other locations.

Among the University's many research centers are:

Addiction Studies, Center for  
Aging, Center on  
Agricultural Experiment Station

Alternative Plant and Animal Products, Center for  
Applied Research and Educational Improvement, Center for  
(CAREI)  
Archaeological Studies, Interdisciplinary  
Archaeology Laboratory  
Archaeometry Laboratory  
Army High Performance Computing Research Center  
Austrian Studies, Center for  
Avian Research Center  
Biological Process Technology, Institute for Advanced  
Studies in  
Biomedical Engineering Center  
Biomedical Ethics, Center for  
Biometric Research, Coordinating Centers for (CCBR)  
Building Research Center, Minnesota  
Cedar Creek Natural History Area  
Cereal Rust Laboratory  
Chemical Toxicology Research Center  
Child Welfare, Center for Advanced Studies in  
Clinical Outcomes Research Center (CORC)  
Clinical Research Center  
Cloquet Forestry Center  
Cold Climate Housing Program  
Community and Regional Research, Center for  
Community Integration, Institute on  
Computational Science and Engineering, Laboratory for  
Conflict and Change Center  
Control Science and Dynamical Systems Center  
Cooperative Learning Center  
Corrections Education Research, Center on  
Corrosion Center

CPCRA (Community Program for Clinical Research on AIDS) Statistical Center  
 Criminal Justice Studies, Center for  
 Dairy Foods Research Center  
 Daylighting Center, Regional  
 Death Education and Research, Center for  
 Dental Research Center for Biomaterials and Biomechanics, Minnesota  
 Dental Research Institute  
 Design Center for the American Urban Landscape  
 Early Childhood Research Institute  
 Early Education and Development, Center for  
 Early Modern History, Center for  
 Economic Development Center (Twin Cities)  
 Economic Development (Duluth), Center for  
 Economic Education (Duluth), Center for  
 Economic Education (Twin Cities), Center for  
 Economic Research, Center for  
 Education in Agriculture and Extension, Center for  
 Educational Outcomes, National Center on  
 Entrepreneurial Studies, Carlson Center for  
 Epilepsy Clinical Research Program  
 European Studies, Center for  
 Experiential Education and Service Learning, Center for  
 Feminist Studies, Center for Advanced  
 Geological Survey, Minnesota  
 Geometry Center, The  
 Girls and Women in Sport, Center for Research on  
 Herbarium  
 History of Information Processing, (Charles) Babbage Institute-Center for the  
 Hormel Institute  
 Horticultural Research Center  
 Human Factors Research Laboratory  
 Human Genetics, Institute of  
 Human Resource Development Research Center  
 Imaging Center  
 Immigration History Research Center  
 Immunology, Center for  
 Industrial Relations Center  
 Integrated Natural Resources and Agricultural Management, Center for  
 Interdisciplinary Studies of Writing, Center for  
 Interest Measurement Research, Center for  
 Interfacial Engineering, Center for  
 International Food and Agricultural Policy, Center for  
 International Studies, Royal D. Alworth Jr. Institute for  
 International Studies and Programs, Institute of  
 Interpersonal Relationships, Center for Research on  
 Jewish Studies Center  
 Journalism Center, Minnesota  
 Lake Itasca Forestry and Biological Station  
 Landscape Arboretum, Minnesota  
 Landscape Studies Center  
 Language Acquisition, Center for Advanced Research on (CARLA)  
 Large Lakes Observatory  
 Learning, Perception, and Cognition, Center for Research in  
 Life Course Center  
 Limnological Research Center  
 Long-Term Care Administration, Center for  
 Low-Vision Research, Minnesota Laboratory for  
 Lung Health Study Coordinating Center  
 Magnetic Resonance Research, Center for  
 Management Information Systems Research Center  
 Manufacturing, Design, & Control, Center for Advanced (CAMDAC)  
 Mathematics and Its Applications, Institute for

Medieval Studies, Center for  
 Micromagnetics and Information Technologies Center (MINT)  
 Microtechnology Laboratory (MTL)  
 NanoStructure Laboratory  
 Natural Resource Policy and Management, Center for  
 Natural Resources Research Institute  
 Neurocommunication Research, Edwin Eddy Center for  
 Neuroscientific Databases, Center for  
 North Central Soil Conservation Research Laboratory  
 Nuclear Physics, Williams Laboratory for  
 Occupational Health and Safety, Midwest Center for  
 Pharmaceutical Research in Management and Economics (PRIME) Institute  
 Philosophy of Science, Minnesota Center for  
 Plant Molecular Genetics Institute  
 Political Economy, Center for  
 Polymerization and Polymer Process Engineering Center  
 Population Analysis and Policy, Center for  
 Psychiatry Research  
 Race and Poverty, Institute on  
 Raptor Center, Garrigan  
 Reflective Leadership Center  
 Refugee Studies Center  
 Residential Services and Community Living, Center for  
 Restorative Justice and Mediation, Center for  
 Retail Food Industry Center, The (TRFIC)  
 Rock Magnetism, Institute for  
 Rural Health Research Center  
 Rural Sociology and Community Analysis, Center for  
 St. Anthony Falls Laboratory  
 Sand Plain Research Farm  
 Sea Grant College Program, Minnesota  
 Silha Center  
 Space Grant Consortium, Minnesota  
 Speech, Equality, and Harm, Center for  
 Strategic Management Research Center  
 Supercomputer Institute  
 Superconductivity, Center for Science and Application of  
 Survey Research, Minnesota Center for  
 Sustainable Agriculture, Minnesota Institute for (MISA)  
 Technological Leadership, Center for Development of  
 Theoretical Physics Institute  
 Transportation Studies, Center for  
 Twin and Adoption Research, Minnesota Center for  
 Underground Research Site, Sudan  
 Urban and Regional Affairs, Center for  
 Violence and Abuse, Higher Education Center Against (HECAVA)  
 Vocational Education, Minnesota Research and  
 Development Center for  
 Vocational Education, National Center for Research in  
 Water Resources Research Center  
 Women and Public Policy, Center on  
 Youth Development, Center for

Research support is provided by the Office of the Vice President for Research and Dean of the Graduate School as well as by the public and private sectors. The Graduate School fellowship and research support programs distribute nearly \$7 million annually to students and faculty. The University also ranks among the top research universities receiving federal research money.

## Administration

### University Regents

Thomas R. Reagan, Gilbert, Chair  
H. Bryan Neel III, Rochester, Vice Chair  
Wendell R. Anderson, Wayzata  
Julie A. Bleyhl, Madison  
William E. Hogan II, Minnetonka  
Jean B. Keffeler, Minneapolis  
Hyon T. Kim, St. Anthony  
Warren C. Larson, Bagley  
William R. Peterson, Eagan  
Jessica J. Phillips, Morris  
Stanley D. Sahlstrom, St. Cloud  
Patricia B. Spence, Rice

### University Administrators

Nils Hasselmo, President  
JoAnne G. Jackson, Senior Vice President for Finance and Operations  
Marvin L. Marshak, Senior Vice President for Academic Affairs  
C. Eugene Allen, Provost for Professional Studies  
Frank B. Cerra, Provost for the Academic Health Center  
W. Phillips Shively, Provost for Arts, Sciences, and Engineering  
McKinley Boston, Jr., Vice President for Student Development & Athletics  
Mark L. Brenner, Vice President for Research and Dean of the Graduate School  
Thomas H. Swain, Acting Vice President for Institutional Relations  
Mark B. Rotenberg, General Counsel

### Graduate School Administrators

Mark L. Brenner, Ph.D., Vice President for Research and Dean of the Graduate School  
Frances P. Lawrenz, Ph.D., Assistant Vice President for Research and Associate Dean of the Graduate School  
Charles F. Louis, Ph.D., Assistant Vice President for Research and Associate Dean of the Graduate School  
Stephen C. Hedman, Ph.D., Associate Dean of the Graduate School, Duluth  
George D. Green, Associate Dean of the Graduate School  
Robert K. Leik, Ph.D., Associate Dean of the Graduate School

### Graduate School Executive Committee

Mark L. Brenner, Ph.D., Vice President for Research and Dean of the Graduate School  
Frances P. Lawrenz, Ph.D., Assistant Vice President for Research and Associate Dean of the Graduate School  
Charles F. Louis, Ph.D., Assistant Vice President for Research and Associate Dean of the Graduate School  
George D. Green, Associate Dean of the Graduate School  
Robert K. Leik, Ph.D., Associate Dean of the Graduate School  
Jean B. Regal, Ph.D., Associate Professor, Pharmacology; Chair, Duluth Graduate Faculty Committee  
Sandra O. Archibald, Ph.D., Associate Professor, Public Affairs; Chair, Social Sciences Policy and Review Council  
Nancy J. Ehlike, Ph.D., Associate Professor, Agronomy and Plant Breeding; Chair, Biological Sciences Policy and Review Council  
Charles A. Nelson, Ph.D., Professor, Child Development; Chair, Education and Psychology Policy and Review Council  
Mariah Snyder, Ph.D., Professor, Nursing; Chair, Health Sciences Policy and Review Council  
To be announced; Chair, Language, Literature, and the Arts Policy and Review Council  
To be announced; Chair, Physical Sciences Policy and Review Council  
Wayne L. Gladfelter, Ph.D., Professor, Chemistry; Chair, Graduate School Research Advisory Committee  
John G. Rice, Fil.lic., Professor, Geography; Chair, Graduate School Fellowship Committee  
Four student representatives  
One civil service representative

# General Information



Industrial Engineering	M.S.I.E., M.I.E., Ph.D.	Social Work	M.S.W., Ph.D.
Industrial Relations	M.A., Ph.D.	Sociology	M.A., Ph.D.
Interdisciplinary	M.A., M.S., Ph.D.	Soil Science	M.S., Ph.D.
Archaeological Studies		South Asian Languages	M.A., Ph.D.
Italian	M.A.	Speech-Communication	M.A., Ph.D.
Japanese	M.A., Ph.D.	Statistics	M.S., Ph.D.
Kinesiology	M.A., Ph.D.	Surgery	M.S.Surg., Ph.D.Surg.
Landscape Architecture	M.S., M.L.A.	Theatre Arts	M.A., M.F.A., Ph.D.
Latin	M.A., Ph.D.	Therigenology	M.S., Ph.D.
Liberal Studies	M.L.S.	Toxicology	M.S., Ph.D.
Linguistics	M.A., Ph.D.	Veterinary Biology	M.S., Ph.D.
Luso-Brazilian Literature	M.A.	Veterinary Medicine	M.S., Ph.D.
Management of Technology	M.S.MOT.	Veterinary Pathobiology	M.S., Ph.D.
Mass Communication	M.A., Ph.D.	Veterinary Surgery,	M.S., Ph.D.
Materials Science and Engineering	M.S.Mat.S.E., M.Mat.S.E., Ph.D.	Radiology, and Anesthesiology	
Mathematics	M.A., M.S., Ph.D.	Water Resources Science	M.S., Ph.D.
Mathematics Education <sup>1</sup>	M.A.	Wildlife Conservation	M.S., Ph.D.
Mechanical Engineering	M.S.M.E., M.M.E., Ph.D.	Work, Community, and Family Education	Ed.D.
Mechanics	M.S., Ph.D.	Zoology	M.S., Ph.D.
Medicinal Chemistry	M.S., Ph.D.		
Microbial Engineering	M.S.	<i>Certificate of Specialist in Education</i>	
Microbiology, Immunology, and Molecular Pathobiology	M.S., Ph.D.	Counseling	
Mineral Engineering	M.S., M.Min.E., Ph.D.	Elementary School Administration	
Molecular, Cellular, Developmental Biology and Genetics	M.S., Ph.D.	General Curriculum Supervision	
Music	M.A., M.M., D.M.A., Ph.D.	General Educational Administration	
Music Education	M.A.	Mathematics Education	
Neuroscience	Ph.D.	School Psychological Services	
Nursing	M.S., Ph.D.	Secondary School Administration	
Nutrition	M.S., Ph.D.	Special Education	
Occupational Therapy	M.S.	Special Education Administration	
Oral Biology	M.S., Ph.D.		
Otolaryngology	M.S., M.S.Otol., Ph.D.Otol.	<i>Freestanding Minors</i>	
Pharmaceutics	M.S., Ph.D.	Anatomy	
Pharmacology	M.S., Ph.D.	Bioethics	
Philosophy	M.A., Ph.D.	Building Science	
Physical Therapy	M.S.	Cognitive Science	
Physics	M.S., Ph.D.	Composition, Literacy, and Rhetorical Studies	
Planning	M.Plan.	Conflict Management	
Plant Biological Sciences	M.S., Ph.D.	Development Studies and Social Change	
Plant Breeding	M.S., Ph.D.	Feminist Studies	
Plant Pathology	M.S., Ph.D.	Gerontology	
Political Science	M.A., Ph.D.	Human Factors/Ergonomics	
Psychology	M.A., Ph.D.	International Education	
Public Affairs	M.A.	Interpersonal Relationships Research	
Recreation, Park, and Leisure Studies	M.A.	Law	
Rehabilitation Science	M.S., Ph.D.	Medieval Studies	
Rhetoric and Scientific and Technical Communication	M.A., Ph.D.	Microbial Ecology	
Russian Area Studies	M.A.	Museum Studies	
Scandinavian Studies	M.A., Ph.D.	Political Psychology	
Science and Technology Policy	M.S.	Psychoneuroimmunology	
Scientific and Technical Communication	M.S.	Public Health	
Scientific Computation	M.S., Ph.D.	Quaternary Paleoeecology	
Social and Administrative Pharmacy	M.S., Ph.D.	Religious Studies	
		Social and Philosophic Studies of Education	
		Studies in Africa and the African Diaspora	
		Studies of Science and Technology	
		Sustainable Agriculture Systems	

<sup>1</sup> Also see *Certificate of Specialist in Education offerings at end of this listing.*

## Duluth Campus

<i>Major</i>	<i>Degree</i>
Applied and Computational Mathematics	M.S.
Art	M.A.
Biology	M.S.
Business Administration	M.B.A.
Chemistry	M.S.
Communication Disorders	M.A.
Computer Science	M.S.
Educational Psychology	M.A.
English	M.A.
Geology	M.S.
Liberal Studies	M.L.S.
Music	M.M.
Physics	M.S.
Social Work	M.S.W.

*Freestanding Minor*  
Linguistics

## Tuition and Fees

Current tuition for the various categories of Graduate School registration and current fees are listed in the quarterly *Class Schedule*. Summer Session tuition and fees are listed in the current *Summer Session Bulletin*.

**Residence**—Because the University is a state institution, Minnesota residents pay lower tuition than nonresidents. To qualify for resident status, students must reside in Minnesota for at least one calendar year before the first day of class attendance. For more information, 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).

**Resident Tuition Benefit**—For information on resident tuition for graduate assistants, fellows, and trainees, see the Assistantships and Fellowships section. For information on the benefit for students of color and disadvantaged students, see the Office of Equal Opportunity in Graduate Studies 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 dean of the Graduate School for admission. 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 Graduate School dean. The Graduate School operational standard for admission is an undergraduate grade point average (GPA) of 3.00. Many programs require a higher GPA. Applicants should consult the program to which they are applying for more specific information about admission standards.

The faculty and staff of the Graduate School encourage applications from persons of color or other groups that have been underrepresented in the student body. The Graduate School is committed to providing equal opportunity to all who seek access to its programs, facilities, and services; establishing fair educational standards and applying them equitably in making decisions about admission and academic standing; and helping to compensate for inequities in society.

For more information on admission requirements and application procedures, contact the proposed major field at the address or phone number listed for each program under Graduate Programs.

## Application Procedure

Requests for application materials should be sent to the director of graduate studies in the individual program (see Graduate Programs for program addresses). Requests should specify the applicant's proposed major field and emphasis, degree objective, and date of entry.

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,

complete with all required materials, must be submitted by the following deadlines:

*Fall quarter*—July 15

*Winter quarter*—October 25

*Spring quarter*—December 15

*Summer session, first term*—April 15

*Summer session, second term*—May 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 program description in this bulletin and 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 form.

**Transcripts**—Official transcripts of previous academic study must be submitted.

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

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

**Test Data**—One or more of the following tests may be required as part of the application process (in addition, consult the individual program requirements under Graduate Programs):

*Graduate Management Admission Test (GMAT)*—Please see the Business Administration program description under Graduate Programs. For information on registering for the GMAT, write to the

Educational Testing Service, CN 6108, Princeton, NJ 08541.

*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 application for admission.

The Graduate School requires GRE General Test results from all applicants who submit undergraduate narrative transcripts or transcripts containing “pass-no credit (P-N),” “credit,” or other ungraded notations for a substantial number of courses taken during the junior and senior years or whose transcripts do not show a substantial number of letter grades during those years.

For information about the test, contact the Educational Testing Service, CN 6000, Princeton, NJ 08541. Official scores must be sent to the Graduate School office from the testing service.

In 1999, the paper and pencil, three-part format of the GRE General Test (Verbal, Quantitative, and Analytical) will be replaced by a computer-adaptive General Test with five components. These components will include a college-level mathematical reasoning test and a writing test, as well as revised versions of the current Verbal, Quantitative, and Analytical measures. The General Test will be available in two packages: 1) Verbal, Analytical, Writing, and Quantitative Reasoning, and 2) Verbal, Analytical, Writing, and Mathematical Reasoning. Applicants should contact their proposed major program directly to determine which package their program requires.

*Test of English as a Foreign Language (TOEFL) and Michigan English Language Assessment Battery (MELAB)*—The operational standard for admission to the Graduate School is a TOEFL score of 550 or a MELAB 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 credits/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.

**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 United States jurisdiction that is authorized to license physicians. For more information on certification and the FMGEMS, write directly to the Educational Commission for Foreign Medical Graduates, 3624 Market Street, Philadelphia, PA 19104, U.S.A. or phone 215/386-5900.

**Additional Information**—The Graduate School and individual programs within it reserve the right to request additional information for any case in which it is believed necessary.

### Special Applicant Categories

**University of Minnesota Undergraduates**—University of Minnesota students who have no more than nine quarter credits or two courses to complete for their bachelor's degree (including both distribution and total credit requirements), if they are admitted, may register in the Graduate School to begin a graduate program while simultaneously completing their baccalaureate work.

**Professional Development**—Applicants who wish to enroll in a field in the Graduate School but 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 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.

**Visiting Graduate Students**—Students who have registered within the previous 24 months in a graduate degree program at another recognized U.S. graduate school and wish to enroll for a summer session or single quarter in the University of Minnesota Graduate School to earn credits to apply toward their degree program may be admitted as visiting graduate students. Applicants must meet the current University of Minnesota entrance standards. They are required to ask the dean of their graduate school to complete the Visiting Student Application (G.S. Form 57) and return it to the Graduate School, University of Minnesota, 309 Johnston Hall, 101 Pleasant Street S.E., Minneapolis, MN 55455. Submission of the application fee and a photocopy of the bachelor's degree transcript is required.

Under no circumstances will students be permitted to register for more than one quarter or summer session as visiting students. Persons originally registering under this status who wish to apply for regular admission must follow the application procedures outlined above.

**Academic Staff**—Members of the 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 is a participant in the Traveling Scholar Program for graduate students enrolled in CIC (Committee on Institutional Cooperation) 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 participation in the Traveling Scholar Program is available in the Graduate School Admissions Office, 309 Johnston Hall, or by calling 612/625-9364.

## 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 for the appointment at any time through April 15. However, an acceptance given or left in force after April 15 commits the student not to accept another offer without first obtaining a written release from the institution to which a commitment 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 that are 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 in teaching 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 that are assigned by the supporting department or principal research investigator. An administrative fellow performs duties of a specialized nature connected with academic administration.

*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 quarter of the appointment; this applies to appointments of any percentage or any number of hours. For more specific information, refer to the Handbook for Graduate Assistants.*

**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 *Handbook for Graduate Assistants*), students receive a tuition benefit equal to twice the percentage of time worked. For example, a 40 percent appointment includes an 80 percent tuition benefit, which applies only to tuition costs (including the base registration fee). The maximum benefit is 100 percent and applies to a maximum of 12 credits each academic quarter. The tuition benefit does not cover course or student services fees.

**Resident Rate Privilege**—Upon reaching minimum qualification for eligibility (refer to the *Handbook for Graduate Assistants*), 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 three qualifying quarters of assistantship (two summer terms count as one quarter), the

resident rate break continues for the number of quarters the appointments were held, up to a maximum of six quarters. 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 Graduate Assistant Office. 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.

Further information may be obtained from either the head of the department offering the appointment or from the Graduate Assistant Office, which distributes *The Handbook for Graduate Assistants* and the *Grapevine*, a quarterly newsletter for graduate assistants. Copies of the handbook and more information about the assistantship program at the University may be obtained from the Graduate Assistant Office, 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; e-mail [gaoinfo@tc.umn.edu](mailto:gaoinfo@tc.umn.edu)).

**Graduate Assistant Healthcare Plan**—University-subsidized health insurance through Medica 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 50 to 100 percent of the insurance premium during the academic year (fall, winter, and spring quarters), 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.* An eligible student's spouse and children may also be enrolled (at the student's expense) in a separate Medica plan. To apply, and for further information, contact the Graduate Assistant Insurance Office, N-323 Boynton Health Service, 410 Church Street S.E., Minneapolis, MN 55455 (612/625-6936).

**General College Assistantships**—Graduate students are eligible to apply for teaching assistantships in the General College in mathematics, natural sciences, social sciences, writing, oral communication, and the humanities. The General College program consists of developmental and general education courses that enable underprepared students to later transfer to degree-granting colleges. Approximately 35 percent of the students in the college are from Asian/Pacific-American, African-American, Native American, and Hispanic ethnic groups.

All graduate teaching assistantships for General College are posted for at least five days in the Graduate Assistant Office, University of Minnesota, 1313 5th Street S.E., Suite 317, Minneapolis, MN 55414 (612/627-1075). Notices of vacancies in General College may also be 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, 321 Johnston Hall, administers several fellowship programs, described in detail below; 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.

**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). Any changes to this policy will appear in the quarterly *Class Schedule*.

**Fellowships Awarded and Administered Through the Graduate School Fellowship Office**—Awards listed below are subject to change in amounts or cancellation, depending on availability of funds. The following policies govern all awards administered by the Graduate School Fellowship Office:

**Supplementation**—Recipients of any full-support Graduate School awards may concurrently hold an assistantship or other position at 25 percent time or less without reduction in the fellowship stipend. Recipients of full-support awards may not hold other fellowships, scholarships, grants, or similar awards that duplicate the benefits of the fellowship; they may, however, receive additional partial stipends (not administered by the Graduate School) not to exceed the value of a 25-percent-time assistantship. No part of any full Graduate School fellowship may be used to supplement other full support awards.

**Terms of Award**—Graduate School awards may not be renewed, used for summer study (unless specifically designated), or deferred for use in another academic year.

## For New Graduate Students

**GRADUATE SCHOOL FELLOWSHIPS**—Intended for recruiting outstanding new students to the University's graduate programs, these fellowships provide approximately \$12,000 for the academic year plus tuition for up to 12 credits per quarter. Prospective students must be nominated by their chosen major field in early February through procedures announced by the Graduate School during fall quarter. Applicants should contact the director of graduate studies in their major field in advance.

**NORWEGIAN NATIONAL TORSKE KLUBBEN FELLOWSHIP**—See Endowed Fellowships below.

**FELLOWSHIPS AVAILABLE FOR STUDENTS OF COLOR AND 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 of Equal Opportunity in Graduate Studies, 303 Johnston Hall (612/625-6858; e-mail gsoeo@tc.umn.edu).

**Educational Opportunity Fellowship**—Students planning to enter the Graduate School for the first time in the fall quarter are eligible for these one-year fellowships, which provide a stipend of approximately \$11,800 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 10 fellowships are awarded by the Graduate School each year.

**Other Available Fellowships**—The availability of other fellowships for graduate students of color changes yearly. They include the Ford Foundation Predoctoral and Dissertation Fellowships for Minorities, the National Science Foundation Minority Graduate Fellowship, the GEM Master's Fellowship, the GEM Ph.D. Engineering and Natural Science Fellowship, the MacArthur Scholars Fellowship, the National Physical Science Consortium Fellowships for Minorities and Women in the Physical Sciences, and others. Contact the Office of Equal Opportunity in Graduate Studies, 303 Johnston Hall, for information. In addition, students of color should check all regular sources of support described in this bulletin.

## For Currently Enrolled Graduate Students

**GRADUATE SCHOOL DOCTORAL DISSERTATION FELLOWSHIPS**—Available to Ph.D. candidates who have completed all degree requirements except the dissertation. The fellowship provides approximately \$12,000 for the academic year plus tuition for thesis credits. Candidates must be nominated by their graduate program through procedures announced by the Graduate School during fall quarter.

**GRADUATE SCHOOL DOCTORAL DISSERTATION SPECIAL GRANTS**—For dissertation research expenses for students who have passed preliminary written and oral examinations by the end of the quarter in which they apply. Deadlines: May and December. Up to \$1,500.

**ENDOWED FELLOWSHIPS**—Not all fellowships listed below are offered every year. Stipends are approximate and may vary from year to year. Deadlines for application are generally in early March unless otherwise indicated. Contact the Graduate School Fellowship Office for current information and application procedures.

**Alexander P. Anderson and Lydia Anderson Fellowship**—For students who have completed either a bachelor's or master's degree at the University of Minnesota in the plant and animal sciences, e.g., agronomy, ecology, forestry, genetics, horticulture, plant breeding, plant pathology, and zoology. May be used for study or research in summer or during the academic year. Up to \$3,000.

**Charles J. Brand Fellowship**—Offered to graduate students doing study or research in the botanical sciences. About \$9,000 plus tuition.

**Carolyn M. Crosby Fellowship**—Available to graduate students or, in rare instances, undergraduates engaged in field-based botanical investigation. May be used for independent field research or study at Lake Itasca Forestry and Biological Station or other similar facility. Up to \$3,000.

## GENERAL INFORMATION

**Norman Johnston DeWitt Fellowship**—For an advanced graduate student in the humanities. About \$9,000 plus tuition.

**Louise T. Dosdall Fellowship in Science**—For women graduate students in any field of the natural and physical sciences who show exceptional promise for a successful career in research. About \$9,000 plus tuition.

**Grants for Research Abroad**—Available to graduate students who are U.S. citizens or permanent residents for research abroad. Preference to doctoral students for dissertation research. Supported in part by private foundations. Up to \$4,000.

**Stanwood Johnston Memorial Fellowship**—For promising graduate students in geology, geophysics, physics, chemistry, biochemistry, or microbiology. About \$9,000 plus tuition.

**Harold Leonard Memorial Fellowship in Film Study**—Open to graduate students proposing a year of well-defined research or study in film history, criticism, theory, or aesthetics. About \$9,000 plus tuition.

**Harold Leonard Memorial Film Study Grants**—For graduate or undergraduate students in good standing at the University of Minnesota for specific research expenses in film history, criticism, or aesthetics. Up to \$3,000.

**Eva O. Miller Fellowship**—For graduate students in the broad areas of psychology or statistics and measurement who are engaged in research. Projects may include, but are not limited to, the study of individual differences and cognitive aspects of measurement. About \$9,000 plus tuition.

**Norwegian National Torske Klubben Fellowship**—Available to Norwegian nationals, both new and continuing students, for one year of graduate study at the University of Minnesota. Approximately \$7,500 for the academic year supplemented by a tuition scholarship.

**Shevlin Fellowship**—For graduate students in the biological and agricultural sciences, basic physical and medical sciences, and liberal arts. Relevant graduate programs may nominate one student. About \$9,000 plus tuition.

**William W. Stout Fellowship**—Open to graduate students in the humanities or social sciences who are in the intermediate years of the Ph.D. Relevant graduate programs in which the Ph.D. is offered as a major may nominate one student. About \$9,000 plus tuition.

**Torske Klubben Fellowship to Norway**—For a University of Minnesota graduate student for up to nine months of study or research in Norway. Up to \$7,500 for the year.

**Thomas F. Wallace Fellowship**—Open to graduate students in the humanities or social sciences who are in the intermediate years of the Ph.D. Relevant graduate programs in which the Ph.D. is offered as a major may nominate one student. About \$9,000 plus tuition.

**Woman's Club of Minneapolis Fellowship**—Available to a graduate student with high scholarship and leadership qualifications. Must be U.S. citizen. Special consideration given to candidates who are planning to remain in the metropolitan area. \$2,200.

**Fellowships and Scholarships Awarded and Administered Through Academic Departments**—*See the end of this General Information section for a listing by department.*

## Office of Equal Opportunity in Graduate Studies

This office (303 Johnston Hall; 612/625-6858; e-mail [gsoeo@tc.umn.edu](mailto:gsoeo@tc.umn.edu)) provides prospective students of color and disadvantaged students with information on graduate education. It assists students with the admissions process and identifies financial aid sources. The office also administers fellowships and initiatives that focus on retention and graduation.

**Resident Tuition Benefit**—In keeping with the University's goal to increase the diversity of its student body, nonresident graduate students of color and disadvantaged students are eligible for resident tuition rates. To be eligible, a student of color must have an undergraduate GPA of 3.00 or above, be a member of an ethnic minority group, and be a U.S. citizen or permanent resident. To be eligible under disadvantaged status, a student must fall within the federally set poverty guidelines. When admitted to the Graduate School, eligible students should submit a letter requesting resident rates, along with a copy of their undergraduate transcript, to the Office of Equal Opportunity in Graduate Studies.

## Orientation to the Twin Cities Campus

Designed to ease graduate students' transition to the University, Graduate Student Orientation (GSO) provides information about University policies and services in an atmosphere in which graduate students can meet each other. GSO also conducts writing and library research workshops in the fall. All incoming graduate students (except those with foreign addresses) are mailed a brochure outlining GSO's schedule; F1 and J1 visa students receive information from International Student and Scholar Services, 612/626-7100. For more information and additional copies of

the brochure, contact the program coordinator, Graduate Student Orientation, New Student Programs Office, University of Minnesota, 324 Coffman Memorial Union, 300 Washington Avenue S.E., Minneapolis, MN 55455 (612/624-0666).

In addition to this University-wide orientation service, many graduate programs offer orientation information specifically for graduate students in 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 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, which 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 ombudsman services for graduate students and disseminates information, primarily through the *Gradletter* and through general meetings held twice per quarter. Information on University governance and grievance procedures is available from the COGS office.

Students may contact COGS at University of Minnesota, 405 Johnston Hall, 101 Pleasant Street S.E., Minneapolis, MN 55455 (612/626-1612; e-mail [cogs@tc.umn.edu](mailto:cogs@tc.umn.edu)).

## Preparing Future Faculty

Preparing Future Faculty (PFF), formerly the Teaching Opportunity Program for Doctoral Students (TOPDS), welcomes graduate and postdoctoral participants from all disciplines. PFF helps participants acquire information about the teaching and learning process and the role of faculty at a variety of higher education institutions; 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 the University of Minnesota-Twin Cities or at a regional college or university; demonstrate, document, and reflect upon their teaching skills; and market themselves for faculty or other professional positions.

To receive a letter of recognition and certificate of program participation from the Graduate School, participants must complete Grad 8100—Teaching in Higher Education and Grad 8150—Practicum for Instructors in Higher Education. Grad 8200—Presentation and Verbal Interaction Skills for the Future Professoriate is an optional course. Some graduate programs may have additional requirements for doctoral students participating in PFF. Other courses for credit in higher education teaching may be recognized by PFF as substitutes for Grad 8100 or Grad 8150. Completion of an enrollment interview before the beginning of the term is required for admittance to the program.

PFF is a program of the Graduate School, funded by the Bush Foundation and administered through the Teaching Enrichment Programs of the Office of Human Resources. The PFF office is located in the University Technology Center, Suite 228, 1313 5th Street S.E., Minneapolis, MN 55414. For information on program enrollment, contact the PFF program assistant at 612/627-4040 or [pff@tc.umn.edu](mailto:pff@tc.umn.edu), or visit <http://www.umn.edu/ohr/pff/pff.html>.

## Registration

The Graduate School operates on a quarter system, with registration ordinarily beginning about six weeks before the opening of the term. Courses are also offered in a variety of fields during two summer terms of five weeks each (two terms per summer session).

New graduate students must receive notification of admission from the Graduate School before attempting to register. New graduate students may register any time during the registration period (see below). Previously registered graduate students must follow the registration queue published in the quarterly *Class Schedule*.

## GENERAL INFORMATION

Postdoctoral scholars who wish to register in the Graduate School should contact the Graduate School, 316 Johnston Hall.

**Registration Deadlines**—All graduate students must register before the start of classes to avoid a late registration fee. Friday of the second week of the quarter is the last day to register during fall, winter, and spring quarters. Exceptions to these deadlines will be considered only by written request to the Graduate School; such requests are not routinely granted. For University calendar and registration information and the University-wide policy governing cancel/adds, refer to the quarterly *Class Schedule*. For information about summer terms, including registration deadlines, refer to the *Summer Session Bulletin*.

**Registration Requirements**—Registration requirements for the various graduate degrees are specified in the subsections on degree requirements in this bulletin. Most graduate students are enrolled full time every quarter. In addition, the following requirements apply as appropriate.

1. To maintain their active status, *graduate students must at minimum register once every year*. Those who do not register in the Graduate School at least once per year are considered to have withdrawn; 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 resume graduate work must request readmission to the Graduate School (see Readmission and Other Changes below) *and, if readmitted, must register in the Graduate School for the quarter of readmission* to regain their active status. See Registration Deadlines above.

Graduate students who *have* registered within the past year need not register for the sole purpose of taking final written or oral examinations for the master's degree or specialist certificate, or preliminary written, preliminary oral, or final oral examinations for the doctorate.

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

3. Each individual enrolled in a clinical residency or post-M.D. graduate training program sponsored by the University of Minnesota and directed by a clinical department of the Medical School is required to register either as a medical fellow in the Graduate School or as a medical fellow specialist in the Medical School.

4. Students receiving other types of financial aid from the University or from 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.

**Varieties of Registration**—There are two kinds of registration.

1. *Registration for Coursework*—Graduate students may register for no more than 18 credits during any single fall, winter, or spring quarter. The maximum registration permitted during a single summer term is 11 credits.

2. *Thesis Credit Registration*—Students completing a Plan A master's thesis or a professional master's degree in engineering, design project track, are required to enroll for a minimum of 16 master's thesis credits (8777) before receiving the degree. Students completing a doctoral degree are required to enroll for a minimum of 36 doctoral thesis credits (8888) before the final oral examination can be scheduled.

Some students who were first registered in the Graduate School before fall quarter 1983 may have their thesis credit requirement reduced or eliminated. Contact the Graduate School, 316 Johnston Hall, for more information.

**Changes in Registration**—During fall, winter, and spring quarters, Friday of the second week of the quarter is the last day to add a course or

change sections of a course, change grading option (including to or from auditor status), or cancel a course without a “W” (indicating withdrawal) appearing on the student’s transcript.

Students may *cancel* courses through Friday of the sixth week of the quarter; canceling courses after the sixth week requires the signature of both the adviser and the instructor, as well as Graduate School approval. For University calendar and registration information and the University-wide policy governing cancel/adds, refer to the quarterly *Class Schedule*. For information about summer terms, including registration deadlines, refer to the *Summer Session Bulletin*.

Students are not permitted to change their registration after the last day of instruction of a quarter and are not permitted to register for previous quarters.

**Registration Holds**—Students who maintain active registration are reminded by the Graduate School to file official degree program and thesis proposal forms at times defined by the faculty of their major field (e.g., after a certain number of credits or quarters of registration). Those who fail to do so may have holds placed on their registration by the director of graduate studies. Registration holds may also be placed on students who fail to meet the standards for academic achievement and degree progress defined by their major field.

Registration holds can also be placed by other University units, such as the University Libraries and Student Accounts Receivable. Students must contact the specific unit for instructions on how to clear such holds.

To register for a particular quarter, students must clear any outstanding registration holds before the end of the regular registration period for that quarter. After this period, even when holds are cleared, requests to register are not routinely granted.

## Readmission and Other Changes

Requests for readmission, change of major or degree objective, or change of campus within the Graduate School should be made on the Change of Status/Readmission Request form (G.S. Form 72), available from the Graduate School Admissions Office, 309 Johnston Hall. Payment of a \$40 fee must accompany the form.

**Readmission**—To maintain their active status, *graduate students must at minimum register once every year*. Previously registered students who do not register in the Graduate School of the University of Minnesota at least once per year will be considered to have withdrawn and must apply for readmission in order to resume graduate work.

**Change of Major or Degree Objective**—Students currently enrolled in the Graduate School who intend to change either their major or their 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 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. Only 5xxx and 8xxx courses with grades of A, B, C, and S may be applied to a Graduate School degree program. Students pursuing a Plan A master’s degree or a doctoral degree are required to register for thesis credits (8777 and 8888 respectively); 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 on any degree program must be taken under the A-F system. Individual major fields have the option of specifying more stringent requirements regarding the application of S-N courses to a degree program.

Students must declare their choice of grading system as part of their initial registration. Any changes in grading option must be made as an official registration change no later than Friday of the second week of the quarter during the academic year (refer to the *Summer Session Bulletin* for summer term deadlines for changing the grading option).

For information about courses in which grading is restricted, students should consult the department offering the course (see also Minimum Grade Requirements under Master's Degree or under Doctor of Philosophy Degree below).

**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 quarter, 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. The maximum number of credits of incompletes allowable at any given time is established by each major field for its graduate students. Students should refer to the Graduate School’s Web site (<http://www.grad.umn.edu>) for further information.

**Retaking Courses**—The Graduate School discourages the retaking of courses to improve grades. If a course is retaken, all registrations and grades for the course remain on the student’s 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 quarters.

## Credit Hour Definition

The credit hour, as defined by the University of Minnesota Senate, is equivalent to three hours of work by the student per week. “Work” includes time spent in class, in the laboratory, and in outside preparation. Independent study courses, workshops, clinics, and practicums are also assigned credit on this basis. One quarter credit, then, involves three hours of student work per week for ten weeks, or thirty hours total.

## Student Transcripts and Other Records

The Office of the Registrar of the University maintains and releases the *official* University of Minnesota student transcript. Requests may be submitted in person or in writing, accompanied by the appropriate fee, to the Transcript and Certification Service, University of Minnesota, 150 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455 (call 612/625-5333 for current fee). Fax requests, which must be paid by credit card, may be sent to either 612/625-4351 (Minneapolis campus) or 612/624-4943 (St. Paul campus).

An *unofficial* copy of the transcript may be obtained at no charge by presenting a picture ID at 150 Williamson Hall or 202 Fraser Hall (East Bank campus) or at 130 Coffey Hall (St. Paul campus), with a limit of one per day.

The Graduate School also maintains records of students who have been admitted and enrolled. In accordance with regents’ policy on access to student records, students are permitted to review their educational records and to challenge the contents of those records. For information, students should contact the Graduate School, 316 Johnston Hall.

## Satisfactory Progress Toward the Degree

In addition to fulfilling the Graduate School requirements described in this bulletin, 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 bulletin are minimal 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 at least once per year are considered to have withdrawn; their Graduate School records are deactivated (see Registration Requirements above).

## 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 the preparation of a thesis or projects.

**Two Plans for the Master's Degree**—The Graduate School offers the master's degree under two plans: Plan A, requiring a thesis, and Plan B, which substitutes additional coursework and special projects for the thesis. For plans offered in each major, consult the Graduate Programs section of this bulletin.

**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 the approval of the adviser, the director of graduate studies in the major (and the 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 below).

Master's Plan A students are required to enroll for a minimum of 16 thesis credits (8777) before receiving the degree.

**Double Counting**—Students may have a maximum of 9 credits in common between two Plan A master's degrees or a maximum of 12 credits between two Plan B master's degrees or between a Plan A and Plan B master's degree.

### Transfer of Credits for the Master's Degree

—Unless otherwise specified under a student's major in Graduate Programs, 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 the approval of the adviser, the director of graduate studies in the major (and the 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. Other recognized graduate schools;
2. Adult Special, Summer Session, and Continuing Education and Extension (renamed University College) registrations at the University of Minnesota.

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.

The work to be transferred must be graduate level (postbaccalaureate), must have been taken for graduate credit, and must have been taught by faculty members authorized to teach graduate courses. Credits transferred from other institutions must in addition have been taken as an enrolled, graduate-degree-seeking student and must appear on official graduate school transcripts of the institutions. University of Minnesota courses taken in Continuing Education and Extension (renamed University College) must bear the special CEE or UC transcript entry verifying that they were completed for graduate credit.

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.*

The transfer of credits is accomplished by the inclusion of the courses on the proposed degree program. Credits that are not accepted as part of a student's degree program cannot be transferred to the Graduate School transcript.

*Courses completed through independent (correspondence) study, completed through extension or special categories at other institutions, or taken before the awarding of a baccalaureate degree cannot be transferred.*

**CEE/UC Tuition Differential**—For all coursework taken fall 1980 or later in Continuing Education and Extension (renamed University College) and then transferred to a graduate degree program, students will be billed by University College for the difference between the CEE or UC rate and the Graduate School rate in effect at the time the credits were taken.

**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 work included on the official degree program, 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.* Contact the Graduate School, 316 Johnston Hall,

concerning information to be included in such a petition. To ensure timely consideration, petitions should be filed early in the quarter 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; *readmission under these circumstances is not assured, however.* The faculty in the major field and the Graduate School would 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.

**Official Program for the Degree**—By the time students have completed 15 credits, and ordinarily not later than the third quarter of registration (the second year for the longer programs), they must file with the Graduate School an official program for the degree. The degree program form is available from the Graduate School, 316 Johnston Hall. Students list all coursework, completed and proposed, that will be offered in fulfillment of degree requirements, including transfer work (see Transfer of Credits above). If a foreign language is required for the degree, it also is specified on the degree program form. If the degree is being completed under Plan A, students include the proposed thesis title. *The members of a student's final examining committee (who are the thesis reviewers for Plan A) are appointed by the 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 approved by the Graduate School must be on file before reviewers report, examination, or graduation forms can be released to the student.

**Official Program for the Degree in the Clinical Medical Fields**—Students are expected to file an official program for the degree, including the proposed thesis title, before the end of the second year of registration. Approval by the faculty in the major field and by the Graduate School indicates a student's admission to candidacy for the degree. Students should include on the official program forms only the minimum number of credits actually required for the award of the degree, rather than the full complement of credits taken during the course of the residency program.

**Changes in the Approved Program**—Once approved, the degree program must be fulfilled in every detail to meet graduation requirements. Changes in the program that are found necessary or desirable should be requested by completing a Graduate School petition form.

**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. Courses with grades of A, B, 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 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 Graduate Programs 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 the conditions under which proficiency will be recorded on the official transcript, is available from the Graduate School, 316 Johnston Hall.

**Use of Human or Animal Subjects in Research**—All research on the Twin Cities, Duluth, Morris, and Crookston 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, Box 820 Mayo, 420 Delaware Street S.E., Minneapolis, MN 55455 (612/626-5654; fax 612/626-6061).

**Clearance for Graduation**—Degrees are awarded at the end of each month. To qualify for graduation for a particular month, students must submit the Application for Degree form on or before the first workday of that month and must complete the final examination and all other requirements (including submission of all necessary forms) by the last workday of that month.

**Commencement Ceremony**—Two Graduate School commencement ceremonies are held each year—in *late spring* (for January through June graduates) and in *late fall* (for July through December graduates). Graduates are encouraged, but not required, to attend. To make sure their names appear in the program distributed at the commencement ceremony, students must submit the commencement attendance form, signed by their adviser and director of graduate studies, by the deadline specified in the Graduate School section of the *Class Schedule*.

**Further 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 contact the Graduate School by e-mail (gsmast@tc.umn.edu). *Note:* Some commonly used forms are available on the Graduate School Web site.

## Plan A: Master's Degree with Thesis

**Minimum Credit Requirements**—Students must complete an approved program of coursework consisting of a minimum of 20 quarter credits in the major field and a minimum of 8 quarter credits in one or more related fields outside the major. All credits included in the official degree program must be in graduate-level courses. A minimum GPA of 2.80 must be maintained for all courses included on the program. Students are also required to register for a minimum of 16 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 9 or more quarter credits in a single field. A designated minor must be approved by the director of graduate studies in the minor field.

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 16 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 above). They also 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.

Some students who were first registered in the Graduate School before fall quarter 1983 may have their thesis credit requirement reduced or eliminated. Contact the Graduate School, 316 Johnston Hall, for more information.

## 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.

**Thesis Title**—The thesis title is submitted for approval as part of the information provided on the student's official degree program form. Subsequent changes *in the wording of the thesis title only* may be made without special approval. However, once the student registers the thesis title with the Graduate School (see Registration of the Thesis Title below), changes to the title should not be made.

**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 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 thesis in the foreign language.

**Published Work Included in or in Lieu 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, 316 Johnston Hall, for information on accommodating such a presentation to the required thesis format.

**Registration of the Thesis Title**—When the draft of the thesis is ready to be distributed to the thesis reviewers, the student must register the *title* with the Graduate School, 316 Johnston Hall, by submitting a copy of the thesis title page as it will appear in the final document. Upon submission of the thesis title page, the Graduate School confirms that the degree program has been approved by the Graduate School and that the student has maintained active status (see Registration Requirements under Registration above). If so, the student is provided with the thesis reviewers report form and the other forms and information necessary to graduate.

**Thesis Reviewers**—The thesis is read by the entire examining committee, which is appointed by the 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. This examining committee consists of at least three members: two representatives from the major field and one from the minor or a related field.

*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. When the signed 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 by telephone before the start of the examination.*

**Preparation and Submission of the Thesis**—Two copies of the thesis must be submitted to the Graduate School. *The student's adviser(s) must sign both copies of the thesis to confirm that they are 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.

## Plan B: Master's Degree Without Thesis

**Minimum Credit Requirements**—Students must complete an approved program of coursework consisting of a minimum of 20 quarter credits in the major field and a minimum of 8 quarter credits in one or more related fields outside the major. The balance of the credits to be completed to meet the 44-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. All credits included in the official degree program must be in graduate-level courses. A minimum GPA of 2.80 must be maintained for all courses included on 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 9 or more quarter 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 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 dean of the Graduate School 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. The examination is coordinated by the chair of the student's examining committee. The results of the examination are reported on a form the student must obtain from the Graduate School, 316 Johnston Hall, before the examination is held. To obtain this form, the student must have on file a degree program approved by the Graduate School and must have maintained active status (see Registration Requirements under Registration above). *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 by telephone before the start of the examination.*

## Master of Architecture

See Architecture under Graduate Programs for requirements.

## Master of Business Taxation

See Business Administration under Graduate Programs for requirements.

## Professional Master's Degree in Engineering

A number of engineering departments offer programs, with emphasis on design methods, leading to a designated professional master of engineering degree. The design emphasis of the program is on applications rather than on 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 designed 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 bachelor of science in engineering programs accredited by the Engineers' Council for Professional Development (ECPD). Full-time students should be able to complete a 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 an M.S. program.

**Fields in Which the Program is Offered**—Refer to the appropriate engineering department sections under Graduate Programs 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 Tracks for the Professional Master's Degree in Engineering**—The Graduate School offers the professional master's degree in engineering under two tracks, depending on the major field: a design project track and a coursework only track.

*Design Project Track*—This track requires 20 quarter credits in the major field, a minimum of 8 credits in one or more related fields outside the

major, and a design project measured as a minimum of 16 credits. Students who wish to complete a designated minor must complete 9 or more quarter credits in a single field. The design project stresses problem solving based on engineering design criteria extant in industry. Performance of professional caliber is expected which can be subjected to the scrutiny and critique of senior design engineers in industry as well as engineering faculty members.

*Coursework Only Track*—This track requires a minimum of 44 quarter credits distributed to include 20 credits in the major field, a minimum of 8 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 9 or more quarter credits in a single field. No projects or papers specific to this track are required.

**Final Examinations for the Two Tracks**—The design project track requires a final oral examination focused on the design project itself and involving a three-person faculty committee. For the coursework-only track, students should confer with their director of graduate studies about the final examination.

## Master of Fine Arts

**Prerequisites**—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 who demonstrate exceptional promise as creative artists in one or more of the subfields in their major area. For a list of the subfields, see Art and Theatre Arts under Graduate Programs.

**Course Requirements**—For specific program requirements, see Art, Creative Writing (see English), and Theatre Arts under Graduate Programs. *Note:* Creative project and final examination requirements for Creative Writing differ from the following. Contact the Department of English for details.

A degree program approved by the Graduate School must be on file before exhibit report, examination, or graduation forms can be released to the student.

**Creative Project**—Students must complete a creative project (production or exhibition) accompanied by a supporting paper that deals with the project’s planning or execution. Those pursuing a master of fine arts in art must obtain an Exhibit Report form and an Examination Report form from the Department of Art. After securing the appropriate signatures on these forms, return them immediately to 316 Johnston Hall.

**Final Examinations**—The Graduate School requires a final examination for the master of fine arts degree; 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. If a final oral 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.*

Except as noted in this section, requirements for the master of fine arts degree are comparable to those described under Plan B: Master’s Degree Without Thesis above.

## Master of Forestry

See Forestry under Graduate Programs for requirements.

## Master of Landscape Architecture

See Landscape Architecture under Graduate Programs for requirements.

## Master of Music

See Music under Graduate Programs for requirements.

## Master of Planning

See Public Affairs under Graduate Programs for requirements.

## Master of Science (Designated) in Clinical Medicine

See Master’s Degree above for requirements.

## Master of Social Work

See Social Work under Graduate Programs for requirements.

## Specialist Certificate in Education

The Graduate School offers two-year specialist programs in several education fields (see Curriculum and Instruction, Education, Educational Administration under Educational Policy and Administration, and Educational Psychology under Graduate Programs for specific fields and program descriptions). The specialist certificate requires completion of a minimum of 90 credits.

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

1. Other recognized graduate schools;
2. Adult Special, Summer Session, and Continuing Education and Extension (renamed University College) registrations at the University of Minnesota.

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

The work to be transferred must be graduate level (postbaccalaureate), must have been taken for graduate credit, and must have been taught by faculty members authorized to teach graduate courses. Credits transferred from other institutions must in addition have been taken as an enrolled, graduate-degree-seeking student and must appear on official graduate school transcripts of the institutions. University of Minnesota courses taken in Continuing Education and Extension (renamed University College) must bear the special CEE or UC transcript entry verifying that they were completed for graduate credit.

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.*

The transfer of credits is accomplished by the inclusion of the courses on the proposed degree program. Credits that are not accepted as part of a student's degree program cannot be transferred to the Graduate School transcript.

*Courses completed through independent (correspondence) study, completed through extension or special categories at other institutions, or 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 form. A decision regarding continuation beyond the master's degree in a specialist program will depend 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 2 years but must be completed and awarded in 12 years. The 12-year period begins with the earliest work included on the program, including any transfer work. Graduate credits earned before the 12-year span are evaluated by the graduate faculty in the area of specialization and may be recommended to the Graduate School for acceptance on a full or partial basis. Students who expect to exceed the 12-year limit may petition the Graduate School for an extension of time; contact 316 Johnston Hall 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 four examiners is appointed by the dean of the Graduate School upon recommendation of the faculty in the major field at the time the official degree program is approved. This committee must include two members from the student's major field and two members from outside the major field.

The examination is coordinated by the chair of the student's examining committee. The results of the examination are reported on a form the student must obtain from the Graduate School, 316 Johnston Hall, before the examination is held. *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.*

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 above.

A degree program approved by the Graduate School must be on file before examination or graduation forms can be released to the student.

## **Doctor of Philosophy Degree**

The doctor of philosophy degree 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 thesis that is based on original research and 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 36 thesis credits (8888) while writing the doctoral thesis. Students may not register for thesis credits until the quarter *after* they have passed their preliminary oral examination.

Some students who were first registered in the Graduate School before fall quarter 1983, or who filed a doctoral degree program with the Graduate School before fall quarter 1991, may have their thesis credit requirement reduced or eliminated. Contact the Graduate School, 316 Johnston Hall, for more information.

#### **Doctoral Pre-Thesis Credits (8666)**—

Doctoral pre-thesis credits (8666) are available for doctoral students who have not yet passed their preliminary oral examination but who 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.*

#### **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 on 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 completed through independent (correspondence) study, completed through extension or special categories at other institutions, or taken before the awarding of a baccalaureate degree.

*From Adult Special or Summer Session*—Students admitted to and registered in the Graduate School may transfer to their doctoral programs the graduate-level credits earned in their *first academic quarter as adult special*

*students* (or in their first summer session, including both summer terms if registered in the same calendar year) at the University of Minnesota. Such work must be graduate level and must be offered by members of the faculty approved to teach graduate courses, and students must complete the work required of graduate students in the courses.

*From Continuing Education and Extension (CEE)/University College (UC)*—A maximum of 12 credits of graduate-level work completed in Continuing Education and Extension (renamed University College) may be transferred to the doctoral program. This applies only to credits earned in CEE or UC at the University of Minnesota; extension credits earned at other institutions may not be transferred. University of Minnesota extension courses must bear the special CEE or UC transcript entry showing they were completed for graduate credit.

*CEE/UC Tuition Differential*—For all coursework taken fall 1980 or later in Continuing Education and Extension (renamed University College) and then transferred to a graduate degree program, students will be billed by University College for the difference between the CEE or UC rate and the Graduate School rate in effect at the time the credits were taken.

*From Other Graduate Institutions*—Graduate credits earned at other recognized graduate institutions may be applied to doctoral degrees if the coursework was taken as an enrolled, graduate-degree-seeking student and the credits appear on official graduate school transcripts.

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 of a regionally accredited institution in the United States.

*In the case of a 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 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.*

*Transfer of graduate credit is not allowed for courses completed through independent (correspondence) study, completed through extension or special categories at other institutions, or taken before the awarding of a baccalaureate degree.*

**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 below).

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.* Contact the Graduate School, 316 Johnston Hall, concerning information to be included in such a petition. To ensure timely consideration, petitions should be filed no later than early in the quarter 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 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 would 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.

**Official Program for the Degree—**Students are expected to file an official program for the degree during their second year of study; the specific quarter depends upon individual major field requirements. *Students should submit their completed degree program forms to the Graduate School at least two quarters before the term in which they plan to take the preliminary oral examination.* The degree program form is available from the Graduate School, 316 Johnston Hall. The 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 above). 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 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.*

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

**Changes in the Approved Program—**Once approved, the program must be fulfilled in every detail to meet graduation requirements. Changes in the program that are found necessary or desirable should be requested by completing a Graduate School petition form.

**Minimum Grade Requirements—**The Graduate School does not define a minimum GPA for courses included on an official doctoral degree program, 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, 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 are required to 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 on 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.

**Minor Field or Supporting Program**

**Work**—For the doctoral degree, at least 18 quarter credits must be offered 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 is offering a supporting program, it must be composed of a coherent pattern of courses, 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 in the first part of the program. Familiarity with those phases of the nonclinical disciplines essential to proficiency in the major specialty is required.*

**Language Requirement**—See Graduate Programs 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 the conditions under which proficiency will be recorded on the official transcript, is available from the Graduate School, 316 Johnston Hall.

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

**Further Information**—Students who have questions about the doctoral degree after reading this entire section (including the following on examinations and the thesis) may contact the Graduate School by e-mail (gsdoc@tc.umn.edu). *Note:* Some commonly used forms are available on the Graduate School Web site.

**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. 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 dean of the Graduate School 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 five members: three (including the student’s adviser) from the major field and two from the minor field or supporting program.

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 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 adviser should consult with the Graduate School staff by telephone 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 of the health science fields, however, the faculty requires 30 days' notice of the date of the preliminary oral.

Preliminary oral examinations should not be scheduled from the beginning of the second term of summer session to the opening of the fall quarter, unless the members of the assigned committee can be assembled without substitution.

Before the oral examination can be scheduled, a degree program 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 above).

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 both the chair of the examining committee and the student; 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 an 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 thesis research. Unlike the final oral examination, *the preliminary oral 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 five members, a favorable verdict for passing consists of either a unanimous vote or a vote of 4-1; 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 at least one full academic quarter (10 weeks) has 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 dean of the Graduate School 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 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 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.*

## Ph.D. Thesis

The thesis must demonstrate the student's originality and ability for independent investigation, and the results of the research must constitute a contribution to knowledge. The thesis 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**—At the time of submission of the doctoral program, or not later than the first quarter after passing the preliminary oral examination, students must file the thesis proposal form with the Graduate School, 316 Johnston Hall. 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 dean of the Graduate School upon recommendation of the faculty in the major field at the time the student's thesis proposal is approved.*

A thesis proposal approved by the Graduate School must be on file before the reviewers report form can be issued to the student.

**Changes in the Thesis Title or the Thesis Proposal**—Changes in the *wording* of the thesis title may be made without special approval, but changes should not be made after the thesis title is registered (see Registration of the Thesis Title and Delivery of the Thesis to Thesis Reviewers below). If substantive changes are made in the nature of the thesis research itself, the student must submit a revised thesis proposal immediately.

**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 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 thesis in the foreign language.

**Use of Human or Animal Subjects in Research**—All research on the Twin Cities, Duluth, Morris, and Crookston 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, Box 820 Mayo, 420 Delaware Street S.E., Minneapolis, MN 55455 (612/626-5654; fax 612/626-6061).

**Published Work Included in or in Lieu 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, 316 Johnston Hall, for information on accommodating such a presentation to the required thesis format.

**Registration of the Thesis Title**—Students must register the thesis title with the Graduate School, 316 Johnston Hall, by submitting a copy of the *thesis title page* as it will appear in the final document. Upon submission of the thesis title, the Graduate School provides the student with the thesis reviewers report form

and the other forms necessary to graduate, on condition that the student has on file a thesis proposal approved by the Graduate School and has maintained active status (see Registration Requirements under Registration above).

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

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

**Delivery of the Thesis to Thesis Reviewers**—At the time the candidate submits a draft of the thesis to the thesis reviewers, copies must also be provided to all other members of the final oral examining committee. The thesis abstract must be included with the thesis when it is distributed to the committee. The abstract must be signed by the adviser before it is submitted to the Graduate School, which forwards it to University Microfilms.

*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.*

When signing the thesis reviewers report form, the reviewers have three options: the thesis is acceptable for defense as presented; the thesis is acceptable for defense with minor revisions; or the thesis requires major revisions and is not acceptable for defense as presented.

The reviewers must be unanimous in certifying that the thesis 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 thesis 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 of the Copies of the Thesis below).

### Final Oral Examination

All doctoral students are required to successfully defend their theses in a final oral examination 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 form, including the language requirement, if any; must have passed both the written and oral preliminary examinations; must have maintained active status; and must have satisfied the thesis credit requirement. In addition, the thesis must have been certified by the readers as ready for defense.

**Scheduling the Final Oral with the Graduate School**—*The student must schedule the examination at least one week in advance with both the committee and the Graduate School (see Clearance for Graduation below). In certain of the health science fields, however, the faculty requires 30 days' notice of the date of the final oral.*

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, the Graduate School staff will contact the adviser and the student immediately.

*A minimum of ten weeks must intervene between the preliminary oral and the final oral*

*examinations. Also, the final oral should not be scheduled from the beginning of the second summer term to the opening of the fall quarter unless the committee members can be assembled without substitution.*

**Final Oral Examining Committee**—The committee must consist minimally of five members: three (including the student's adviser) from the major field and two from the minor field or supporting program. At least two of the faculty from the minor field or supporting program should represent a graduate program and budgetary unit other than that of the student's major.

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 full 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 dean of the Graduate School 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 the Graduate School staff by telephone before the start of the examination.*

**Form of the Final Oral Examination**—The final oral examination consists of a seminar in which the candidate presents the thesis and to which the scholarly community is invited. The seminar may take place only after the thesis has been judged ready for defense. The

examination is limited to the candidate's thesis subject and relevant areas. It will not exceed three hours. A closed meeting between the candidate and the appointed examining committee immediately follows the thesis presentation. The candidate is then excused and the vote taken on whether the candidate passed the examination.

**Reporting the Results of the Final Oral Examination**—Upon completion of the examination, a formal vote of the committee is taken. 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 thesis. The final oral examination report form should not be signed and submitted to the Graduate School until all reservations have been satisfied. *If the form will be held for more than one week, a letter 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 thesis before it is submitted to the Graduate School, the student is permitted to register for one additional quarter. Once the thesis 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 thesis or defense, and must indicate when they expect to reconvene and resume 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 Copies of the Thesis

Two copies of the thesis must be submitted to the Graduate School. *The student's adviser(s) must sign both copies of the thesis to confirm that they are 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.

### Clearance for Graduation

Degrees are awarded at the end 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 workday of that month and must complete the examination and all other requirements (including necessary forms and fees) by the last workday of that month.

### Commencement Ceremony

Two Graduate School commencement ceremonies are held each year—in *late spring* (for January through June graduates) and in *late fall* (for July through December

graduates). Graduates are encouraged, but not required, to attend. 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 in the Graduate School section of the *Class Schedule*.

### 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 thesis. 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 thesis are involved.

## Doctor of Education

The University of Minnesota awards the doctor of education (Ed.D.), its highest professional degree in the fields of work, community, and family education and educational administration 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 thesis for the Ph.D. apply in general to the Ed.D.

**Program for the Degree**—The Ed.D. program requires the completion of a major, a minor or a supporting program consisting of at least 18 course credits, and a collateral field of study. A foreign language is not required. A significant proportion of the graduate coursework, usually at least one-fifth of the total program, should be completed in fields other than education.

A supervised internship or clinical experience is an integral part of the program and must be completed by each candidate.

**Project**—Candidates for the Ed.D. must complete an extended essay that demonstrates the ability to carry out an independent and meaningful study of a problem relevant to the field.

**Examinations**—Satisfactory performance on both a written comprehensive examination conducted by the major field and a preliminary oral examination conducted by a committee of graduate faculty members is required to establish candidacy for the degree. The preliminary oral examination committee is appointed by the dean of the Graduate School upon recommendation of the faculty in the major field at the time the degree program is filed. These examinations assess students' scholarly mastery of the subject matter of their major field and their general readiness and qualifications to pursue the Ed.D.

The final examination committee is appointed by the dean of the Graduate School upon recommendation of the faculty in the major field at the time the thesis/project proposal is filed. It consists of three project reviewers and two others who are qualified to assess the student's professional competency. In the final examination, students are expected to defend the essay and their general qualifications for the degree.

For detailed requirements, see Doctor of Philosophy Degree above.

## Doctor of Musical Arts

The program for the professional doctor of musical arts (D.M.A.) degree has a performance-teaching orientation. Emphases are offered in piano, organ, voice, violin, viola, cello, clarinet, woodwinds, trumpet, trombone, guitar, accompanying/coaching, and orchestral conducting. Standards and procedures for admission, and expectations for scholastic performance, are comparable to those for the Ph.D. Details concerning major and minor requirements, recitals, and supporting papers for the D.M.A. are included in the Music section under Graduate Programs. 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 thesis, a project document or paper is required.

## Doctor of Philosophy (Designated) in Clinical Medicine

In the clinical fields, the Ph.D. is always a degree with designation. See Doctor of Philosophy Degree above and individual clinical medicine fields under Graduate Programs for requirements.

## Other Financial Assistance

**Student Employment**—The University's Student Employment Center (part of the Office of Human Resources) offers graduate students a wide range of non-academic employment opportunities both on campus and throughout the Twin Cities area. All jobs are posted outside the Student Employment Center, 120 Fraser Hall, 106 Pleasant Street S.E., Minneapolis, MN 55455 (612/624-8070). On-campus jobs are also posted at 130 Coffey Hall, St. Paul campus. Contact the Student Employment Center for further 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 Scholarships and Financial Aid (OSFA)**—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 will be 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 programs; Health and Human Services Health Care Professions Grants (may be discontinued after 1997-98); Minnesota Medical Foundation Scholarship; Minnesota Tuition Offset for Health Professions; Nursing Grant Program for Persons of Color; 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 pick up 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 Office of Scholarships and Financial Aid 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, St. Paul, MN 55108, or call 612/624-1665 or, July-September, 1-800-400-UofM(8636); the fax number is 612/624-9584 and the e-mail address is [osfa@tc.umn.edu](mailto:osfa@tc.umn.edu). To receive accommodations when in Fraser Hall or information in an

alternative format, call the disability services liaison for financial aid at 612/625-9578; TTY telephone is 612/626-0701.

**International Students and Scholars**—Counseling, advising, and educational services are provided for students and scholars from other countries by International Student and Scholar Services (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 are required to participate in ISSS's Pre-Registration 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 programs for students, faculty, staff, and the community. 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, University of Minnesota, 149 Nicholson Hall, 216 Pillsbury Drive S.E., Minneapolis, MN 55455 (612/626-7100).

**Army and Air Force ROTC**—Students in the Graduate School may pursue a two-year Army or Air Force ROTC program. To be eligible, applicants must have six quarters of academic work remaining after successful completion of a required six-week paid ROTC basic summer camp. Transportation, meals, lodging, and a salary are furnished during the summer encampment. All ROTC textbooks and uniforms are loaned to the student without cost, and all cadets receive a tax-free stipend of \$150 per month during the school year. Students successfully completing the program are commissioned as second lieutenants in the Army or Air Force. For more information, see the University's *Army-Navy-Air Force ROTC Bulletin* or call the Army ROTC (612/624-7300) or the Air Force ROTC (612/624-2884).

**Fellowships and Scholarships Awarded and Administered Through Academic Departments**—Further information on eligibility and application procedures for the following fellowships and scholarships is available from academic departments unless otherwise indicated. Awards are subject to change or cancellation depending on availability of funds.

*AGRICULTURAL ENGINEERING*

**Alton Levorson Award**—For an agricultural engineering graduate student who demonstrates excellence in academics and research. Variable amount.

*AGRONOMY AND PLANT GENETICS*

**H. K. Hayes Memorial Scholarship**—For a current graduate student in the Department of Agronomy and Plant Genetics who is outstanding in scholarship, research, and leadership in department and student activities. \$1,000.

**J. W. Lambert Memorial Fellowship**—For graduate students entering the Department of Agronomy and Plant Genetics with exceptional academic records and/or experience. \$3,000 plus a half-time assistantship first year; \$1,000 plus a half-time assistantship subsequent years.

**Pioneer Hi-Bred Graduate Fellowship**—For outstanding graduate students in applied plant breeding. Variable amount, consisting of augmentation to a half-time assistantship.

*AMERICAN STUDIES*

**American Studies Fellowship**—To support three first-year graduate students. A stipend and quarter-time assistantship about equal to first-year Graduate School Fellowship stipend.

*APPLIED ECONOMICS*

**The Center for International Food and Agricultural Policy Graduate Study Fellowships**—To attract high-quality Ph.D. students to the program and to strengthen opportunities for international experience within the graduate curricula. Up to \$2,000 plus a regular 12-month, half-time research assistantship each year for up to 45 months of study; up to \$2,000 travel grant in the final year of the student's program.

*ARCHITECTURE*

All scholarships/fellowships are for graduate and undergraduate students already in the architecture program and are given at the discretion of the department, unless otherwise noted.

**AIA (American Institute of Architects) Foundation Scholarships**—Stipends awarded to architecture students on the basis of financial need and academic achievement. Nominations are made by CALA to the AIA Foundation.

**AIA Henry Adams Medal and Certificate**—Awarded to the two graduating architecture students highest in academic rank.

**AIA Minneapolis Chapter**—Two stipends for third-year architecture students who do not qualify for other awards.

**AIA Minority-Disadvantaged Scholarship Program**—Awarded to architecture students based upon need and background. Nominations are made by CALA to the AIA.

**Alpha Rho Chi Medal**—Given to a graduating architecture student for leadership and service by the national architecture fraternity.

**Thomas Ellerbe Fellowship**—Stipend awarded to architecture students in their final year by the Minnesota Architectural Foundation based on academic record, portfolio, and recommendations.

**Stanley and Doris Moe Scholarship**—Offered to outstanding architecture applicants at the time of their admission.

**SPQR Travel Award**—Stipend awarded to architecture students for participating in the Study Abroad Program based on need and academic rank.

**Stretch/Morrill Memorial Award**—Thesis award for graduating architecture students nominated by faculty.

In addition, several corporations and firms sponsor other annual scholarships and architectural design competitions (with financial awards) as part of design studios. Recent sponsors have included Pella Products, and the Minnesota Prestress Association. For graduate students, there are many teaching and research assistantships available as well as a limited number of tuition scholarships.

*ART (Twin Cities Campus)*

**Dayton-Hudson Internships in the Arts**—To enhance graduate student involvement and visibility in the local arts community and to assist arts organizations with their missions. \$6,000 for each year of the three-year program.

**Studio Arts Endowed Scholarships**—To assist graduate students in their individual visual research. \$500-\$3,500.

*ART (Duluth Campus)*

**Alice Tweed Tuohy Foundation Scholarship**—For graduate or undergraduate art students to help defray tuition expenses. Variable amount.

*ART HISTORY*

**Elizabeth Roe Fellowship**—For art history graduate students. \$500 to \$3,000.

**Pioneer Fellowship**—For Art History Graduate Students \$500 to \$3,000.

*BIOCHEMISTRY*

**Chemical Bases of Cell and Molecular Biology Training Grant**—To train doctoral students in biochemistry, chemistry, genetics and cell biology, and microbiology, in a chemically based approach to cellular and molecular biology. U.S. citizenship required. \$8,800 plus tuition, health insurance, and certain fees. This amount is supplemented to bring the stipend to that received by other graduate students in the program.

**Arnold H. Johnson Doctoral Fellowship**—To train pre-doctoral students in biochemistry with faculty in the College of Biological Sciences. U.S. citizenship required. Apply through the Biochemistry Department, College of Biological Sciences. \$8,250.

*BIOLOGICAL SCIENCES*

**Bell Delta Waterfowl Fellowship**—For graduate students in ecology, evolution, behavior, and biology who are studying North American waterfowl at the Delta Waterfowl Research Station in Manitoba. Apply through Bell Museum of Natural History. Variable amounts.

**Dayton Natural History Fund**—To encourage field research in field biology by graduate students without geographic restrictions. Apply through Bell Museum of Natural History. Variable amounts, usually \$100 to \$2,000.

**Itasca Research Stipends**—To encourage research at Lake Itasca Forestry and Biological Station by qualified graduate students from any area relating to field biology. Apply through the Itasca Biology Program. Variable amounts.

**Florence Rothman Fellowship**—For first- or second-year graduate students in ecology or associated with Bell Museum faculty to support exploratory field studies. Students should apply through the Department of Ecology, Evolution, and Behavior. At least \$500.

**Sigerfoos Fellowship**—For short-term zoological study by graduate students at another institution or research area. Preference for study of marine or tropical zoology. Apply through the director of graduate studies in zoology.

**James W. Wilkie Fund for Natural History**—For field studies in natural history by graduate students in any aspect of field biology. Apply through Bell Museum of Natural History. Variable amounts, usually \$100 to \$2,000.

*BIostatISTICS*

**National Research Service Award Traineeships**—For graduate students in biostatistics. U.S. citizenship or permanent residency required. Salary (usually \$10,008) plus tuition and insurance premium waivers.

**U.S. Public Health Service Traineeships in Public Health**—For graduate students in biostatistics. U.S. citizenship or permanent residency required. Variable amounts.

*BUSINESS ADMINISTRATION*

**Accounting Department Scholarships**—Awarded to MBA and Ph.D. accounting students on the basis of merit. Variable amount. Further information is available from the Carlson School Accounting Department.

**American Production and Inventory Control Society**—For Carlson School of Management graduate and undergraduate students interested in a career in operations and materials management. Variable amount.

**R. Glen Berryman Scholarship Fund**—Awarded to Carlson School accounting students based on merit. Variable amount.

**Carlson Companies Scholarship**—For Carlson Companies employees or children or grandchildren of employees enrolled as graduates or undergraduates in the Carlson School. Variable amount.

**Carlson School Dissertation Fellowships**—Awarded to dissertation-stage Ph.D. students on the basis of merit. Variable amount.

**Carlson School Ph.D. Fellowships**—Awarded to first-year Ph.D. students on the basis of merit. Variable amount.

**Carlson Student Aid Fund**—For graduate and undergraduate students enrolled in the Carlson School. Variable amount.

**Richard Ellis Dupuy, Jr. Fellowship in Strategic Management**—Awarded to Ph.D. students in the department of Strategic Management and Organization on the basis of merit. Variable Amount.

## GENERAL INFORMATION

**Elwell Foundation**—Awarded to several Ph.D. students in finance. Variable amount.

**Richard K. Gaumnitz Scholarship**—In honor of Professor Gaumnitz for Carlson School students in the department of strategic management. Variable amount.

**Frederick Grose Scholarship**—Awarded to a Carlson School undergraduate or graduate student in accounting.

**Ernest Heilman Award**—An Outstanding Teacher Award for a Ph.D. student in accounting.

**Herrick Scholarship**—For Carlson School Ph.D. students in finance; based on financial need and merit. Variable amount.

**Honeywell Scholarship**—Awarded to an outstanding graduate student in accounting. Variable amount.

**Robert Lieberman Memorial Award**—For one or two Carlson School Ph.D. student(s) in marketing; based on excellence in teaching. Variable amount.

**Carl Nelson Doctoral Award**—Awarded to a Ph.D. student in accounting.

**Jay Phillips Endowed Scholarship**—For Carlson School graduate students based on need and merit. Variable amount.

**Charles R. Purdy Scholarship**—Awarded to a Carlson School Ph.D. student in accounting.

**George Russell International Fund**—For students and faculty of the Carlson School to defray costs of international research and study. Variable amount.

**C. E. Tranter Scholarship**—Awarded to outstanding graduate and undergraduate students in accounting.

**Naren Udayagiri Fellowship in Management**—Awarded to Ph.D. students in the Department of Strategic Management and Organization based on merit. Variable amount.

**Roland S. Vaile Fellowship in Business**—Awarded to a graduate student interested primarily in marketing. Variable amount.

### *CELLULAR AND INTEGRATIVE PHYSIOLOGY*

**Bacaner Research Awards**—For doctoral students in cell biology and neuroanatomy, biochemistry, laboratory medicine and pathology, microbiology, pharmacology, and physiology. Students are selected by their departmental faculty on the basis of research conducted for the Ph.D. degree. Limited to students who have completed or will complete all requirements for the Ph.D. degree by no later than December of the year awarded. \$500.

**Irwin J. Fox Award**—To recognize outstanding academic achievement by a doctoral student in cellular and integrative physiology. \$1,000.

**Allan Hemingway Endowed Scholarship**—For a doctoral candidate in cellular and integrative physiology who has demonstrated outstanding merit, academic potential, and financial need. \$1,500.

**Lifson-Johnson Award**—For a doctoral student in cellular and integrative physiology, to recognize outstanding teaching or research in the area of physiological transport systems. \$1,000.

### *CHEMICAL ENGINEERING AND MATERIALS SCIENCE*

All chemical engineering and materials science graduate students who submit applications for graduate assistantships or Graduate School Fellowships are considered for departmental fellowships. The criterion for selection is academic excellence. In recent years, departmental fellowship funds have come from the following sources:

#### **Air Products and Chemicals**

#### **Chevron**

#### **Dow Chemical Company Foundation**

#### **Eastman Kodak**

#### **Exxon Education Foundation**

#### **Fridley Foundation**

#### **Minnesota Mining and Manufacturing Company (3M)**

#### **Mobil**

#### **Pillsbury Company**

#### **Proctor and Gamble**

#### **Shell Companies Foundation**

#### **Union Carbide**

#### **Upjohn Company**

### *CHEMISTRY*

The Department of Chemistry awards fellowships for outstanding graduate students each year. Several fellowships for partial summer support are sponsored by a number of corporations.

### *CHEMISTRY/CHEMICAL PHYSICS*

Same as Chemistry.

### *CHILD PSYCHOLOGY*

**Center for Research in Learning, Perception, and Cognition**—To prepare doctoral students in learning, perception, cognition, and related areas for research careers in cognitive science. Must be U.S. citizen, national, or permanent resident. \$10,800 (12 months) plus tuition and fees.

**Institute of Child Development**—To prepare continuing doctoral students in child psychology for research careers. Must be U.S. citizen, national, or permanent resident. \$7,506 (9 months) plus tuition and fees.

### *CIVIL ENGINEERING*

**Sommerfeld Fellowships**—For outstanding graduate students in any branch of civil engineering. \$10,200 plus tuition and health coverage.

### *CLASSICAL AND NEAR EASTERN STUDIES*

**John C. Hutchinson Fellowship**—To support promising classics students in the study of Greek and Latin language and literature at an advanced level. \$1,000 to \$4,000.

### *COMMUNICATION DISORDERS (Twin Cities Campus)*

#### **Center for Research in Learning, Perception, and**

**Cognition**—To prepare doctoral students with interests in perception, learning, and cognition for research careers in cognitive science. U.S. citizenship required. \$10,008 plus tuition, fees, and insurance.

**Robert G. Robinson Scholarship in Audiology**—For students in audiology. Recipients must be nonsmoking U.S. citizens. Variable amount.

**Veteran's Administration Traineeships in Speech-Language Pathology and Audiology**—For master's and doctoral students in speech-language pathology and audiology. U.S. citizenship required. \$4,000.

*COMMUNICATION DISORDERS (Duluth Campus)*

**Eddy Foundation Scholarships**—For students in communication disorders at University of Minnesota-Duluth. Preference to Duluth area residents. \$400 per quarter.

**Robert F. Pierce Scholarship for Academic Excellence**—For top applicant to the communication disorders graduate program on the Duluth campus. Awarded annually. \$10,000 paid in \$5,000 installments.

#### *COUNSELING*

**Counseling Internship and Associate Staff Positions**—For doctoral students in psychology and education to provide experience and training in college student counseling. Apply through University Counseling and Consulting Services.

#### *CREATIVE WRITING*

See *ENGLISH* below.

#### *CURRICULUM AND INSTRUCTION*

(Reading/Language Arts Education)

**Guy Bond Research Assistantship**—To support a new doctoral student in reading education. \$12,000 plus tuition for the first two years; departmental teaching assistantship for third year.

**Reading/Language Arts Education Dissertation Fellowship**—To support preparation of a publishable paper. \$1,000.

**Robert Schreiner Reading Fellowship**—To support preparation of a publishable paper. \$1,000.

**Frances Triggs Reading/Language Arts Memorial Fellowship**—To assist a doctoral candidate in the completion of the dissertation. \$2,500.

#### *ECONOMICS*

**Harold Hardy Fellowship**—Thesis support for doctoral students.

**Heller Fellowship in Public Policy**—For thesis research support in public policy economics.

#### *EDUCATION*

See also *CURRICULUM AND INSTRUCTION* above.

**Ruth Eckert Scholarship**—For women doctoral students who have completed the preliminary examination for the Ph.D. Recommendations from the student's major adviser and one other faculty member are required. Variable amount not to exceed \$1,000.

**Education and Human Development Alumni Society Advanced Study Scholarship**—For graduate students with outstanding academic performance and whose faculty recommendations show the students' potential to make significant contributions to the field. \$500, subject to availability of funds.

**Education and Human Development Alumni Society Larry Wilson Scholarship**—For degree-seeking students who have career objectives related to non-school-based education. Recipients will be selected based on leadership potential and a strong academic record. \$500, subject to availability of funds.

**Education and Human Development Student Community Service Award**—For students who have performed outstanding volunteer service for nonprofit organizations and groups external to the University. \$500.

**Epsilon Chapter of Pi Lambda Theta Dissertation Research Grant**—For graduate students who have completed the preliminary exam for the doctorate in education. \$500, subject to availability of funds.

**Home Economists in Business**—For graduate student majoring in home economics education with career goals oriented toward working in a business setting. Applicants must be members of the Minnesota Home Economics Association. \$800.

**Minnesota Home Economics Association**—For students in home economics, preferably members of the Minnesota Home Economics Association. \$500.

**Minnesota Recreation and Park Foundation Scholarship**—For students in recreation, park, and leisure studies. Awards are based on scholarship, volunteer work, and extracurricular activities.

**J. Anna Norris Award**—For graduate or postbaccalaureate women students in a program likely to lead to a career in college teaching or adult education in physical education and/or sport. Variable from \$100 to \$500 per quarter.

**Omicron Nu Research Fellowship**—Awarded to graduate students at the doctoral level in family education within the Department of Work, Community, and Family Education. \$2,250.

**Jason David Schleien Memorial Scholarship Fund**—For students in therapeutic recreation, adapted physical education, special education, or areas related to serving students with disabilities. \$100 to \$1,000.

**Twin City Home Economists in Homemaking**—Awarded to a graduate student in home economics education or other home economics field. \$1,200.

#### *ENGLISH*

**Edelstein-Keller Teaching/Writing Fellowships**—For outstanding writers entering or enrolled in the M.F.A. program in creative writing. Up to three appointments combining fellowship support with some work for a total stipend of about \$9,000.

**Frederick Klaeber Fellowship in Medieval Studies**—For doctoral students in medieval English language and literature, especially those concentrating in Anglo-Saxon. \$9,000 plus tuition for the year of tenure; a teaching assistantship plus tuition for two more years.

**Martin Ruud Memorial Fellowship**—Given in alternate years. For doctoral students in English during their first three years of coursework. \$9,000 plus tuition for the first year; a teaching assistantship plus tuition for the second and third years.

#### *ENTOMOLOGY*

**Dr. Alexander A. Granovsky Pest Management Scholarship**—To recognize an entomology student for outstanding professional interests and studies related to pest management, with particular focus on urban pest management. Must be a student member of the Entomological Society of America and have at least one popular or scientific publication related to arthropods published or in press. \$1,000.

## GENERAL INFORMATION

### ENVIRONMENTAL HEALTH

**National Institute for Occupational Safety and Health**—For graduate students specializing in industrial hygiene, occupational health nursing, and injury prevention. U.S. citizenship or permanent residency required. Up to \$8,500 plus tuition and fees; partial awards also offered.

**U.S. Public Health Service Traineeships in Public Health**—For graduate students in environmental health. U.S. citizenship or permanent residency required. Stipend plus tuition and fees; partial awards also offered.

**Richard G. Bond Memorial Scholarship**—For full-time environmental health student with preference to student with experience in environmental health or related field. Full tuition for up to four quarters.

### EPIDEMIOLOGY

**Behavioral Aspects of Cardiovascular Diseases Fellowship**—For pre- and postdoctoral scholars preparing for research careers. \$8,800 to \$32,300, plus tuition, fees, and travel (according to level of training and experience).

**Cancer Epidemiology Fellowship**—Pre- and postdoctoral cancer research training program in the epidemiology of cancer. Stipend, tuition, fees, and travel (stipend according to level of training and experience).

**Cardiovascular Epidemiology and Prevention Fellowship**—Pre- and postdoctoral research training in the epidemiology and prevention of cardiovascular disease. Stipends according to level of training and experience.

### FAMILY SOCIAL SCIENCE

**Mary Ellen McFarland Assistantship**—For a currently enrolled graduate student in family social science to work on a research or teaching project. One award.

### FISHERIES AND WILDLIFE

**John Dobie Fellowship in Fisheries**—To encourage graduate students in fisheries who are interested in careers in fisheries research and management, particularly in Minnesota; must have ranked in upper third of college graduating class. Variable amount.

**Gordon Guillion Scholarship**—Awarded to a student in Wildlife Conservation who demonstrates an interest in subject areas that reflect Gordon Guillion's dedication to the study of the beneficial relationship between forest management and the proliferation of diverse wildlife species. \$1,000.

### FORESTRY

**Leiton E. Nelson Scholarship**—For a graduate student in forest resources or forest products. Offered alternate years. \$1,500.

**Potlatch Fellowship in Forestry**—For a graduate student in forest resources. \$10,000.

### FRENCH

**Marguerite Guinotte Memorial Scholarship**—For needy and promising graduate students or advanced undergraduates in French language and literature to study in or travel to a French-speaking country. \$350 to \$500.

**Elizabeth Folsom Rathert Graduate Fellowship in French**—For graduate students in French literature to become more proficient in foreign languages. Recipient teaches in fall quarter and receives fellowship in winter and spring. Must be U.S. citizen with limited experience living in French-speaking cultures. Offered every year. \$9,000 plus tuition.

**Travel or Special Project Grant**—For current graduate students in French and Italian seeking support for a trip (e.g., to present a conference paper or to conduct research) or for a special project related to the student's academic work. \$300 to \$400.

**Université Paul Valéry Exchange**—For advanced graduate students in French to spend one year teaching English at the Université Paul Valéry in Montpellier.

**Université Paul Valéry**—For graduate students in French to spend one quarter as a teaching assistant at the Université Paul Valéry through the University of Minnesota Global Campus program.

### GEOGRAPHY

**John R. Borchert/CURA Fellowship**—For geography graduate students in their second or later year of graduate study who propose to carry out a research project consistent with the mission of CURA (Center for Urban and Regional Affairs). Equivalent to 50%-time assistantship for 9 months plus tuition.

**Darrell Haug Davis Memorial Fellowship**—For doctoral students in geography who are in their third, fourth, or fifth year of study. \$9,500 plus tuition.

### GEOLOGY AND GEOPHYSICS

**Richard Clarence Dennis Fellowship**—For graduate students in geology and geophysics with strong academic records. Up to \$10,000/year.

**William Harvey Emmons Fund**—In part for graduate students in geology and geophysics who have strong academic records and financial need. Up to \$5,000.

**Francis A. Gibson Fellowship**—For graduate students in geology and geophysics with preference for those studying hydrogeology or energy. Up to \$6,000.

**Samuel S. Goldich Award**—To support graduate students in geology and geophysics conducting research in geochemistry of the Precambrian. Variable amount.

**John W. Gruner Fellowship**—For outstanding graduate students in geology and geophysics. Up to \$6,000.

**Harold M. Mooney Fellowship**—In part for meritorious graduate students in geophysics. Variable amount.

### GERMAN

**Humboldt University Exchange**—For graduate students in German with teaching experience who are native speakers of English to spend one quarter teaching English at Humboldt University in East Berlin.

**Elizabeth Folsom Rathert Graduate Fellowship in German**—For graduate students in German. Must have been U.S. citizen at least ten years before fellowship term. For students with limited experience in German-speaking culture. Offered every year. At least \$5,000.

### GERONTOLOGY

**Center on Aging**—To support graduate research on aging. Contact Center on Aging. Variable amount, between \$500 and \$1,500.

### HEALTH INFORMATICS

**NLM Traineeships in Medical Informatics**—For doctoral students or postdoctorates in health informatics or related computer-oriented fields. Must demonstrate computer expertise and knowledge of health sciences. U.S. citizenship or permanent residency required. NIH stipends.

## HEALTH SERVICES RESEARCH

**Health Services Research Traineeship**—For entering doctoral students who show interest in the organizing and delivery of cost-effective health services and policy issues. U.S. citizenship required. \$10,000 plus tuition.

## HISTORY

**Class of 1889 Memorial Prize Fund**—Annual awards for the best essay in history with both undergraduates and first-year graduate students eligible. Variable amount.

**Dissertation Research Fellowships**—For students who have passed their preliminary examinations. One-quarter fellowships to further dissertation research and writing. Two awarded annually. Each fellowship is named for one of the donors whose gifts support the awards (William Stearns Davis, Samuel Deinard, the Lothrop Memorial Fund, Harriet Rislove Schoonover, Albert Beebe White, and John B. and Theta Wolf).

**History Department Summer Grants for Language or Special Training**—For graduate students in history. Variable amount.

## INDUSTRIAL RELATIONS

**Randy A. Bray Scholarship**—For a promising new master's degree student. Variable amount.

**Chevron Scholarship**—For a promising new master's degree student. Variable amount.

**Chrysler Corporation Fund Scholarship**—For an outstanding master's degree student. Variable amount.

**Citicorp Scholarship**—For a promising new master's degree student. Variable amount.

**Exxon Scholarship**—For an outstanding master's degree student. Variable amount.

**General Mills Scholarship**—For a promising new master's degree student. Variable amount.

**Herbert G. Heneman, Jr. Scholarship**—For a promising new graduate student. Variable amount.

**I.R. Council on Graduate Opportunities for Advanced Level Studies (G.O.A.L.S.) Graduate Fellowships**—For a minority student. \$7,800 per academic year plus tuition and fees. Renewable for second year if progress is satisfactory.

**Pfizer Scholarship**—For a master's degree student. Variable amount.

**Pillsbury Scholarship**—For a promising new master's degree student. Variable amount.

**Twin City Personnel Association Scholarship**—For a second-year master's degree student who is a Minnesota resident and intends to pursue a personnel career in the Twin Cities. Variable amount.

**Union Carbide Scholarship**—For an outstanding master's degree student with at least one full academic year of study remaining. Variable amount.

**Weyerhaeuser Company**—For an outstanding master's degree student. Variable amount.

## INTEREST MEASUREMENT

**E. K. Strong, Jr., Memorial Fellowship**—For doctoral candidates in psychology, child development, or educational psychology for interest measurement research. Contact Center for Interest Measurement Research. Up to \$1,000.

## INTERNATIONAL STUDIES

(Foreign Language and Area Studies [FLAS] Fellowships)

**International Studies**—Competitive fellowships for graduate students in fields other than foreign languages and literatures to study an eligible foreign language. Applicants must have research interests with an international focus and be a U.S. citizen or resident alien. Fellowships are for summer or academic year and include stipend and tuition. For applications and information contact FLAS Coordinator, Institute of International Studies, 214 Social Sciences. Application deadline is mid-February.

**Western European Studies**—Competitive fellowships for graduate students in fields other than foreign languages and literatures to study an eligible foreign language. Applicants must have research interests with a Western European focus and be a U.S. citizen or resident alien. Fellowships are for summer or academic year and include stipend and tuition. For applications and information contact FLAS Coordinator, Center for European Studies, 309 Social Sciences. Application deadline is mid-February.

## ITALIAN

See *FRENCH* above.

## LANDSCAPE ARCHITECTURE

**Edmund J. Phelps Memorial Fellowship**—To recruit outstanding students from allied disciplines. \$4,500.

## MASS COMMUNICATION

**Ralph D. Casey Dissertation Award**—For doctoral candidates embarking on dissertation research who have proposed outstanding, meritorious dissertation research projects. \$2,000.

**Herbert Berridge Elliston Fellowship**—For worthy and needy seniors or graduate students in mass communication. Variable amount.

**Arle and Billy Haeberle Memorial Scholarship**—A merit scholarship for graduate students based on academic excellence. Variable amount.

**Hubbard/KSTP Broadcast Scholarship**—For currently enrolled graduate students in broadcast journalism who show professional promise and academic achievement. Variable amount.

**Silha Center Research Fellowship in Ethics and Law**—For graduate students in mass communication who have demonstrated interest and ability in mass communication ethics or law. Variable amount.

## MATHEMATICS

**Lando Fund**—For doctoral students in mathematics for summer support. \$2,400.

**NSF Research Funds**—For doctoral students in mathematics for summer support. \$2,400.

**Ella Thorpe Fund**—For doctoral students in mathematics for summer support. \$2,400.

## MECHANICAL ENGINEERING

**McDonnell Douglas Fellowship**—For outstanding graduate students in mechanical engineering.

**Murphy/Robertson Fellowship**—To support outstanding graduate students in study of power and propulsion.

**Chester E. Dekko Fellowship**—To recognize outstanding graduate students in mechanical engineering.

## GENERAL INFORMATION

### *MEDICAL SCHOOL, CLINICAL SCIENCES*

A medical student or physician seeking information on post-M.D. graduate training programs (residencies), fellowships, or advanced degree programs in any of the clinical fields should contact the director of graduate studies or the department office in the clinical science of interest.

### *MICROBIOLOGY, IMMUNOLOGY, AND MOLECULAR PATHOBIOLOGY*

**National Institutes of Health National Research Service Awards**—For doctoral students receiving research training in biotechnology, cancer biology, immunology, and molecular pathogenesis of infectious diseases. \$10,008 plus tuition, fees, and health insurance.

**Dennis W. Watson Fellowship**—Awarded annually to an outstanding doctoral student in honor of Regents' Professor Emeritus and former Department of Microbiology head Dennis W. Watson. \$13,500 fellowship plus \$500 cash award.

### *MOLECULAR, CELLULAR, DEVELOPMENTAL BIOLOGY AND GENETICS*

**Program Fellowships**—For outstanding new doctoral students in Molecular, Cellular, Developmental Biology and Genetics. \$1,200 per month plus tuition and health insurance.

### *MUSIC*

**School of Music Scholarship**—For graduate students in all areas of music. Performance awards require audition. Up to \$4,500.

### *NEUROSCIENCE*

**Predocctoral Traineeships**—To provide interdisciplinary training for doctoral students. Must be U.S. citizen or permanent resident.

### *NURSING*

**Edna and Myron Allen Nursing Scholarship**—For a qualified enrolled undergraduate or graduate nursing student intending to work with underserved populations.

**Marion Borgenson Nursing Scholarship**—For a qualified enrolled undergraduate or graduate nursing student.

**Ruth Thomas Brisker Nursing Scholarship**—Provides a minimum of one quarter tuition for a qualified enrolled undergraduate or graduate nursing student.

**Clifton J. Brisco Nursing Scholarship**—For qualified enrolled undergraduate or graduate nursing student.

**Margaret Caldwell Memorial Nursing Scholarship**—For qualified enrolled undergraduate or graduate nursing student. Must have scholastic record, ability, personal attributes, professional promise. Financial need.

**Grace B. Dayton Nursing Scholarship**—For enrolled undergraduate or graduate nursing student with demonstrated ability.

**Beatrice Lofgren Delue Scholarship in Nursing**—For a Minnesota resident. Must have a minimum GPA of 3.00 and demonstrated financial need.

**Agnes Dempster Nursing Scholarship**—Applicant must have completed a minimum of 12 graduate credits and have a minimum 3.50 GPA. Minimum award of \$1,000. Random drawing by Foundation's board member.

**Kathleen Dineen Scholarship in Nurse-Midwifery**—For a qualified enrolled graduate nurse-midwifery student. Must have minimum 3.50 GPA, financial need, two letters of reference, and personal statement.

**Suzanne J. Doehring Memorial Scholarship in Nursing**—For qualified enrolled undergraduate or graduate nursing student with demonstrated ability.

**Katherine Densford Dreves Nursing Scholarship**—Minimum \$100 awards for students with superior scholastic achievement/promise/aptitude. Financial need.

**Eisenmenger Scholarship in Nursing**—For qualified enrolled undergraduate or graduate nursing student. Financial need.

**Ardu Kluth Hopkins Nursing Scholarship**—Annual award of up to one-half tuition and fees. Career goal of public school nurse.

**Florence Julian Memorial Nursing Scholarship**—Enrolled graduate student with demonstrated interest or aptitude in area of management.

**James Lillehei Scholarship in Cardiac Nursing Research**—Enrolled graduate student with demonstrated interest in conducting research relating to care of patients and families with cardiac conditions. Financial need.

**Minority Nursing Scholarship Fund**—Financial assistance for minority or non-traditional enrolled nursing student.

**Nursing Alumni Scholarship**—For an enrolled undergraduate or graduate nursing student. Alumni selects annually.

**Alice and Gale W. Perry Nursing Scholarship Fund**—For qualified enrolled undergraduate or graduate nursing student.

**Eloise Reichert**—For currently enrolled graduate nursing student in public health.

**Jennie Siebold Memorial**—For qualified enrolled undergraduate or graduate nursing student.

**Mary Hensler Spurzem Nursing Scholarship**—For qualified enrolled undergraduate or graduate nursing student. Financial need.

**Marion Vannier Nursing Scholarship**—For students who show academic promise and are in financial need.

### *PHARMACOLOGY*

**National Research Service Award**—For doctoral students in pharmacology and toxicology. \$13,000 plus tuition, fees, and health insurance.

### *PHARMACY*

**American Foundation for Pharmaceutical Education Graduate Fellowships**—For U.S. citizens. \$6,000 to \$10,000.

**S. W. Melendy Fellowships**—For graduate students engaged in programs offered through the College of Pharmacy. *Summer Fellowships*: Average \$600 to \$800; *Academic Year Fellowships*: \$10,000. Departments determine number and amount of individual student awards.

**William and Mildred Peters Graduate Fellowship**—For students currently registered in the four graduate programs or the post-Pharm.D. resident and fellowship program within the College of Pharmacy. Eligibility established and determined by department in which program is located. Variable amounts.

**Ted Rowell Fellowship**—For graduate students engaged in basic science programs offered through the College of Pharmacy. \$3,000 to \$6,000. Preference to Minnesota residents who are U.S. citizens.

**3M Fellowship**—For first year students in the pharmaceuticals graduate program. Supported by 3M Pharmaceuticals. \$18,000 total; the department determines the number and amount of awards.

#### *PHYSICS AND ASTRONOMY*

In addition to the awards listed below, other fellowships from the University and the Institute of Technology are available to physics and astronomy students.

**Phyllis St. Cyr Freier Fellowships**—In honor of Professor Freier and the centennial of physics at the University of Minnesota. \$9,600.

#### *PLANT BIOLOGY*

**USDA National Needs Fellowship in Plant Biotechnology**—To support doctoral students in plant biotechnology, which has been identified as an area of national need for trained scientists. Students in plant molecular biology, biochemistry, physiology, cell biology, and genetics are eligible to apply. \$17,000 plus tuition and travel funds.

#### *PLANT PATHOLOGY*

**Fred I. Froshiser Scholarship**—For graduate students in plant pathology who have demonstrated outstanding abilities in scholarship, research, and all aspects of graduate study, based on at least one year of a proven performance record in graduate school. Variable amounts.

**M. F. Kernkamp Fellowship**—For graduate students in plant pathology who are outstanding in scholarship, research, and all aspects of graduate study including participation in department activities. Variable amounts.

#### *POLITICAL SCIENCE*

**Harold W. Chase Memorial Award**—For doctoral students with distinguished records in public law. Up to \$1,000.

**Asher N. Christensen Memorial Award**—For doctoral students in political science for study abroad or research in American government and politics.

**Hubert H. Humphrey Fellowship**—For doctoral students with distinguished records in political science. Up to \$8,500.

**Clara H. Ueland Memorial Fellowship**—For female doctoral students with distinguished record in political science. Up to \$8,500.

**Vernie Wolfsberg Fellowship**—For female doctoral students with distinguished record in political science. Up to \$8,500.

#### *PSYCHOLOGY*

**Center for Research in Learning, Perception, and Cognition**—To prepare doctoral students in related areas for research careers in cognitive science. Apply through Center for Research in Learning, Perception, and Cognition. \$10,008 plus tuition and fees.

**University Counseling and Consulting Services**—To provide APA-approved predoctoral internships for clinical and counseling psychology students. Internship is a 12-month, full-time position for \$13,500 plus health insurance. Apply through Training Program Director, University Counseling and Consulting Services. Typical deadline is November 30 for the following year.

**Veterans Administration**—For doctoral students in counseling and clinical psychology to pursue APA-approved internship experience. U.S. citizenship required. Apply through Training Director, Psychology Service, Veterans Administration Medical Center, Minneapolis. \$17,000 for 1,900 hours.

#### *PUBLIC AFFAIRS*

**Cram-Dalton International Women's Rights Scholarship**—For an entering graduate student who has shown an interest in international women's rights. International students are encouraged to apply. Variable amount.

**Gerald W. Heaney Fellowship or Scholarship**—Award made on basis of academic merit. Applicants should be from Duluth, the Duluth area, or northeast Minnesota. Variable amounts.

**Hubert H. Humphrey Fellowships and Scholarships in Public Affairs**—For outstanding graduate students preparing for careers in public service. Up to \$10,000 plus tuition first year; with satisfactory performance, up to \$4,200 plus tuition second year.

**Minority and Disadvantaged Student Awards**—For graduate students preparing for careers in public affairs; awards based on need. Variable amounts.

**Joseph Robbie Fellowship or Scholarship in Metropolitan Government and Planning**—Award made on basis of academic merit. Applicants must be planning to enter career in metropolitan or regional government or planning. Variable amounts.

**Woodrow Wilson Minority Access Program Fellowships**—For minority students entering graduate school in public affairs or planning. Must have completed one of the Wilson Junior Year Summer Institutes Programs.

#### *PUBLIC HEALTH*

Federally funded traineeships are available in some major areas. Research assistant, teaching assistant, and postdoctoral fellowship positions are available dependent on student's area of interest. See specific listings in this section for biostatistics, environmental health, epidemiology, health services research and policy and health services research, policy and administration.

#### *RHETORIC*

**Rhetoric and Scientific and Technical Communication Scholarship**—National awards of \$2,000 through the Society for Technical Communication.

**Scientific and Technical Communication Fellowship**—To encourage MSSTC candidates to pursue qualitative and quantitative research and theory building in STC and to encourage MSSTC candidates to teach STC at the postsecondary level. \$300 to \$1,500.

#### *SOCIAL WORK*

A small number of training fellowships from federally funded grants, paid field placements from local agencies, and assistantships, including the Morris Hursh Graduate Assistant Endowment, are directly available from the School of Social Work. Number of awards and amounts vary from year to year.

**Rose E. Snyder Memorial Scholarship**—Provides annual funding for tuition for M.S.W. students.

## GENERAL INFORMATION

### *SOCIAL WORK (Duluth Campus)*

**Will Dodge Memorial Fund**—For graduate students in social work to support field placements or projects that involve grass-roots community organizing. Must register for 7 credits per quarter during the next academic year. About \$500.

### *SOCIOLOGY*

**Bright Research Award**—Given annually to graduate student(s) for whom the award will make possible a significant improvement in the progress of research toward the Ph.D. Up to \$3,000.

**Don Martindale Award for Scholarship**—Given annually to a current Ph.D. student who has shown exceptional accomplishment and progress toward the degree as well as toward contributing to the profession. \$1,000.

### *SPEECH-COMMUNICATION*

**Frizelle-Reid Memorial Award**—For doctoral candidates in speech-communication for expenses associated with the completion of their programs. Based on academic excellence and quality of proposal. About \$600.

**Arl and Billie Haerberle Fellowship and Awards**—The fellowship is for a first-year graduate student specializing in the use of electronic media in communication. Based on academic excellence. \$10,000 plus tuition. The awards are for undergraduate and graduate students and are based on academic excellence and demonstrated interest in the study of electronic media. Amounts vary from \$200 to \$2,000.

**Marguerite Garden Jones Award**—For graduate or undergraduate students based on excellence in pursuing study and application of coursework in speech-communication. About \$2,000.

**Stuart A. Lindman Award**—For graduate or undergraduate students who intend to pursue a career in electronic media. Based on academic excellence and real-life application of coursework in speech-communication. About \$500.

### *STATISTICS*

**Statistics Alumni Fellowship Fund**—For second- or third-year full-time graduate student in statistics. Amount variable depending on funds, approximately commensurate with research assistantship.

### *THEATRE ARTS*

**Ken Bryant Directing Scholarship**—For a graduate student who has expressed an interest in directing. About \$1,000.

**Oscar W. Firkins Scholarship**—For currently enrolled graduate students in theatre arts. Award based on service, potential in theatre, and need. About \$1,500.

**Kenneth L. Graham Graduate Theatre Fellowship**—For an outstanding graduate theatre major in residence. About \$1,500.

**Haerberle Scholarships**—For graduate students in theatre arts. Selection is made on basis of outstanding artistic and/or scholarly potential or achievement. About \$3,000.

**Paul Joncas Technical Theatre Scholarship**—For a currently enrolled student, junior through graduate, to benefit technical theatre students attending the annual USITT Conference. About \$500.

**Elsie Kelley Lindquist Scholarship**—For an outstanding undergraduate or graduate theatre major in residence. Award based on service, potential in theatre, and need. About \$1,000.

**Dorothy Lamberton Fellowship**—For a first-year MFA Acting student with outstanding potential. About \$1,000.

**Dorothy Magnus Scholarship Fund**—For deserving graduate students at the discretion of members of the Theatre Arts Department. About \$1,400.

**Robert Moulton Scholarship 50**—Funded by alumni and patrons for outstanding theatre students with financial need. Variable amount.

**Frank M. Rarig, Sr., Graduate Fellowship in Oral Interpretation**—For a currently enrolled, worthy graduate student with a major interest in oral interpretation. About \$1,250.

**Scott-Norcostco Theatre Fund**—For a currently enrolled student, junior through graduate, in technical theatre. About \$750.

**Frank and Josinette Whiting Scholarship**—For an outstanding undergraduate or graduate major in residence. Award based on service, potential in theatre, and need. About \$1,800.

**August Wilson Fellowship in Dramaturgy and Literary Criticism**—For an African-American graduate student in the area of literary criticism and dramaturgy. Support is for up to three years of graduate study leading to the M.A. or Ph.D. with internships in dramaturgy at the Penumbra and Guthrie Theatres. About \$10,000 per year in fellowship and/or assistantship support.

### *VETERINARY BIOLOGY AND VETERINARY PATHOBIOLOGY*

**Alvin F. Weber Scholarship**—For graduate students accepted to, or currently enrolled in, the combined Ph.D./D.V.M. program. \$11,150.

### *OTHER FELLOWSHIPS*

**Foreign Language and Area Studies Fellowships**—See European Studies above.

## Visiting Faculty and Scholars

**Honorary Fellow**—A professor or eminent scholar from another U.S. institution who is not a degree candidate at the University of Minnesota and seeks temporarily the privileges of using library or research facilities or attending seminars at the University, may be named an honorary fellow, without stipend, upon recommendation of the appropriate department head and approval of the Graduate School dean. (Note that for a professor or scholar from an international institution, the host department appoints the individual to a specific payroll appointment class, with or without salary depending upon arrangements agreed to between the department and the foreign scholar.)

**Postdoctoral Associate**—A postdoctoral fellow who does not hold a payroll class appointment (either with or without salary) may be named a postdoctoral associate by the Graduate School for up to one year upon recommendation of the host department.

**Visiting Scholar**—A regular faculty member of a Minnesota public or private college who is not studying for an advanced degree at the University of Minnesota and seeks temporary library privileges, can be named a visiting scholar, without stipend, by the Graduate School upon request of the host department. The request must include a letter from the college's academic dean or vice president verifying the visitor's faculty status and field of specialization.

## Student Grievance Procedures

**Academic Grievances**—An all-University Student Academic Grievance Policy exists to resolve “complaints brought by students regarding the University’s provision of education and academic services affecting their role as students.” Copies of the policy and information about its implementation are available from the Grievance Office, 419 Walter Library, Twin Cities campus (612/624-1030).

**Sexual Harassment**—Policies and procedures pertaining to sexual harassment are contained in the University Senate’s policy statement of May 17, 1984. As the introduction to the statement notes, sexual harassment undermines the mission of the University and jeopardizes the careers of students, faculty, and staff. The statement defines sexual harassment in this manner:

“Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when (1) submission to such conduct is made either explicitly or implicitly a term or condition of an individual’s employment or academic advancement, (2) submission to or rejection of such conduct by an individual is used as the basis for employment decisions or academic decisions affecting such individual, 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.”

Individuals seeking information and guidance in matters involving sexual harassment should contact the sexual harassment officer, 419 Morrill Hall. All inquiries will be held in strictest confidence.

## Housing

Students interested in living in a residence hall on campus or in off-campus housing in Minneapolis or St. Paul should contact Housing & Residential Life, Comstock Hall-East, 210 Delaware Street S.E., Minneapolis, MN 55455 (612/624-2994; fax 612/624-6987; e-mail housing@tc.umn.edu). Centennial and Middlebrook Halls offer residential living space that is predominantly for graduate/professional school students. Listings of apartments, duplexes, houses, sleeping rooms, shared units, and sublets are also maintained. Information on temporary housing, living costs, transportation, and day-care centers in the Twin Cities area is also available. A comprehensive booklet, *The Housing Resource Guide*, may be purchased for \$2.00.

For information on University family housing, contact Commonwealth Terrace Cooperative, 1250 Fifield Avenue, St. Paul, MN 55108 (612/646-7526) or Como Student Community, 1024 27th Avenue S.E., Minneapolis, MN 55414 (612/378-2434).

## Placement

Graduate students seeking placement in college, university, or other positions may obtain aid and counsel from advisers and departments, from the deans of various colleges of the University, and through Student & Professional Services. This last office receives reports of vacancies for college teaching positions in all fields as well as for positions in counseling, administration, adult education, student personnel work, and research. Noneducation graduate students seeking college teaching positions are eligible to establish credential files. The address of Student &

## GENERAL INFORMATION

Professional Services is University of Minnesota, 110 Wulling Hall, 86 Pleasant Street S.E., Minneapolis, MN 55455 (612/625-6501).

The following offices offer placement services to graduate students seeking employment in fields other than teaching.

*College of Agricultural, Food, and Environmental Sciences*  
Career Services

University of Minnesota  
120 Biosystems and Agricultural Engineering  
1390 Eckles Avenue  
St. Paul, MN 55108  
612/624-2710; fax: 612/625-1260  
e-mail: jmunder@tc.umn.edu

*College of Biological Sciences*

Career Information Center  
Kathie Peterson, Career Information Adviser  
University of Minnesota  
217 Snyder Hall  
1475 Gortner Avenue  
St. Paul, MN 55108  
612/624-9270; fax: 612/624-2785

*School of Dentistry*

Minnesota Dental Placement Service  
University of Minnesota  
15-106 Moos Health Sciences Tower  
515 Delaware Street S.E.  
Minneapolis, MN 55455  
612/626-0171; fax: 612/626-2654  
e-mail: m-lach@tc.umn.edu

*University of Minnesota, Duluth*

Career Services  
University of Minnesota  
21 Campus Center  
10 University Drive  
Duluth, MN 55812  
218/726-7985; fax: 218/726-6394  
e-mail: carserv@ub.d.umn.edu

*College of Human Ecology*

Career Services and Development  
Jeanne Exline, Director  
University of Minnesota  
68 McNeal Hall  
1985 Buford Avenue  
St. Paul, MN 55108  
612/624-6762; fax: 612/625-7234  
e-mail: exline@che1.che.umn.edu

*College of Liberal Arts*

Career Services  
University of Minnesota  
220 Johnston Hall  
101 Pleasant Street S.E.  
Minneapolis, MN 55455  
612/624-7577; fax: 612/624-6839

*Curtis L. Carlson School of Management*

Career Services Center  
University of Minnesota  
190 Hubert H. Humphrey Center  
271 19th Avenue South  
Minneapolis, MN 55455  
612/624-0011; fax: 612/626-1822  
e-mail: csc@csom.umn.edu

*College of Natural Resources*

Career Opportunities Coordinator's Office  
University of Minnesota  
135 Natural Resources Administration Building  
2003 Upper Buford Circle  
St. Paul, MN 55108  
612/624-6247; fax: 612/624-8701  
e-mail: psplett@forestry.umn.edu

*Hubert H. Humphrey Institute of Public Affairs*

Office of Career Services  
Lynne Schuman, Director  
University of Minnesota  
225 Hubert H. Humphrey Center  
301 19th Avenue South  
Minneapolis, MN 55455  
612/625-2847; fax: 612/625-6351  
e-mail: lschuman@hhh.umn.edu

*School of Public Health*

Career Center  
University of Minnesota  
D-305 Mayo Memorial Building  
420 Delaware Street S.E.  
Minneapolis, MN 55455  
612/624-6915; fax: 612/626-6931  
e-mail: sph-uofm@greg2.sph.umn.edu

*Institute of Technology*

Career Services  
University of Minnesota  
50 Lind Hall  
207 Church Street S.E.  
Minneapolis, MN 55455  
612/624-4090; fax: 612/626-0261  
e-mail: itcs@tc.umn.edu