Twin Cities Campus

Architecture M.Arch.

School of Architecture

College of Design

Link to a [list of faculty](#) for this program.

Contact Information:
School of Architecture, College of Design, University of Minnesota, 145 Rapson Hall, 89 Church Street S.E., Minneapolis, MN 55455 (612-624-7866; fax: 624-5743)
Website: http://arch.design.umn.edu

- Program Type: Master's
- Requirements for this program are current for Fall 2016
- Length of program in credits: 90
- This program does not require summer semesters for timely completion.
- Degree: Master of Architecture

Along with the program-specific requirements listed below, please read the [General Information](#) section of the catalog website for requirements that apply to all major fields.

Architecture encompasses the making and study of the buildings and environments that we inhabit. The concerns of architecture involve a wide variety of areas of study, including the art of representing built projects through drawings and computer graphics; the technology of building structure, building materials, and natural and mechanical systems; the history, theory, and art of making, using, and understanding buildings as cultural artifacts for human use; and the practice of architecture in the context of sustainable environmental systems, urban form, and business economics. The School of Architecture offers one accredited professional degree, the Master of Architecture (M.Arch.), and a non-professional research degree, the Master of Science (M.S.) in architecture, with four potential tracks: heritage conservation and preservation, metropolitan design, research practices, and sustainable design.

The Master of Architecture degree is the accredited three-year professional program that prepares students for licensure and practice in the discipline of architecture as a speculative, analytic, and investigative endeavor. Through rigorous methods of inquirydeveloped in the design studio, lectures, and seminarsstudents acquire the breadth of knowledge required of the professional architect, including: the techniques and processes of representation, communication, and analysis; the history and theory of making architecture and urban form for human use; and the technology, systems, processes, and economics of construction and practice. The 90-credit M.Arch. professional degree program is accredited by the National Architectural Accrediting Board (NAAB). A portfolio for admission is required.

The Master of Science in architecture is a nonprofessional degree offering advanced studies and research methods in heritage conservation and preservation, metropolitan design, research practices, or sustainable design. The nonprofessional M.S. in architecture seeks advanced students from architecture, building science, art history, geography, archaeology, landscape architecture, environmental design, or related disciplines to pursue multidisciplinary graduate study and research in sustainable building practices and historic preservation. The School of Architecture also offers a concurrent degree program that combines the M.Arch. professional degree and the M.S. in architecture. Students may take a total of 24 credits in common between the two academic programs. See information on the M.S. in architecture for degree requirements.

Program Delivery

This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

The preferred undergraduate GPA for admittance to the program is 3.00.

Applicants must submit their test score(s) from the following:
- GRE

International applicants must submit score(s) from one of the following tests:
- TOEFL
  - Internet Based - Total Score: 79
  - Internet Based - Writing Score: 21
  - Internet Based - Reading Score: 19
  - Paper Based - Total Score: 550
- IELTS

- Total Score: 6.5
• MELAB
- Final score: 80

Key to test abbreviations(GRE, TOEFL, IELTS, MELAB).

For an online application or for more information about graduate education admissions, see the General Information section of the catalog website.

Program Requirements

Plan C: Plan C requires 90 major credits and up to null credits outside the major.The is no final exam.A capstone project is required.
Capstone Project: The Master's Final Project is a 10-credit studio-based design exploration under the supervision of a studio faculty mentor.

This program may not be completed with a minor.

Use of 4xxx courses towards program requirements is not permitted.

A minimum GPA of 2.80 is required for students to remain in good standing.

At least 4 semesters must be completed before filing a Degree Program Form.

The professional M.Arch. curriculum requires completion of a total of 90 credits (80 course credits and a 10-credit design studio Plan C Master's Final Project). M.Arch. students can expect to complete the program in six semesters (three years), including the Master's Final Project. Advanced placement into the second year is possible for students with a Bachelor of Science or other pre-professional degree and excellent English language proficiency. The fall semesters include integrated core curriculum of studio, building and environmental technologies, history-theory, or digital methods. The spring semesters are organized as half-semester elective modules in studio-like projects and seminars in urban/suburban-rural, building technology and sustainable practices, and history-theory-culture themes. May term study abroad options are available for qualified students in any summer semester.

Required courses
  Note: ARCH 5550 will be renumbered and renamed Environmental Technology.
  ARCH 5412 - Architecture: A Global and Cultural History (3.0 cr)
  ARCH 5561 - Tech 1, Structures for Building (2.0 cr)
  ARCH 5562 - Tech 2, Intro to Building Technology (2.0 cr)
  ARCH 8251 - Graduate Architectural Design I (9.0 cr)
  ARCH 5411 - Principles of Design Theory (3.0 cr)
  ARCH 5563 - Tech 3: Advanced Building Technology Integrated Building Systems (0.0 - 2.0 cr)
  ARCH 5564 - Tech 4: Building Structural Systems (0.0 - 2.0 cr)
  ARCH 5621 - Professional Practice in Architecture (3.0 cr)
  ARCH 8253 - Graduate Architectural Design III (9.0 cr)
  ARCH 5550 - Topics in Technology (1.0 - 4.0 cr)
  ARCH 8255 - Graduate Architectural Design V (6.0 cr)
  ARCH 8299 - Master's Final Project (10.0 cr)
  Project modules
    Take 16 credits (four courses) of project modules.
    ARCH 5250 - Advanced Topics in Design (1.0 - 6.0 cr)
    or ARCH 8250 - Advanced Topics in Design (1.0 - 6.0 cr)
  Catalysts
    Take exactly 2 course(s) from the following:
    •ARCH 5110 - Architecture as Catalyst (1.0 cr)
  Arch electives
    Take 18 credits of arch electives.
    Arch 5xxx
    or Arch 8xxx

Joint- or Dual-degree Coursework:M.Arch/M.S.-ArchitectureStudent may take a total of 24 credits in common among the academic programs.

Twin Cities Campus

Architecture M.S.

School of Architecture
College of Design

Link to a [list of faculty](#) for this program.

Contact Information:
School of Architecture, University of Minnesota, 145 Rapson Hall, 89 Church Street SE, Minneapolis, MN 55455 (612-624-7866; fax: 612-624-5743)
Email: archinfo@umn.edu
Website: http://arch.cdes.umn.edu

- Program Type: Master's
- Requirements for this program are current for Fall 2016
- Length of program in credits: 30 to 34
- This program does not require summer semesters for timely completion.
- Degree: Master of Science

Along with the program-specific requirements listed below, please read the [General Information](#) section of the catalog website for requirements that apply to all major fields.

The School of Architecture offers four distinct master of science in architecture degrees:
1) MS in architecture, sustainable design track (plan A or B);
2) MS in architecture, heritage conservation and preservation track (plan A or B);
3) MS in architecture, metropolitan design track (plan A, B, or C); and,
4) MS in architecture, research practices concentration (plan C only).

Each of these master of science degree programs has its own unique application requirements, prerequisites, and curriculum structure. Prospective applicants are encouraged to consult the degree programs section of the School of Architecture website for additional information: http://arch.design.umn.edu. Students who successfully complete the a master of science in architecture degree are eligible to receive 936 hours of IDP creditthat is 17% of the 5,600 hours of mandatory internship for registration as an architect. To receive the IDP credit, the MS degree must be earned after receiving the MArch degree. The MS metropolitan design track requires summer semester coursework. The other three MS programs do not require summer semester work.

Program Delivery

This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

Other requirements to be completed before admission:
Each of the master of science in architecture programs has its own unique application requirements, prerequisites, and curriculum structure. Prospective applicants are encouraged to consult the degree programs section of the School of Architecture website for additional information: http://arch.design.umn.edu.

Applicants must submit their test score(s) from the following:
- GRE

International applicants must submit score(s) from one of the following tests:
- TOEFL
- IELTS
- MELAB

Key to [test abbreviations](#)(GRE, TOEFL, IELTS, MELAB).

For an online application or for more information about graduate education admissions, see the [General Information](#) section of the catalog website.

Program Requirements

Plan A: Plan A requires 18 major credits, 6 credits outside the major, and 10 thesis credits.The final exam is oral.

Plan B: Plan B requires 27 to 28 major credits and 6 credits outside the major.The final exam is oral.

Plan C: Plan C requires 24 to 30 major credits and 0 to 6 credits outside the major.The final exam is oral.

This program may be completed with a minor.

Use of 4xxx courses toward program requirements is permitted under certain conditions with adviser approval.

Research Practices Concentration (Optional)
The MS in architecture, research practices concentration (MS-RP) requires at least 30 credits, is offered only as a Plan C, and addresses two goals: providing a structured path to licensure totaling seven years and integrating research with practice.

Required Coursework
 Take the following courses for a total of 18 credits:
 ARCH 5609 - Development and Implementation of Research (3.0 cr)
 ARCH 5621 - Professional Practice in Architecture (3.0 cr)
 ARCH 5651 - Building Stories (3.0 cr)
 ARCH 5686 - Research Practices Final Project: Research into Practice (4.0 cr)
 ARCH 5687 - Research Practices Final Project: Practice into Research (4.0 cr)
 ARCH 5688 - Research Practices Final Project: Representation of Case Studies (1.0 cr)
 Required Practicum
 Take exactly 2 course(s) from the following:
 •ARCH 5630 - Practicum: Advanced Issues in Practice (3.0 cr)
 Elective Coursework
 Take two 3-credit electives, in consultation with the adviser or director of graduate studies, from architecture or non-architecture offerings.
 Take exactly 2 course(s) from the following:
 •Arch 5xxx
 •Arch 8xxx
 •xxxx 5xxx
 •xxxx 6xxx
 •xxxx 7xxx
 •xxxx 8xxx
Joint- or Dual-degree Coursework:MArch/MSStudent may take a total of 24 credits in common among the academic programs.

Program Sub-plans

A sub-plan is not required for this program.
Students may not complete the program with more than one sub-plan.

Sustainable Design

This sub-plan is limited to students completing the program under Plan A or Plan B.

The MS sustainable design program admits candidates from diverse design and environmental backgrounds. Candidates for the program include, practicing design professionals, architecture graduate students, engineering and environmental science professionals, and related disciplines. Ideal applicants will have a clear sustainable design research agenda, experience in environmental design or design production, and a desire to develop new knowledge in the sustainable design field.

The program's goals are to foster sustainable design education, research, and practice and to create a significant positive impact on sustainable design in the region and nation. It will achieve these goals by providing courses and research opportunities that:
 Promote excellence and innovations in regional and global ecological design practice and research.
 Contribute to the evolving and emerging sustainable design practice and research knowledge base, which includes ecological, environmental, social, and economic issues and impacts.
 Provide architectural designers and researchers with qualitative and quantitative knowledge, methods, and tools to implement sustainable design in professional practice.

Required Coursework
 Take the following courses for a total of 12 credits:
 ARCH 8561 - Sustainable Design Theory and Practice (3.0 cr)

ARCH 8567 - Site and Water Issues in Sustainable Design (3.0 cr)
ARCH 8563 - Energy and Indoor Environmental Quality Issues in Sustainable Design (3.0 cr)
ARCH 8565 - Materials Performance in Sustainable Building (3.0 cr)
Architecture Electives
  Take at least 6 ARCH elective credits, in consultation with the advisor or director of Graduate Studies.
  ARCH 5xxx
  ARCH 8xxx
Electives Outside Architecture
  Take at least 6 credits outside the major, in consultation with the advisor or director of Graduate Studies.
Plan A Requirements
  Take 10 master's thesis credits.
  ARCH 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)
Plan B Requirements
  Take at least 10 additional credits, in consultation with the advisor or director of Graduate Studies.

Heritage Conservation & Preservation
This sub-plan is limited to students completing the program under Plan A or Plan B.

The MS in architecture heritage conservation and preservation offers courses and research opportunities in the study of the preservation of historic buildings, districts, and landscapes, as well as the design and management of cultural heritage sites. The program explores heritage on several distinct but related levels. It examines the materiality of heritage resources through documentation, diagnosis, and the design of treatment interventions. It also encourages critical analysis and assessment of the cultural values that underlie and define preservation policies, laws, and professional norms. Through fieldwork, case studies, and courses that investigate regional, national, and global heritage, the program focuses on the philosophy, policy, technology, economics, and social implications of heritage preservation.

Required Coursework
  Take the following courses for a total of 6 credits:

  ARCH 5671 - Historic Preservation (3.0 cr)
  ARCH 5673 - Historic Property Research and Documentation (3.0 cr)
Heritage Conservation and Preservation Electives
  Take 2 courses from the following list for at least 6 credits:
  ARCH 5410 - Topics in Architectural History (3.0 cr)
  ARCH 5411 - Principles of Design Theory (3.0 cr)
  ARCH 5412 - Architecture: A Global and Cultural History (3.0 cr)
  ARCH 5670 - Topics in Historic Preservation (1.0 - 3.0 cr)
  ARCH 5672 - Historic Building Conservation (3.0 cr)
  ARCH 5674 - World Heritage Conservation (3.0 cr)
  ARCH 5676 - Economics of Heritage Preservation (3.0 cr)
  ARCH 5677 - Preservation of the Vernacular Built Environment and Cultural Landscape (3.0 cr)
Architecture Electives
  Take at least 6 ARCH elective credits, in consultation with the advisor or director of Graduate Studies.
  ARCH 5xxx
  ARCH 8xxx
Electives Outside Architecture
  Take at least 6 credits outside the major, in consultation with the advisor or director of Graduate Studies.
  XXXX 5xxx
  XXXX 6xxx
  XXXX 7xxx
  XXXX 8xxx
Plan A Requirements
  Take 10 master's thesis credits.
  ARCH 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)
Plan B Requirements
  Take an additional 9 to 10 credits, in consultation with the advisor or director of Graduate Studies.

Metropolitan Design
This sub-plan is limited to students completing the program under Plan A, Plan B, or Plan C.

The MS in metropolitan design is an advanced program intended for individuals who are keenly interested in the study of cities and their metropolitan regions. The MS-MD Program combines strong design instruction supported by applied research courses in urban design history and theory. The objective of the program is to train students to work across a large range of urban scales and become familiar

with the social, ecological, economic, and political interactions that eventually shape the quality of city living. The program is open to professionals from the design disciplines and provides concurrent options for graduate students enrolled in the MArch and MLA professional programs. Concurrent students must graduate from the MS-MD degree after they have successfully completed their professional programs.

Required Coursework
  Take the following courses for a total of 12 credits:
  ARCH 5711 - Theory and Principles of Urban Design (3.0 cr)
  ARCH 5721 - Case Studies in Urban Design (3.0 cr)
  ARCH 8255 - Graduate Architectural Design V (6.0 cr)
Electives Outside Architecture
  Take at least 6 credits outside the major, in consultation with the advisor or director of Graduate Studies.
Remaining Electives
  Take elective credits from the following list, in consultation with the advisor or director of Graduate Studies, to meet minimum major and total course credit requirements:
  ARCH 5410 - Topics in Architectural History (3.0 cr)
  ARCH 5441 - Minnesota: Architecture and Landscapes (3.0 cr)
  ARCH 5731 - Territorial City (3.0 cr)
  ARCH 5671 - Historic Preservation (3.0 cr)
  ARCH 5361 - 3-D Computer Architectural Modeling and Design (3.0 cr)
  ARCH 5750 - Topics in Urban Design (1.0 - 4.0 cr)
  PA 5511 - Community Economic Development (3.0 cr)
  PA 8203 - Neighborhood Revitalization Strategies and Theories (4.0 cr)
  HSG 5467 - Housing and the Social Environment (4.0 cr)
  HSG 5464 - Understanding Housing: Assessment and Analysis (3.0 cr)
  HSG 8463 - Housing: Race and Class (3.0 cr)
  LA 5405 - Interdisciplinary Studies in Landscape Architecture (1.0 - 6.0 cr)
  ARCH 8561 - Sustainable Design Theory and Practice (3.0 cr)
  LA 5204 - Metropolitan Landscape Ecology (3.0 cr)
  PA 5721 - Energy and Environmental Policy (3.0 cr)
  PA 5722 - Environmental and Resource Economics Policy (3.0 cr)
  PA 5723 - Water Policy (3.0 cr)
  PA 5204 - Urban Spatial and Social Dynamics (3.0 cr)
  PA 5211 - Land Use Planning (3.0 cr)
  PA 5212 - Managing Urban Growth and Change (3.0 cr)
  PA 5231 - Transit Planning and Management (3.0 cr)
  PA 5261 - Housing Policy (3.0 cr)
  PA 5802 - Global Economic Policy (3.0 cr)
  PA 8202 - Networks and Places: Transportation, Land Use, and Design (4.0 cr)
Plan A Requirements
  Take 10 master's thesis credits.
  ARCH 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)

Twin Cities Campus

Design M.A.
Design, Housing & Apparel
College of Design

Link to a [list of faculty](#) for this program.

Contact Information:
Director of Graduate Studies, Design Graduate Program, 240 McNeal Hall, 1985 Buford Avenue, St. Paul, MN 55108 (612-626-1219)
Email: dhagrad@umn.edu
Website: http://dha.design.umn.edu/programs/grad

- Program Type: Master's
- Requirements for this program are current for Fall 2016
- Length of program in credits: 34
- This program does not require summer semesters for timely completion.
- Degree: Master of Arts

Along with the program-specific requirements listed below, please read the [General Information](#) section of the catalog website for requirements that apply to all major fields.

The design graduate program focuses on the study of relationships between humans and their designed environments. This focus is based on the assumption that design and analysis of environments contributes to the improvement of the human condition. The program addresses theory, research, and application, using a shared disciplinary base from the arts and social and behavioral sciences. The goal of the program is for students to analyze, evaluate, and integrate theoretical frameworks related to humans and their designed environments.

Applications submitted to the design graduate program specify a track and degree objective. Formal tracks are:
Apparel studies (including dress, history, and culture; product development; and retail merchandising and consumer studies)
Graphic design (including interactive design)
Housing studies
Interior design

Program Delivery
This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission
The preferred undergraduate GPA for admittance to the program is 3.00.

Eligibility requirements are located on the track pages of the design graduate program website:
http://dha.design.umn.edu/programs/grad.

Special Application Requirements:
Application requirements: http://dha.design.umn.edu/programs/grad/admissions.html

Applicants must submit their test score(s) from the following:
- GRE
  - General Test - Verbal Reasoning: 153
  - General Test - Quantitative Reasoning: 144
  - General Test - Analytical Writing: 4

International applicants must submit score(s) from one of the following tests:
- TOEFL
  - Internet Based - Total Score: 79
  - Internet Based - Writing Score: 21
  - Internet Based - Reading Score: 19
  - Paper Based - Total Score: 550

The preferred English language test is Test of English as Foreign Language

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Key to test abbreviations(GRE, TOEFL).

For an online application or for more information about graduate education admissions, see the General Information section of the catalog website.

Program Requirements

Plan A: Plan A requires 18 major credits, 6 credits outside the major, and 10 thesis credits.The final exam is oral.

Plan B: Plan B requires 28 major credits and 6 credits outside the major.The final exam is oral.

This program may be completed with a minor.

Use of 4xxx courses toward program requirements is permitted under certain conditions with adviser approval.

A minimum GPA of 2.80 is required for students to remain in good standing.

At least 2 semesters must be completed before filing a Degree Program Form.

Students may be required to complete additional credits upon recommendation of their committee.

Design Program Core Requirements
  DES 8181 - Research Ethics (1.0 cr)

Related Field Coursework
  Students are required to take a minimum of 6 credits in a related field. Courses are selected with the approval of the advisor and committee.

Program Sub-plans

Students are required to complete one of the following sub-plans.
Students may not complete the program with more than one sub-plan.

Apparel Studies

The apparel studies track advances both theoretical knowledge and applications for textile and apparel products and their relationship to human behavior. Students may focus on product development; dress, history, and culture; or retail merchandising and consumer studies. Within each of these areas of emphasis within the track, the student completes related coursework as well as research or creative production that culminates in a thesis.

Evaluation and Analysis Coursework
  Students are required to take a minimum of 6 credits in evaluation and analysis.
  Students may take other courses with the approval of the advisor and committee.
    DES 8102 - Quantitative Research Methods (3.0 cr)
    DES 8103 - Qualitative and Mixed Methods Research (3.0 cr)

Concentration

Dress, History, and Culture
  Theory and Philosophy Coursework
  Students take a minimum of 3 credits in this category.
  DES 8164 - Innovation Theory and Analysis (3.0 cr)
  or DES 8112 - Design Theory (3.0 cr)
  Plan A Requirements
  Take 8 or more credit(s) from the following:
  •DES 5165 - Design and Globalization (3.0 cr)
  •APST 5218 - Fashion, Design, and the Global Industry (3.0 cr)
  •DES 8112 - Design Theory (3.0 cr)
  •DES 8113 - Teaching and Assessment (2.0 cr)
  •DES 8115 - Grant Writing (2.0 cr)
  •DES 8164 - Innovation Theory and Analysis (3.0 cr)
  •DES 8166 - Material Culture and Design (3.0 cr)

- DES 8167 - Aesthetics of Design (3.0 cr)
- APST 8192 - Readings in Apparel Studies (1.0 - 3.0 cr)
- APST 8193 - Directed Study (1.0 - 3.0 cr)
- APST 8268 - Behavioral Aspects of Dress (3.0 cr)
- APST 8267 - Dress and Culture (3.0 cr)
- **Thesis credits**
  Students take a minimum of 10 thesis credits.
  - DES 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)

or **Plan B Requirements**
  All Plan B Master's students are required to register for DES 8222, Plan B Master's Project, the last semester of the program.
  Take 15 or more credit(s) from the following:
- DES 5165 - Design and Globalization (3.0 cr)
- APST 5218 - Fashion, Design, and the Global Industry (3.0 cr)
- DES 8112 - Design Theory (3.0 cr)
- DES 8113 - Teaching and Assessment (2.0 cr)
- DES 8115 - Grant Writing (2.0 cr)
- DES 8164 - Innovation Theory and Analysis (3.0 cr)
- DES 8166 - Material Culture and Design (3.0 cr)
- DES 8167 - Aesthetics of Design (3.0 cr)
- APST 8192 - Readings in Apparel Studies (1.0 - 3.0 cr)
- APST 8193 - Directed Study (1.0 - 3.0 cr)
- APST 8267 - Dress and Culture (3.0 cr)
- APST 8268 - Behavioral Aspects of Dress (3.0 cr)
- **Plan B Master's Project**
  Students take a minimum of 3 credits in this category.
  - APST 8222 - Plan B Master's Project (3.0 cr)

-OR-

Product Development
 Theory and Philosophy Coursework
  Students take a minimum of 3 credits in this category.
  DES 8112 - Design Theory (3.0 cr)
  or DES 8164 - Innovation Theory and Analysis (3.0 cr)
 Plan A Requirements
  Take 8 or more credit(s) from the following:
- DES 5185 - Human Factors in Design (3.0 cr)
- APST 5218 - Fashion, Design, and the Global Industry (3.0 cr)
- DES 8113 - Teaching and Assessment (2.0 cr)
- DES 8114 - Design Studio (4.0 cr)
- DES 8115 - Grant Writing (2.0 cr)
- DES 8151 - Product Development (3.0 cr)
- DES 8166 - Material Culture and Design (3.0 cr)
- DES 8167 - Aesthetics of Design (3.0 cr)
- APST 8192 - Readings in Apparel Studies (1.0 - 3.0 cr)
- APST 8193 - Directed Study (1.0 - 3.0 cr)
- GDES 8361 - Color, Design, and Human Perception (3.0 cr)
- **Thesis Credits**
  Students take a minimum of 10 thesis credits.
  - DES 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)
 or **Plan B Requirements**
  Plan B Master's students are required to take DES 8222, Master's Plan B Project, the final semester of the program.
  Take 15 or more credit(s) from the following:
- DES 5185 - Human Factors in Design (3.0 cr)
- APST 5218 - Fashion, Design, and the Global Industry (3.0 cr)
- DES 8113 - Teaching and Assessment (2.0 cr)
- DES 8114 - Design Studio (4.0 cr)
- DES 8115 - Grant Writing (2.0 cr)
- DES 8151 - Product Development (3.0 cr)
- DES 8166 - Material Culture and Design (3.0 cr)
- DES 8167 - Aesthetics of Design (3.0 cr)
- APST 8192 - Readings in Apparel Studies (1.0 - 3.0 cr)
- APST 8193 - Directed Study (1.0 - 3.0 cr)
- GDES 8361 - Color, Design, and Human Perception (3.0 cr)
- **Plan B Master's Project**
  Students take a minimum of 3 credits in this category.

•APST 8222 - Plan B Master's Project (3.0 cr)

-OR-

Retail Merchandising and Consumer Studies
 Theory and Philosophy Coursework
  APST 8272 - Digital Consumers: Theories in Retail and Consumer Studies (3.0 cr)
  Plan A Requirements
   Take 8 or more credit(s) from the following:
   •APST 5117 - Retail Environments and Human Behavior (3.0 cr)
   •APST 5123 - Living in a Consumer Society (3.0 cr)
   •APST 5124 - Consumers of Design (3.0 cr)
   •DES 8113 - Teaching and Assessment (2.0 cr)
   •DES 8115 - Grant Writing (2.0 cr)
   •DES 8151 - Product Development (3.0 cr)
   •DES 8167 - Aesthetics of Design (3.0 cr)
   •APST 8192 - Readings in Apparel Studies (1.0 - 3.0 cr)
   •APST 8193 - Directed Study (1.0 - 3.0 cr)
   •APST 8267 - Dress and Culture (3.0 cr)
   •APST 8268 - Behavioral Aspects of Dress (3.0 cr)
   •APST 8271 - Retailing: Strategic Perspectives (3.0 cr)
   •**Thesis Credits**
    Students take a minimum of 10 thesis credits.
    •DES 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)
  or **Plan B Requirements**
   Plan B Master's students are required to take APST 8222, Master's Plan B Project, the final semester of the program.
   Take 15 or more credit(s) from the following:
   •APST 5117 - Retail Environments and Human Behavior (3.0 cr)
   •APST 5123 - Living in a Consumer Society (3.0 cr)
   •APST 5124 - Consumers of Design (3.0 cr)
   •DES 8113 - Teaching and Assessment (2.0 cr)
   •DES 8151 - Product Development (3.0 cr)
   •DES 8115 - Grant Writing (2.0 cr)
   •APST 8192 - Readings in Apparel Studies (1.0 - 3.0 cr)
   •APST 8193 - Directed Study (1.0 - 3.0 cr)
   •APST 8267 - Dress and Culture (3.0 cr)
   •APST 8268 - Behavioral Aspects of Dress (3.0 cr)
   •APST 8271 - Retailing: Strategic Perspectives (3.0 cr)
   •**Plan B Master's Project**
    Students take a minimum of 3 credits in this category.
    •APST 8222 - Plan B Master's Project (3.0 cr)

Graphic Design

The track in graphic design focuses on design theory, process, and methods related to design practice and research. Potential areas of study include graphic design history, theory, and critical narrative; design creativity; color and design; user-centered design; design authorship; data visualization; and interactive design.

Theory and Philosophy Coursework
 Students take a minimum of 3 credits in this category.
 DES 8112 - Design Theory (3.0 cr)
 or DES 8164 - Innovation Theory and Analysis (3.0 cr)
 or GDES 5399 - Theory of Electronic Design (3.0 cr)
Evaluation and Analysis Coursework
 Students take a minimum of 6 credits in this category.
 DES 8102 - Quantitative Research Methods (3.0 cr)
 or DES 8103 - Qualitative and Mixed Methods Research (3.0 cr)
 or GDES 5388 - Graphic Design Research (3.0 cr)

Concentration

Plan A Requirements
 Students are required to take DES 8114, and GDES 8361 or GDES 8362.
 Take 8 or more credit(s) from the following:
 •GDES 4131W - History of Graphic Design [WI] (4.0 cr)
 •GDES 4330 - Surface Fabric Design Workshop (4.0 cr)

- GDES 4345 - Advanced Typography (4.0 cr)
- GDES 5311 - Illustration (3.0 cr)
- GDES 5341 - Interactive Design (3.0 cr)
- GDES 5342 - Advanced Web Design (3.0 cr)
- GDES 5371 - Data Visualization Studio (3.0 cr)
- GDES 5372 - Data Visualization for Interactive Platforms (3.0 cr)
- GDES 5383 - Digital Illustration and Animation (3.0 cr)
- GDES 5386 - Fundamentals of Game Design (3.0 cr)
- DES 8113 - Teaching and Assessment (2.0 cr)
- DES 8114 - Design Studio (4.0 cr)
- DES 8115 - Grant Writing (2.0 cr)
- GDES 8192 - Readings in Graphic Design (1.0 - 3.0 cr)
- GDES 8193 - Directed Study (1.0 - 3.0 cr)
- GDES 8361 - Color, Design, and Human Perception (3.0 cr)
- GDES 8362 - The Nature of Representation in Visual Communication (3.0 cr)
- **Thesis Credits**
  Students take a minimum of 10 thesis credits.
  - DES 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)

  -OR-

Plan B Requirements
Students are required to take DES 8114, and GDES 8361 or GDES 8362. Plan B Master's students are required to take GDES 8222, Plan B Master's Project, the last semester of the program.
Take 15 or more credit(s) from the following:
- GDES 4131W - History of Graphic Design [WI] (4.0 cr)
- GDES 4330 - Surface Fabric Design Workshop (4.0 cr)
- GDES 4345 - Advanced Typography (4.0 cr)
- GDES 5311 - Illustration (3.0 cr)
- GDES 5341 - Interactive Design (3.0 cr)
- GDES 5342 - Advanced Web Design (3.0 cr)
- GDES 5371 - Data Visualization Studio (3.0 cr)
- GDES 5372 - Data Visualization for Interactive Platforms (3.0 cr)
- GDES 5383 - Digital Illustration and Animation (3.0 cr)
- GDES 5386 - Fundamentals of Game Design (3.0 cr)
- DES 8113 - Teaching and Assessment (2.0 cr)
- DES 8114 - Design Studio (4.0 cr)
- DES 8115 - Grant Writing (2.0 cr)
- GDES 8192 - Readings in Graphic Design (1.0 - 3.0 cr)
- GDES 8193 - Directed Study (1.0 - 3.0 cr)
- GDES 8361 - Color, Design, and Human Perception (3.0 cr)
- GDES 8362 - The Nature of Representation in Visual Communication (3.0 cr)
- **Plan B Master's Project**
  Students take a minimum of 3 credits in this category.
  - GDES 8222 - Plan B Master's Project (3.0 cr)

Housing Studies
The housing studies track advances both theoretical and applied knowledge in the housing field. Through research experiences, students are prepared to assist people and communities in addressing housing-related issues. Courses emphasize human needs and behavior, analysis of designed environments, policy and community development, and housing of specific subpopulations such as the elderly or low-income families with children.

Theory and Philosophy: Required Course
HSG 8467 - Theoretical Perspectives in Housing Studies (3.0 cr)
Evaluation and Analysis Coursework
Students take a minimum of 6 credits in this category.
DES 8102 - Quantitative Research Methods (3.0 cr)
or DES 8103 - Qualitative and Mixed Methods Research (3.0 cr)
or EPSY 5261 - Introductory Statistical Methods (3.0 cr)

Concentration

Plan A Requirements
9 credits are required, including at least two courses from the following: HSG 5463, HSG 5467, and HSG 8463.
Take 8 or more credit(s) from the following:
- HSG 4461 - Housing Development and Management (4.0 cr)

- HSG 4465 - Housing in a Global Perspective (3.0 cr)
- HSG 5463 - Housing Policy (3.0 cr)
- HSG 5464 - Understanding Housing: Assessment and Analysis (3.0 cr)
- HSG 5467 - Housing and the Social Environment (4.0 cr)
- HSG 5481 - Promoting Independence in Housing and Community (3.0 cr)
- HSG 5484 - Rural Housing Issues (3.0 cr)
- HSG 8192 - Readings in Housing Studies (1.0 - 3.0 cr)
- HSG 8193 - Directed Study (1.0 - 3.0 cr)
- HSG 8463 - Housing: Race and Class (3.0 cr)

Thesis Credits
Students take a minimum of 10 credits in this category.
DES 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)

-OR-

Plan B Requirements
Students select at least two of the following courses: HSG 5463, HSG 5467, and HSG 8463.
Take 15 or more credit(s) from the following:
- HSG 4461 - Housing Development and Management (4.0 cr)
- HSG 4465 - Housing in a Global Perspective (3.0 cr)
- HSG 5463 - Housing Policy (3.0 cr)
- HSG 5464 - Understanding Housing: Assessment and Analysis (3.0 cr)
- HSG 5467 - Housing and the Social Environment (4.0 cr)
- HSG 5481 - Promoting Independence in Housing and Community (3.0 cr)
- HSG 5484 - Rural Housing Issues (3.0 cr)
- DES 8115 - Grant Writing (2.0 cr)
- HSG 8192 - Readings in Housing Studies (1.0 - 3.0 cr)
- HSG 8193 - Directed Study (1.0 - 3.0 cr)
- HSG 8463 - Housing: Race and Class (3.0 cr)

Plan B Master's Project
HSG 8222 - Plan B Master's Project (3.0 cr)

Interior Design

Graduate study in the interior design track emphasizes the theory, research, and specialized practice components of design as applied to people's health, safety, and welfare in the interior environment, including design education, sustainability, social/cultural issues, aspects of professional practice, and facilities research (educational, office, criminal justice, and residential). Students are prepared for teaching and research positions as well as design specializations within the profession.

Theory and Philosophy Coursework
DES 8112 - Design Theory (3.0 cr)
or DES 8164 - Innovation Theory and Analysis (3.0 cr)
or DES 8166 - Material Culture and Design (3.0 cr)

Evaluation and Analysis Coursework
Statistics course is required. Select from DES 8102 or 8103 for the other 3 credits.
EPSY 5261 - Introductory Statistical Methods (3.0 cr)
DES 8102 - Quantitative Research Methods (3.0 cr)
or DES 8103 - Qualitative and Mixed Methods Research (3.0 cr)

Concentration
Take 5 or more credit(s) from the following:
- DES 5165 - Design and Globalization (3.0 cr)
- DES 5168 - Evidence-Based Design (3.0 cr)
- DES 5185 - Human Factors in Design (3.0 cr)
- DES 8113 - Teaching and Assessment (2.0 cr)
- DES 8115 - Grant Writing (2.0 cr)
- IDES 8192 - Readings in Interior Design (1.0 - 3.0 cr)
- IDES 8193 - Directed Study (1.0 - 3.0 cr)
- GDES 8361 - Color, Design, and Human Perception (3.0 cr)
- **Thesis Credits**
  Students take a minimum of 10 credits in this category.
- DES 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)

Twin Cities Campus

Design M.F.A.
Design, Housing & Apparel
College of Design

Link to a [list of faculty](#) for this program.

Contact Information:
Director of Graduate Studies, Design Graduate Program, 240 McNeal Hall, 1985 Buford Avenue, St. Paul, MN 55108 (612-626-1219)
Email: dhagrad@umn.edu
Website: http://dha.design.umn.edu/programs/grad

- Program Type: Master's
- Requirements for this program are current for Fall 2016
- Length of program in credits: 60
- This program does not require summer semesters for timely completion.
- Degree: Master of Fine Arts

Along with the program-specific requirements listed below, please read the [General Information](#) section of the catalog website for requirements that apply to all major fields.

The design graduate program focuses on the study of relationships between humans and their designed environments. This focus is based on the assumption that design and analysis of environments contributes to the improvement of the human condition. The program addresses theory, research, and application, using a shared disciplinary base from the arts and social and behavioral sciences. The goal of the program is for students to analyze, evaluate, and integrate theoretical frameworks related to humans and their designed environments.

Applications submitted to the design graduate program specify the track and degree objective.

The MFA is available in the graphic design track only.

The track in graphic design focuses on design theory, process, and methods related to design practice and research. Potential areas of study include graphic design history, theory, and critical narrative; design creativity; color and design; user-centered design; design authorship; data visualization; and interactive design.

Program Delivery
This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission
The preferred undergraduate GPA for admittance to the program is 3.00.

Eligibility requirements are located on the track pages of the design graduate program website: http://dha.design.umn.edu/programs/grad.

Special Application Requirements:
Application requirements: http://dha.design.umn.edu/programs/grad/admissions.html

Applicants must submit their test score(s) from the following:
- GRE
  - General Test - Verbal Reasoning: 153
  - General Test - Quantitative Reasoning: 144
  - General Test - Analytical Writing: 4

International applicants must submit score(s) from one of the following tests:
- TOEFL
  - Internet Based - Total Score: 79
  - Internet Based - Writing Score: 21
  - Internet Based - Reading Score: 19
  - Paper Based - Total Score: 550
- IELTS

- Total Score: 6.5
- MELAB
  - Final score: 80

The preferred English language test is Test of English as Foreign Language

Key to test abbreviations(GRE, TOEFL, IELTS, MELAB).

For an online application or for more information about graduate education admissions, see the General Information section of the catalog website.

Program Requirements
Plan C: Plan C requires 52 major credits and 8 credits outside the major.The final exam is oral. A capstone project is required.
Capstone Project: MFA coursework and research culminates in a creative thesis, which includes a paper and extensive creative project.

This program may be completed with a minor.

Use of 4xxx courses toward program requirements is permitted under certain conditions with adviser approval.

A minimum GPA of 2.80 is required for students to remain in good standing.

At least 2 semesters must be completed before filing a Degree Program Form.

Students may be required to complete additional credits upon recommendation of their committee.

Design Program Core Requirement
  DES 8181 - Research Ethics (1.0 cr)

Related Field
  Students are required to take a minimum of 8 credits in a related field. Courses are selected with the approval of the advisor and committee.

Theory and Philosophy
  Take 6 or more credit(s) from the following:
  •DES 8112 - Design Theory (3.0 cr)
  •DES 8164 - Innovation Theory and Analysis (3.0 cr)
  •GDES 5399 - Theory of Electronic Design (3.0 cr)

Evaluation and Analysis
  Take 6 or more credit(s) from the following:
  •GDES 5388 - Graphic Design Research (3.0 cr)
  •DES 8102 - Quantitative Research Methods (3.0 cr)
  •DES 8103 - Qualitative and Mixed Methods Research (3.0 cr)

Concentration
  All students are required to take DES 8114, GDES 8361, and GDES 8362.
  Take 27 or more credit(s) from the following:
  •GDES 4131W - History of Graphic Design [WI] (4.0 cr)
  •GDES 4330 - Surface Fabric Design Workshop (4.0 cr)
  •GDES 4345 - Advanced Typography (4.0 cr)
  •GDES 5311 - Illustration (3.0 cr)
  •GDES 5341 - Interactive Design (3.0 cr)
  •GDES 5342 - Advanced Web Design (3.0 cr)
  •GDES 5371 - Data Visualization Studio (3.0 cr)
  •GDES 5372 - Data Visualization for Interactive Platforms (3.0 cr)
  •GDES 5383 - Digital Illustration and Animation (3.0 cr)
  •GDES 5386 - Fundamentals of Game Design (3.0 cr)
  •DES 8113 - Teaching and Assessment (2.0 cr)
  •DES 8114 - Design Studio (4.0 cr)
  •DES 8115 - Grant Writing (2.0 cr)
  •GDES 8192 - Readings in Graphic Design (1.0 - 3.0 cr)
  •GDES 8193 - Directed Study (1.0 - 3.0 cr)

- GDES 8361 - Color, Design, and Human Perception (3.0 cr)
- GDES 8362 - The Nature of Representation in Visual Communication (3.0 cr)

MFA Creative Thesis Credits
Take 12 credits or more of the following:
GDES 8990 - MFA Creative Thesis (6.0 cr)

Program Sub-plans
Students are required to complete one of the following sub-plans.
Students may not complete the program with more than one sub-plan.

Graphic Design
All Design MMFA students must complete the graphic design track. See program requirements above.

Twin Cities Campus

Design M.S.
Design, Housing & Apparel
College of Design

Link to a [list of faculty](#) for this program.

Contact Information:
Director of Graduate Studies, Design Graduate Program, 240 McNeal Hall, 1985 Buford Avenue, St. Paul, MN 55108 (612-626-1219)
Email: dhagrad@umn.edu
Website: http://dha.design.umn.edu/programs/grad

- Program Type: Master's
- Requirements for this program are current for Fall 2016
- Length of program in credits: 34
- This program does not require summer semesters for timely completion.
- Degree: Master of Science

Along with the program-specific requirements listed below, please read the [General Information](#) section of the catalog website for requirements that apply to all major fields.

The design graduate program focuses on the study of relationships between humans and their designed environments. This focus is based on the assumption that design and analysis of environments contributes to the improvement of the human condition. The program addresses theory, research, and application, using a shared disciplinary base from the arts and social and behavioral sciences. The goal of the program is for students to analyze, evaluate, and integrate theoretical frameworks related to humans and their designed environments.

Applications submitted to the design graduate program specify the track and degree objective.

Formal tracks are:
- Apparel studies (including dress, history, and culture; product development; and retail merchandising and consumer studies)
- Graphic design
- Housing studies
- Interior design

Program Delivery
This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission
The preferred undergraduate GPA for admittance to the program is 3.00.

Eligibility requirements are located on the track pages of the design graduate program website:
http://dha.design.umn.edu/programs/grad.

Special Application Requirements:
Application requirements: http://dha.design.umn.edu/programs/grad/admissions.html

Applicants must submit their test score(s) from the following:
- GRE
  - General Test - Verbal Reasoning: 144
  - General Test - Quantitative Reasoning: 153
  - General Test - Analytical Writing: 4

International applicants must submit score(s) from one of the following tests:
- TOEFL
  - Internet Based - Total Score: 79
  - Internet Based - Writing Score: 21
  - Internet Based - Reading Score: 19
  - Paper Based - Total Score: 550
- IELTS

- Total Score: 6.5
- MELAB
  - Final score: 80

The preferred English language test is Test of English as Foreign Language

Key to test abbreviations(GRE, TOEFL, IELTS, MELAB).

For an online application or for more information about graduate education admissions, see the General Information section of the catalog website.

Program Requirements
Plan A: Plan A requires 18 major credits, 6 credits outside the major, and 10 thesis credits.The final exam is oral.

Plan B: Plan B requires 28 major credits and 6 credits outside the major.The final exam is oral.

This program may be completed with a minor.

Use of 4xxx courses toward program requirements is permitted under certain conditions with adviser approval.

A minimum GPA of 2.80 is required for students to remain in good standing.

At least 2 semesters must be completed before filing a Degree Program Form.

Students may be required to complete additional credits upon recommendation of their committee.

Design Program Core Requirement
  DES 8181 - Research Ethics (1.0 cr)

Related Field Coursework
  Students are required to take a minimum of 6 credits in a related field. Courses are selected with the approval of the advisor and committee.

Program Sub-plans
Students are required to complete one of the following sub-plans.
Students may not complete the program with more than one sub-plan.

Apparel Studies
The apparel studies track advances both theoretical knowledge and applications for apparel and worn products and their relationship to human behavior. Students may focus on product development; dress, history, and culture; or retail merchandising and consumer studies. Within each of these areas of emphasis within the track, the student completes related coursework as well as research or creative production that culminates in a thesis.

Evaluation and Analysis Coursework
  Students are required to take a minimum of 6 credits in evaluation and analysis.
  Students may take other courses with the approval of the advisor and committee.
  DES 8102 - Quantitative Research Methods (3.0 cr)
  DES 8103 - Qualitative and Mixed Methods Research (3.0 cr)

Concentration

Dress, History, and Culture
  Theory and Philosophy Coursework
  Students take a minimum of 3 credits in this category.
  DES 8164 - Innovation Theory and Analysis (3.0 cr)
  or DES 8112 - Design Theory (3.0 cr)
  Plan A Requirements
  Take 8 or more credit(s) from the following:
  •DES 5165 - Design and Globalization (3.0 cr)

- APST 5218 - Fashion, Design, and the Global Industry (3.0 cr)
- DES 8112 - Design Theory (3.0 cr)
- DES 8113 - Teaching and Assessment (2.0 cr)
- DES 8115 - Grant Writing (2.0 cr)
- DES 8164 - Innovation Theory and Analysis (3.0 cr)
- DES 8166 - Material Culture and Design (3.0 cr)
- DES 8167 - Aesthetics of Design (3.0 cr)
- APST 8192 - Readings in Apparel Studies (1.0 - 3.0 cr)
- APST 8193 - Directed Study (1.0 - 3.0 cr)
- APST 8268 - Behavioral Aspects of Dress (3.0 cr)
- APST 8267 - Dress and Culture (3.0 cr)
- **Thesis credits**
  Students take a minimum of 10 thesis credits.
  - DES 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)
- *or* **Plan B Requirements**
  All Plan B Master's students are required to register for DES 8222 Plan B Master's Project the last semester of the program.
  Take 15 or more credit(s) from the following:
- DES 5165 - Design and Globalization (3.0 cr)
- APST 5218 - Fashion, Design, and the Global Industry (3.0 cr)
- DES 8112 - Design Theory (3.0 cr)
- DES 8113 - Teaching and Assessment (2.0 cr)
- DES 8115 - Grant Writing (2.0 cr)
- DES 8164 - Innovation Theory and Analysis (3.0 cr)
- DES 8166 - Material Culture and Design (3.0 cr)
- DES 8167 - Aesthetics of Design (3.0 cr)
- APST 8192 - Readings in Apparel Studies (1.0 - 3.0 cr)
- APST 8193 - Directed Study (1.0 - 3.0 cr)
- APST 8267 - Dress and Culture (3.0 cr)
- APST 8268 - Behavioral Aspects of Dress (3.0 cr)
- **Plan B Master's Project**
  Students take a minimum of 3 credits in this category.
  - APST 8222 - Plan B Master's Project (3.0 cr)

  -OR-

Product Development
 Theory and Philosophy Coursework
  Students take a minimum of 3 credits in this category.
  DES 8112 - Design Theory (3.0 cr)
  or DES 8164 - Innovation Theory and Analysis (3.0 cr)
 Plan A Requirements
  Take 8 or more credit(s) from the following:
- DES 5185 - Human Factors in Design (3.0 cr)
- APST 5218 - Fashion, Design, and the Global Industry (3.0 cr)
- DES 8113 - Teaching and Assessment (2.0 cr)
- DES 8114 - Design Studio (4.0 cr)
- DES 8115 - Grant Writing (2.0 cr)
- DES 8151 - Product Development (3.0 cr)
- DES 8166 - Material Culture and Design (3.0 cr)
- DES 8167 - Aesthetics of Design (3.0 cr)
- APST 8192 - Readings in Apparel Studies (1.0 - 3.0 cr)
- APST 8193 - Directed Study (1.0 - 3.0 cr)
- GDES 8361 - Color, Design, and Human Perception (3.0 cr)
- **Thesis Credits**
  Students take a minimum of 10 thesis credits.
  - DES 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)
- *or* **Plan B Requirements**
  Plan B Master's students are required to take DES 8222 Master's Plan B Project the final semester of the program.
  Take 15 or more credit(s) from the following:
- DES 5185 - Human Factors in Design (3.0 cr)
- APST 5218 - Fashion, Design, and the Global Industry (3.0 cr)
- DES 8113 - Teaching and Assessment (2.0 cr)
- DES 8114 - Design Studio (4.0 cr)
- DES 8115 - Grant Writing (2.0 cr)
- DES 8151 - Product Development (3.0 cr)
- DES 8166 - Material Culture and Design (3.0 cr)

- DES 8167 - Aesthetics of Design (3.0 cr)
- APST 8192 - Readings in Apparel Studies (1.0 - 3.0 cr)
- APST 8193 - Directed Study (1.0 - 3.0 cr)
- GDES 8361 - Color, Design, and Human Perception (3.0 cr)
- **Plan B Master's Project**
  Students take a minimum of 3 credits in this category.
  - APST 8222 - Plan B Master's Project (3.0 cr)

-OR-

Retail Merchandising and Consumer Studies
 Theory and Philosophy Coursework
  APST 8272 - Digital Consumers: Theories in Retail and Consumer Studies (3.0 cr)
 Plan A Requirements
  Take 8 or more credit(s) from the following:
  - APST 5117 - Retail Environments and Human Behavior (3.0 cr)
  - APST 5123 - Living in a Consumer Society (3.0 cr)
  - APST 5124 - Consumers of Design (3.0 cr)
  - DES 8113 - Teaching and Assessment (2.0 cr)
  - DES 8115 - Grant Writing (2.0 cr)
  - DES 8151 - Product Development (3.0 cr)
  - DES 8167 - Aesthetics of Design (3.0 cr)
  - APST 8267 - Dress and Culture (3.0 cr)
  - APST 8268 - Behavioral Aspects of Dress (3.0 cr)
  - APST 8192 - Readings in Apparel Studies (1.0 - 3.0 cr)
  - APST 8193 - Directed Study (1.0 - 3.0 cr)
  - APST 8271 - Retailing: Strategic Perspectives (3.0 cr)
  - **Thesis Credits**
    Students take a minimum of 10 thesis credits.
    - DES 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)
 or **Plan B Requirements**
  Plan B Master's students are required to take ApSt 8222 Master's Plan B Project the final semester of the program.
  Take 15 or more credit(s) from the following:
  - APST 5117 - Retail Environments and Human Behavior (3.0 cr)
  - APST 5123 - Living in a Consumer Society (3.0 cr)
  - APST 5124 - Consumers of Design (3.0 cr)
  - DES 8113 - Teaching and Assessment (2.0 cr)
  - DES 8151 - Product Development (3.0 cr)
  - DES 8115 - Grant Writing (2.0 cr)
  - APST 8267 - Dress and Culture (3.0 cr)
  - APST 8192 - Readings in Apparel Studies (1.0 - 3.0 cr)
  - APST 8193 - Directed Study (1.0 - 3.0 cr)
  - APST 8268 - Behavioral Aspects of Dress (3.0 cr)
  - APST 8271 - Retailing: Strategic Perspectives (3.0 cr)
  - **Plan B Master's Project**
    Students take a minimum of 3 credits in this category.
    - APST 8222 - Plan B Master's Project (3.0 cr)

Graphic Design

The track in graphic design focuses on design theory, process, and methods related to design practice and research. Potential areas of study include graphic design history, theory, and critical narrative; design creativity; color and design; design authorship; data visualization; and interactive design.

Theory and Philosophy Coursework
 Students take a minimum of 3 credits in this category.
 DES 8112 - Design Theory (3.0 cr)
 or DES 8164 - Innovation Theory and Analysis (3.0 cr)
 or GDES 5399 - Theory of Electronic Design (3.0 cr)
Evaluation and Analysis Coursework
 Students take a minimum of 6 credits in this category.
 DES 8102 - Quantitative Research Methods (3.0 cr)
 or DES 8103 - Qualitative and Mixed Methods Research (3.0 cr)
 or GDES 5388 - Graphic Design Research (3.0 cr)

Concentration

Plan A Requirements
 Students are required to take DES 8114, and GDES 8361 or GDES 8362.
 Take 8 or more credit(s) from the following:
 •GDES 4131W - History of Graphic Design [WI] (4.0 cr)
 •GDES 4330 - Surface Fabric Design Workshop (4.0 cr)
 •GDES 4345 - Advanced Typography (4.0 cr)
 •GDES 5311 - Illustration (3.0 cr)
 •GDES 5341 - Interactive Design (3.0 cr)
 •GDES 5342 - Advanced Web Design (3.0 cr)
 •GDES 5371 - Data Visualization Studio (3.0 cr)
 •GDES 5372 - Data Visualization for Interactive Platforms (3.0 cr)
 •GDES 5383 - Digital Illustration and Animation (3.0 cr)
 •GDES 5386 - Fundamentals of Game Design (3.0 cr)
 •DES 8113 - Teaching and Assessment (2.0 cr)
 •DES 8114 - Design Studio (4.0 cr)
 •DES 8115 - Grant Writing (2.0 cr)
 •GDES 8192 - Readings in Graphic Design (1.0 - 3.0 cr)
 •GDES 8193 - Directed Study (1.0 - 3.0 cr)
 •GDES 8361 - Color, Design, and Human Perception (3.0 cr)
 •GDES 8362 - The Nature of Representation in Visual Communication (3.0 cr)
 •**Thesis Credits**
  Students take a minimum of 10 thesis credits.
  •DES 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)

   -OR-

Plan B Requirements
 Students are required to take DES 8114 and GDES 8361 or GDES 8362.
 Take 15 or more credit(s) from the following:
 •GDES 4131W - History of Graphic Design [WI] (4.0 cr)
 •GDES 4330 - Surface Fabric Design Workshop (4.0 cr)
 •GDES 4345 - Advanced Typography (4.0 cr)
 •GDES 5311 - Illustration (3.0 cr)
 •GDES 5341 - Interactive Design (3.0 cr)
 •GDES 5342 - Advanced Web Design (3.0 cr)
 •GDES 5371 - Data Visualization Studio (3.0 cr)
 •GDES 5372 - Data Visualization for Interactive Platforms (3.0 cr)
 •GDES 5383 - Digital Illustration and Animation (3.0 cr)
 •GDES 5386 - Fundamentals of Game Design (3.0 cr)
 •DES 8113 - Teaching and Assessment (2.0 cr)
 •DES 8114 - Design Studio (4.0 cr)
 •DES 8115 - Grant Writing (2.0 cr)
 •GDES 8192 - Readings in Graphic Design (1.0 - 3.0 cr)
 •GDES 8193 - Directed Study (1.0 - 3.0 cr)
 •GDES 8361 - Color, Design, and Human Perception (3.0 cr)
 •GDES 8362 - The Nature of Representation in Visual Communication (3.0 cr)
 •**Plan B Master's Project**
  Students take a minimum of 3 credits in this category the last semester of the program.
  •GDES 8222 - Plan B Master's Project (3.0 cr)

Housing Studies

The housing studies track advances both theoretical and applied knowledge in the housing field. Through research experiences, students are prepared to assist people and communities in addressing housing-related issues. Courses emphasize human needs and behavior, analysis of designed environments, policy and community development, and housing of specific subpopulations such as the elderly or low-income families with children.

Theory and Philosophy: Required Course
 HSG 8467 - Theoretical Perspectives in Housing Studies (3.0 cr)
Evaluation and Analysis Coursework
 Students take a minimum of 6 credits in this category.
 DES 8102 - Quantitative Research Methods (3.0 cr)
 or DES 8103 - Qualitative and Mixed Methods Research (3.0 cr)
 or EPSY 5261 - Introductory Statistical Methods (3.0 cr)

Concentration

Plan A Requirements
  Students take least two courses from the following: HSG 5463, HSG 5467, and HSG 8463.
   Take 8 or more credit(s) from the following:
   •HSG 4461 - Housing Development and Management (4.0 cr)
   •HSG 4465 - Housing in a Global Perspective (3.0 cr)
   •HSG 5463 - Housing Policy (3.0 cr)
   •HSG 5464 - Understanding Housing: Assessment and Analysis (3.0 cr)
   •HSG 5467 - Housing and the Social Environment (4.0 cr)
   •HSG 5481 - Promoting Independence in Housing and Community (3.0 cr)
   •HSG 5484 - Rural Housing Issues (3.0 cr)
   •HSG 8192 - Readings in Housing Studies (1.0 - 3.0 cr)
   •HSG 8193 - Directed Study (1.0 - 3.0 cr)
   •HSG 8463 - Housing: Race and Class (3.0 cr)
  Thesis Credits
   Students take a minimum of 10 credits in this category.
   DES 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)

     -OR-

Plan B Requirements
  Students select at least two of the following courses: HSG 5463, HSG 5467, and HSG 8463.
   Take 15 or more credit(s) from the following:
   Take 15 or more credit(s) from the following:
   •HSG 4461 - Housing Development and Management (4.0 cr)
   •HSG 4465 - Housing in a Global Perspective (3.0 cr)
   •HSG 5463 - Housing Policy (3.0 cr)
   •HSG 5464 - Understanding Housing: Assessment and Analysis (3.0 cr)
   •HSG 5467 - Housing and the Social Environment (4.0 cr)
   •HSG 5481 - Promoting Independence in Housing and Community (3.0 cr)
   •HSG 5484 - Rural Housing Issues (3.0 cr)
   •DES 8115 - Grant Writing (2.0 cr)
   •HSG 8192 - Readings in Housing Studies (1.0 - 3.0 cr)
   •HSG 8193 - Directed Study (1.0 - 3.0 cr)
   •HSG 8463 - Housing: Race and Class (3.0 cr)
  •**Plan B Master's Project**
   Students take a minimum of 3 credits the final semester of the program.
   •HSG 8222 - Plan B Master's Project (3.0 cr)

Interior Design
This sub-plan is limited to students completing the program under Plan A.

Graduate study in the interior design track emphasizes the theory, research, and specialized practice components of design as applied to people's health, safety, and welfare in the interior environment, including design education, sustainability, social/cultural issues, aspects of professional practice, and facilities research (educational, office, criminal justice, and residential). Students are prepared for teaching and research positions as well as design specializations within the profession. The evidence-based design emphasis provides students with the opportunity to explore theoretical, process, and applied aspects of this design practice approach.

Theory and Philosophy Coursework
  DES 8112 - Design Theory (3.0 cr)
   or DES 8164 - Innovation Theory and Analysis (3.0 cr)
   or DES 8166 - Material Culture and Design (3.0 cr)
Evaluation and Analysis Coursework
  Take the following three courses for 9 credits:
  EPSY 5261 - Introductory Statistical Methods (3.0 cr)
  DES 8102 - Quantitative Research Methods (3.0 cr)
  DES 8103 - Qualitative and Mixed Methods Research (3.0 cr)
Concentration
  Take 5 or more credit(s) from the following:
   •DES 5165 - Design and Globalization (3.0 cr)
   •DES 5168 - Evidence-Based Design (3.0 cr)
   •DES 5185 - Human Factors in Design (3.0 cr)
   •DES 8113 - Teaching and Assessment (2.0 cr)
   •DES 8115 - Grant Writing (2.0 cr)
   •IDES 8192 - Readings in Interior Design (1.0 - 3.0 cr)
   •IDES 8193 - Directed Study (1.0 - 3.0 cr)

- GDES 8361 - Color, Design, and Human Perception (3.0 cr)
- **Thesis Credits**
  Students take a minimum of 10 credits in this category.
  - DES 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)

Twin Cities Campus

Design Minor

Design, Housing & Apparel
College of Design

Link to a [list of faculty](#) for this program.

Contact Information:
Director of Graduate Studies, Design Graduate Program, 240 McNeal Hall, 1985 Buford Avenue, St. Paul, MN 55108 (612-626-1219)
Email: dhagrad@umn.edu
Website: http://dha.design.umn.edu/programs/grad

- Program Type: Graduate minor related to major
- Requirements for this program are current for Fall 2016
- Length of program in credits (Masters): 9
- Length of program in credits (Doctorate): 12
- This program does not require summer semesters for timely completion.

Along with the program-specific requirements listed below, please read the [General Information](#) section of the catalog website for requirements that apply to all major fields.

The design graduate program focuses on the study of relationships between humans and their designed environments. This focus is based on the assumption that design and analysis of environments contributes to the improvement of the human condition. The program addresses theory, research, and application, using a shared disciplinary base from the arts and social and behavioral sciences. The goal of the program is for students to analyze, evaluate, and integrate theoretical frameworks related to humans and their designed environments.

Program Delivery

This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

The preferred undergraduate GPA for admittance to the program is 3.00.

For an online application or for more information about graduate education admissions, see the [General Information](#) section of the catalog website.

Program Requirements

Use of 4xxx courses toward program requirements is permitted under certain conditions with adviser approval.

Program Sub-plans

Students are required to complete one of the following sub-plans.
Students may not complete the program with more than one sub-plan.

Masters

Students select a minimum of 9 credits in consultation with their advisor and the director of graduate studies for the design graduate program.

Doctoral

Students select a minimum of 12 credits in consultation with their advisor and the director of graduate studies for the design graduate program.

Twin Cities Campus

Design Ph.D.
Design, Housing & Apparel
College of Design

Link to a [list of faculty](#) for this program.

Contact Information:
Director of Graduate Studies, Design Graduate Program, 240 McNeal Hall, 1985 Buford Avenue, St. Paul, MN 55108 (612-626-1219)
Email: dhagrad@umn.edu
Website: http://dha.design.umn.edu/programs/grad

- Program Type: Doctorate
- Requirements for this program are current for Fall 2016
- Length of program in credits: 64
- This program does not require summer semesters for timely completion.
- Degree: Doctor of Philosophy

Along with the program-specific requirements listed below, please read the [General Information](#) section of the catalog website for requirements that apply to all major fields.

The design graduate program focuses on the study of relationships between humans and their designed environments. This focus is based on the assumption that design and analysis of environments contributes to the improvement of the human condition. The program addresses theory, research, and application, using a shared disciplinary base from the arts and social and behavioral sciences. The goal of the program is for students to analyze, evaluate, and integrate theoretical frameworks related to humans and their designed environments.

Applications submitted to the design graduate program specify a track and degree objective.

Formal tracks are:
Apparel studies (including dress, history, and culture; product development; and retail merchandising and consumer studies)
Graphic design (including interactive design)
Housing studies
Interior design (including evidence-based design)

Program Delivery
This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission
The preferred undergraduate GPA for admittance to the program is 3.00.

Eligibility requirements are located on the track pages of the design graduate program website: http://dha.design.umn.edu/programs/grad.

Special Application Requirements:
Application requirements: http://dha.design.umn.edu/programs/grad/admissions.html

Applicants must submit their test score(s) from the following:
- GRE
  - General Test - Verbal Reasoning: 144
  - General Test - Quantitative Reasoning: 153
  - General Test - Analytical Writing: 4

International applicants must submit score(s) from one of the following tests:
- TOEFL
  - Internet Based - Total Score: 79
  - Internet Based - Writing Score: 21
  - Internet Based - Reading Score: 19
  - Paper Based - Total Score: 550
- IELTS

- Total Score: 6.5
- MELAB
  - Final score: 80

The preferred English language test is Test of English as Foreign Language

Key to test abbreviations(GRE, TOEFL, IELTS, MELAB).

For an online application or for more information about graduate education admissions, see the General Information section of the catalog website.

Program Requirements
28 credits are required in the major.
12 credits are required outside the major.
24 thesis credits are required.

This program may be completed with a minor.

Use of 4xxx courses toward program requirements is permitted under certain conditions with adviser approval.

A minimum GPA of 3.0 is required for students to remain in good standing.

At least 2 semesters must be completed before filing a Degree Program Form.

Students may be required to complete additional credits upon recommendation of their committee.

Design Program Core Requirements
  DES 8181 - Research Ethics (1.0 cr)

Related Field Coursework
  Students are required to take a minimum of 12 credits in a related field. Courses are selected with the approval of the advisor and committee.

Doctoral Dissertation Credits
  Students take a minimum of 24 credits of DES 8888. With the permission of the advisor, up to 10 credits may be taken prior to passing the preliminary oral examination.
  DES 8888 - Thesis Credit: Doctoral (1.0 - 24.0 cr)

Program Sub-plans
Students are required to complete one of the following sub-plans.
Students may not complete the program with more than one sub-plan.

Apparel Studies
The apparel studies track advances both theoretical knowledge and applications for apparel and worn products and their relationship to human behavior. Students may focus on product development; dress, history, and culture; or retail merchandising and consumer studies. Within each of these areas of emphasis within the track, the student completes related coursework as well as research or creative production that culminates in a thesis.

Evaluation and Analysis Coursework
  Students are required to take a minimum of 9 credits in evaluation and analysis, including 3 credits in statistics.
  DES 8102 - Quantitative Research Methods (3.0 cr)
  DES 8103 - Qualitative and Mixed Methods Research (3.0 cr)
  Statistics
  Take 3 or more credit(s) from the following:
  •EPSY 5261 - Introductory Statistical Methods (3.0 cr)
  •EPSY 5262 - Intermediate Statistical Methods (3.0 cr)
  •EPSY 8252 - Statistical Methods in Education II (3.0 cr)
  •EPSY 8261 - Statistical Methods in Education I (3.0 cr)
  •EPSY 8262 - Statistical Methods in Education II (3.0 cr)
  •EPSY 8266 - Statistical Analysis Using Structural Equation Methods (3.0 cr)

•EPSY 8267 - Applied Multivariate Analysis (3.0 cr)

Concentration

Dress, History, and Culture
 Theory and Philosophy Coursework
  Students take a minimum of 6 credits in this category.
  DES 8164 - Innovation Theory and Analysis (3.0 cr)
  DES 8112 - Design Theory (3.0 cr)
 Dress, History, and Culture Concentration Coursework
  Take 12 or more credit(s) from the following:
  •DES 5165 - Design and Globalization (3.0 cr)
  •APST 5218 - Fashion, Design, and the Global Industry (3.0 cr)
  •DES 8112 - Design Theory (3.0 cr)
  •DES 8113 - Teaching and Assessment (2.0 cr)
  •DES 8115 - Grant Writing (2.0 cr)
  •DES 8164 - Innovation Theory and Analysis (3.0 cr)
  •DES 8166 - Material Culture and Design (3.0 cr)
  •DES 8167 - Aesthetics of Design (3.0 cr)
  •APST 8192 - Readings in Apparel Studies (1.0 - 3.0 cr)
  •APST 8193 - Directed Study (1.0 - 3.0 cr)
  •APST 8267 - Dress and Culture (3.0 cr)
  •APST 8268 - Behavioral Aspects of Dress (3.0 cr)

  -OR-

Product Development
 Theory and Philosophy Coursework
  Students take a minimum of 6 credits in this category.
  DES 8112 - Design Theory (3.0 cr)
  DES 8164 - Innovation Theory and Analysis (3.0 cr)
  Product Development Concentration Coursework
  Take 12 or more credit(s) from the following:
  •DES 5185 - Human Factors in Design (3.0 cr)
  •APST 5218 - Fashion, Design, and the Global Industry (3.0 cr)
  •DES 8113 - Teaching and Assessment (2.0 cr)
  •DES 8114 - Design Studio (4.0 cr)
  •DES 8115 - Grant Writing (2.0 cr)
  •DES 8151 - Product Development (3.0 cr)
  •DES 8166 - Material Culture and Design (3.0 cr)
  •DES 8167 - Aesthetics of Design (3.0 cr)
  •APST 8192 - Readings in Apparel Studies (1.0 - 3.0 cr)
  •APST 8193 - Directed Study (1.0 - 3.0 cr)
  •GDES 8361 - Color, Design, and Human Perception (3.0 cr)

  -OR-

Retail Merchandising and Consumer Studies
 Theory and Philosophy Coursework
  Students take a minimum of 6 credits in this category.
  APST 8272 - Digital Consumers: Theories in Retail and Consumer Studies (3.0 cr)
  Take 3 or more credit(s) from the following:
  •APST 8268 - Behavioral Aspects of Dress (3.0 cr)
  •PSY 8201 - Social Cognition (3.0 cr)
  •SOC 8721 - Theories of Social Psychology (3.0 cr)
  Retail Merchandising and Consumer Studies Concentration Coursework
  Take 12 or more credit(s) from the following:
  •APST 5117 - Retail Environments and Human Behavior (3.0 cr)
  •APST 5123 - Living in a Consumer Society (3.0 cr)
  •APST 5124 - Consumers of Design (3.0 cr)
  •DES 8113 - Teaching and Assessment (2.0 cr)
  •DES 8115 - Grant Writing (2.0 cr)
  •DES 8151 - Product Development (3.0 cr)
  •DES 8167 - Aesthetics of Design (3.0 cr)
  •APST 8267 - Dress and Culture (3.0 cr)
  •APST 8268 - Behavioral Aspects of Dress (3.0 cr)
  •APST 8271 - Retailing: Strategic Perspectives (3.0 cr)

- APST 8192 - Readings in Apparel Studies (1.0 - 3.0 cr)
- APST 8193 - Directed Study (1.0 - 3.0 cr)

Graphic Design

The track in graphic design focuses on design theory, process, and methods related to design practice and research. Potential areas of study include graphic design history, theory, and critical narrative; design creativity; color and design; user-centered design; design authorship; data visualization; and interactive design.

Theory and Philosophy Coursework
Students take a minimum of 6 credits in this category.
DES 8112 - Design Theory (3.0 cr)
or DES 8164 - Innovation Theory and Analysis (3.0 cr)
or GDES 5399 - Theory of Electronic Design (3.0 cr)

Evaluation and Analysis Coursework
Students take a minimum of 9 credits in this category, including 3 credits in statistics.
Take 6 or more credit(s) from the following:
- DES 8102 - Quantitative Research Methods (3.0 cr)
- DES 8103 - Qualitative and Mixed Methods Research (3.0 cr)
- GDES 5388 - Graphic Design Research (3.0 cr)

Statistics
Take 3 or more credit(s) from the following:
- EPSY 5261 - Introductory Statistical Methods (3.0 cr)
- EPSY 5262 - Intermediate Statistical Methods (3.0 cr)
- EPSY 8252 - Statistical Methods in Education II (3.0 cr)
- EPSY 8261 - Statistical Methods in Education I (3.0 cr)
- EPSY 8262 - Statistical Methods in Education II (3.0 cr)
- EPSY 8266 - Statistical Analysis Using Structural Equation Methods (3.0 cr)
- EPSY 8267 - Applied Multivariate Analysis (3.0 cr)

Graphic Design Concentration Coursework
Students are required to take GDES 8361 and GDES 8362.
Take 12 or more credit(s) from the following:
- GDES 4131W - History of Graphic Design [WI] (4.0 cr)
- GDES 4330 - Surface Fabric Design Workshop (4.0 cr)
- GDES 4345 - Advanced Typography (4.0 cr)
- GDES 5311 - Illustration (3.0 cr)
- GDES 5341 - Interactive Design (3.0 cr)
- GDES 5342 - Advanced Web Design (3.0 cr)
- GDES 5371 - Data Visualization Studio (3.0 cr)
- GDES 5372 - Data Visualization for Interactive Platforms (3.0 cr)
- GDES 5383 - Digital Illustration and Animation (3.0 cr)
- GDES 5386 - Fundamentals of Game Design (3.0 cr)
- DES 8113 - Teaching and Assessment (2.0 cr)
- DES 8114 - Design Studio (4.0 cr)
- DES 8115 - Grant Writing (2.0 cr)
- GDES 8192 - Readings in Graphic Design (1.0 - 3.0 cr)
- GDES 8193 - Directed Study (1.0 - 3.0 cr)
- GDES 8361 - Color, Design, and Human Perception (3.0 cr)
- GDES 8362 - The Nature of Representation in Visual Communication (3.0 cr)

Housing Studies

Housing studies is a multidisciplinary track that draws from a variety of theoretical perspectives. Students are trained in a variety of research methodologies. Coursework and research experiences combine to further understanding of the innovative approaches to the development of housing and related programs. Upon completion of the graduate degree, students seek housing careers in state and federal agencies, nonprofit community organizations, housing regulation, and higher education.

Theory and Philosophy Coursework
Students are required to take a total of 6 credits in this category, including HSG 8467. Students select one additional course in theory and philosophy with the approval of the advisor and committee.
HSG 8467 - Theoretical Perspectives in Housing Studies (3.0 cr)

Evaluation and Analysis Coursework
Students take a minimum of 9 credits in this category, including a minimum of 3 credits in statistics.
DES 8102 - Quantitative Research Methods (3.0 cr)
DES 8103 - Qualitative and Mixed Methods Research (3.0 cr)

Statistics

Take 3 or more credit(s) from the following:
- EPSY 5261 - Introductory Statistical Methods (3.0 cr)
- EPSY 5262 - Intermediate Statistical Methods (3.0 cr)
- EPSY 8252 - Statistical Methods in Education II (3.0 cr)
- EPSY 8261 - Statistical Methods in Education I (3.0 cr)
- EPSY 8262 - Statistical Methods in Education II (3.0 cr)
- EPSY 8266 - Statistical Analysis Using Structural Equation Methods (3.0 cr)
- EPSY 8267 - Applied Multivariate Analysis (3.0 cr)

Housing Studies Concentration Coursework
 HSG 5463, HSG 5467, and HSG 8463 are required.
 Take 12 or more credit(s) from the following:
- HSG 4461 - Housing Development and Management (4.0 cr)
- HSG 4465 - Housing in a Global Perspective (3.0 cr)
- HSG 5463 - Housing Policy (3.0 cr)
- HSG 5464 - Understanding Housing: Assessment and Analysis (3.0 cr)
- HSG 5467 - Housing and the Social Environment (4.0 cr)
- HSG 5481 - Promoting Independence in Housing and Community (3.0 cr)
- HSG 5484 - Rural Housing Issues (3.0 cr)
- HSG 8192 - Readings in Housing Studies (1.0 - 3.0 cr)
- HSG 8193 - Directed Study (1.0 - 3.0 cr)
- HSG 8463 - Housing: Race and Class (3.0 cr)

Interior Design

Graduate study in the interior design track emphasizes the theory, research, and specialized practice components of design as applied to people's health, safety, and welfare in the interior environment, including design education, sustainability, social/cultural issues, aspects of professional practice, and facilities research (educational, office, criminal justice, and residential). Students are prepared for teaching and research positions as well as design specializations within the profession. The evidence-based design emphasis provides students with the opportunity to explore theoretical, process, and applied aspects of this design practice approach.

Theory and Philosophy Coursework
 Students take DES 8112 and choose either DES 8164 or DES 8166 for a total of 6 credits in this category.
 DES 8112 - Design Theory (3.0 cr)
 Take 3 or more credit(s) from the following:
- DES 8164 - Innovation Theory and Analysis (3.0 cr)
- DES 8166 - Material Culture and Design (3.0 cr)

Evaluation and Analysis Coursework
 Students take a minimum of 9 credits in this category, including a minimum of 3 credits in statistics.
 DES 8102 - Quantitative Research Methods (3.0 cr)
 DES 8103 - Qualitative and Mixed Methods Research (3.0 cr)
 Statistics
 Take 3 or more credit(s) from the following:
- EPSY 5261 - Introductory Statistical Methods (3.0 cr)
- EPSY 5262 - Intermediate Statistical Methods (3.0 cr)
- EPSY 8252 - Statistical Methods in Education II (3.0 cr)
- EPSY 8261 - Statistical Methods in Education I (3.0 cr)
- EPSY 8262 - Statistical Methods in Education II (3.0 cr)
- EPSY 8266 - Statistical Analysis Using Structural Equation Methods (3.0 cr)
- EPSY 8267 - Applied Multivariate Analysis (3.0 cr)

Interior Design Concentration Coursework
 Take 12 or more credit(s) from the following:
- DES 5165 - Design and Globalization (3.0 cr)
- DES 5168 - Evidence-Based Design (3.0 cr)
- DES 5185 - Human Factors in Design (3.0 cr)
- DES 8113 - Teaching and Assessment (2.0 cr)
- DES 8115 - Grant Writing (2.0 cr)
- IDES 8192 - Readings in Interior Design (1.0 - 3.0 cr)
- IDES 8193 - Directed Study (1.0 - 3.0 cr)
- GDES 8361 - Color, Design, and Human Perception (3.0 cr)

Twin Cities Campus

Ecological Restoration in Landscape Architecture
Landscape Architecture
College of Design

Link to a list of faculty for this program.

- Program Type: Graduate free-standing minor
- Requirements for this program are current for Fall 2016
- Length of program in credits (Masters): 10
- This program does not require summer semesters for timely completion.

Along with the program-specific requirements listed below, please read the General Information section of the catalog website for requirements that apply to all major fields.

Restoration, conservation, and ecological design projects have become an increasingly important component of the practice of landscape architecture and natural resource management. It is critical for students interested in the design and management of natural lands, water management landscapes, landscape reclamation, and other restoration project types to gain exposure to the issues associated with ecological restoration projects. This minor focuses on the applied practice of restoration with an emphasis on restoration management and design and the skills needed to lead successful projects.

Program Delivery
This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission
For an online application or for more information about graduate education admissions, see the General Information section of the catalog website.

Program Requirements
Use of 4xxx courses towards program requirements is not permitted.

Program Sub-plans
Students are required to complete one of the following sub-plans.
Students may not complete the program with more than one sub-plan.

Masters
Master's Minor Requirements
ESPM 5071 - Ecological Restoration (4.0 cr)
LA 5204 - Metropolitan Landscape Ecology (3.0 cr)
LA 5576 - Ecological Restoration Project Planning and Management (3.0 cr)

Twin Cities Campus

Housing Studies Postbaccalaureate Certificate

Design, Housing & Apparel
College of Design

Link to a list of faculty for this program.

Contact Information:
Director of Graduate Studies, Design Graduate Program, 240 McNeal Hall, 1985 Buford Avenue, St. Paul, MN 55108 (612-626-1219)
Email: dhagrad@umn.edu
Website: http://dha.cdes.umn.edu/programs/grad/prospective/admissions/housingstudiescertificateprogram.htm

- Program Type: Post-baccalaureate credit certificate/licensure/endorsement
- Requirements for this program are current for Fall 2016
- Length of program in credits: 15
- This program does not require summer semesters for timely completion.
- Degree: Housing Studies PBacc Cert

Along with the program-specific requirements listed below, please read the General Information section of the catalog website for requirements that apply to all major fields.

The housing studies certificate is designed for individuals interested, or currently working, in housing related professions to expand their knowledge in areas including housing and community development, housing policy, residential environment and energy use, rural housing issues, housing management, and housing finance.

Program Delivery

This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

The preferred undergraduate GPA for admittance to the program is 3.00.

International applicants must submit score(s) from one of the following tests:
- TOEFL
  - Internet Based - Total Score: 79
  - Internet Based - Writing Score: 21
  - Internet Based - Reading Score: 19
  - Paper Based - Total Score: 550
- IELTS
  - Total Score: 6.5
- MELAB
  - Final score: 80

Key to test abbreviations(TOEFL, IELTS, MELAB).

For an online application or for more information about graduate education admissions, see the General Information section of the catalog website.

Program Requirements

Use of 4xxx courses toward program requirements is permitted under certain conditions with adviser approval.

A minimum GPA of 2.80 is required for students to remain in good standing.

At least 1 semesters must be completed before filing a Degree Program Form.

Some elective courses require prerequisites that may be waived with instructor permission according to University policy.

Required Course
HSG 5471 - Housing Studies Certificate Seminar (2.0 cr)

Elective Courses

Take 13 or more credit(s) from the following:
- HSG 4461 - Housing Development and Management (4.0 cr)
- HSG 4465 - Housing in a Global Perspective (3.0 cr)
- HSG 5463 - Housing Policy (3.0 cr)
- HSG 5464 - Understanding Housing: Assessment and Analysis (3.0 cr)
- HSG 5467 - Housing and the Social Environment (4.0 cr)
- HSG 5481 - Promoting Independence in Housing and Community (3.0 cr)
- HSG 5484 - Rural Housing Issues (3.0 cr)
- HSG 8463 - Housing: Race and Class (3.0 cr)
- HSG 8467 - Theoretical Perspectives in Housing Studies (3.0 cr)

Twin Cities Campus

Human Factors and Ergonomics M.S.
DHA Human Factors and Ergonomics
College of Design

Link to a list of faculty for this program.

Contact Information:
Human Factors and Ergonomics Graduate Program, c/o DHA, 240 McNeal Hall, 1985 Buford Avenue, St. Paul, MN 55108. 612-626-1219.
Email: cklarqui@umn.edu
Website: http://humanfactors.design.umn.edu/

- Program Type: Master's
- Requirements for this program are current for Fall 2016
- Length of program in credits: 30
- This program does not require summer semesters for timely completion.
- Degree: Master of Science

Along with the program-specific requirements listed below, please read the General Information section of the catalog website for requirements that apply to all major fields.

Human factors and ergonomics (HFE) is the study of how to make technological systems safe, effective, and easy and enjoyable to use. The graduate program offers interdisciplinary coursework that addresses human performance and how it can be enhanced through design of tools, systems, working environments, processes, and organizations. HFE has applications ranging from clothing and living spaces to business processes, the design of health care processes and technology, computer interfaces, and spacecraft cockpits.

Program Delivery
This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission
The preferred undergraduate GPA for admittance to the program is 3.00.

Applicants must submit their test score(s) from the following:
- GRE

International applicants must submit score(s) from one of the following tests:
- TOEFL
  - Internet Based - Total Score: 96
  - Internet Based - Listening Score: 24
  - Internet Based - Writing Score: 24
  - Internet Based - Reading Score: 24
  - Internet Based - Speaking Score: 24
- IELTS
  - Total Score: 7
- MELAB
  - Final score: 82

The preferred English language test is Test of English as Foreign Language

Key to test abbreviations(GRE, TOEFL, IELTS, MELAB).

For an online application or for more information about graduate education admissions, see the General Information section of the catalog website.

Program Requirements
Plan A: Plan A requires 20 major credits, 0 credits outside the major, and 10 thesis credits.The final exam is oral.

Plan C: Plan C requires 30 major credits and 0 credits outside the major. The is no final exam.

This program may be completed with a minor.

Use of 4xxx courses toward program requirements is permitted under certain conditions with adviser approval.

A minimum GPA of 3.00 is required for students to remain in good standing.

At least 2 semesters must be completed before filing a Degree Program Form.

Required Courses
 Required Research Methods Core
  PSY 8814 - Analysis of Psychological Data (4.0 cr)
  PSY 8815 - Analysis of Psychological Data (4.0 cr)
 Research Ethics
  In addition to course listed below, students have online options. See program Research Ethics page for more information:
  http://humanfactors.design.umn.edu/research_ethics.html
  Take 0 or more credit(s) from the following:
  •DES 8181 - Research Ethics (1.0 cr)

Plans

Plan A
 In addition to the required courses, students take a minimum of 3 credits in each component: Human Factors Fundamentals, Cognitive Human Factors, and Physical Human Factors. The remaining credits are selected from the approved course list.
 Human Factors Fundamentals
  Take 3 or more credit(s) from the following:
  •DES 5185 - Human Factors in Design (3.0 cr)
  •HUMF 5001 - Foundations of Human Factors/Ergonomics (3.0 cr)
  •HUMF 5211 - Human Factors and Work Analysis (4.0 cr)
  •HUMF 5874 - Service Design: Designing complex systems to improve service delivery (4.0 cr)
 Cognitive Human Factors
  Take 3 or more credit(s) from the following:
  •CGSC 8000 - Seminar: Philosophy of the Cognitive Sciences (3.0 cr)
  •CGSC 8410 - Perspectives in Learning, Perception, and Cognition (2.0 cr)
  •EPSY 8114 - Seminar: Cognition and Learning (3.0 cr)
  •IDSC 8721 - Behavioral Decision Theory (3.0 cr)
  •IDSC 8722 - Heuristic Decision Making (2.0 cr)
  •MKTG 8813 - Consumer Judgment and Decision Making I (2.0 cr)
  •PSY 5014 - Psychology of Human Learning and Memory (3.0 cr)
  •PSY 5015 - Cognition, Computation, and Brain (3.0 cr)
  •PSY 5031W - Perception [WI] (3.0 cr)
  •PSY 5037 - Psychology of Hearing (3.0 cr)
  •PSY 5062 - Cognitive Neuropsychology (3.0 cr)
  •PSY 5064 - Brain and Emotion (3.0 cr)
  •PSY 8041 - Proseminar in Perception (3.0 cr)
  •PSY 8042 - Proseminar in Cognition, Brain, and Behavior (3.0 cr)
  •PSY 8201 - Social Cognition (3.0 cr)
 Physical Human Factors
  Take 3 or more credit(s) from the following:
  •KIN 4133 - Perceptual-Motor Control and Learning (3.0 cr)
  •KIN 4136 - Embodied Cognition (3.0 cr)
  •KIN 5235 - Advanced Biomechanics II: Kinetics (3.0 cr)
  •KIN 5505 - Human-Centered Design - Principles and Applications (3.0 cr)
  •KIN 5643 - Applied Motion Capture and Movement Analysis Technology (3.0 cr)
  •KIN 8211 - Seminar: Perception and Action (3.0 cr)
  •RSC 5135 - Advanced Biomechanics I: Kinematics (3.0 cr)
  •RSC 8135 - Advanced Kinesiology (3.0 cr)
 Other Approved Human Factors Courses
  Take 0 or more credit(s) from the following:
  User Interface Design
  Take 0 or more credit(s) from the following:
  •CSCI 5115 - User Interface Design, Implementation and Evaluation (3.0 cr)
  •CSCI 8115 - Human-Computer Interaction and User Interface Technology (3.0 cr)
  •NURS 7118 - Human Factors and Human-Computer Interaction in Health Informatics (3.0 cr)

- WRIT 4501 - Usability and Human Factors in Technical Communication (3.0 cr)
- WRIT 8520 - Seminar in Scientific and Technical Communication (3.0 cr)

•Other Statistics
Psy 8960: Select Multivariate Statistics for Social Scientists section only.
Take 0 or more credit(s) from the following:
- PSY 8960 - Graduate Seminar in Psychology (1.0 - 4.0 cr)
- PUBH 7406 - Advanced Regression and Design (4.0 cr)
- STAT 5021 - Statistical Analysis (4.0 cr)

•Other Designing Experiments
Take 0 or more credit(s) from the following:
- STAT 5303 - Designing Experiments (4.0 cr)

•Other Research Methods
Take 0 or more credit(s) from the following:
- ANTH 4035 - Ethnographic Research Methods (3.0 cr)
- KIN 5981 - Research Methodology in Kinesiology, Recreation, and Sport (3.0 cr)
- PUBH 6341 - Epidemiologic Methods I (3.0 cr)
- PUBH 6342 - Epidemiologic Methods II (3.0 cr)
- PUBH 6343 - Epidemiologic Methods III (4.0 cr)
- PUBH 6806 - Principles of Public Health Research (2.0 cr)

•Other Human Factors Courses
Take 0 or more credit(s) from the following:
- CSCI 5125 - Collaborative and Social Computing (3.0 cr)
- CSCI 5609 - Visualization (3.0 cr)
- CSCI 5619 - Virtual Reality and 3D Interaction (3.0 cr)
- CSCI 8117 - Understanding the Social Web (3.0 cr)
- DES 5165 - Design and Globalization (3.0 cr)
- DES 8151 - Product Development (3.0 cr)
- GDES 8361 - Color, Design, and Human Perception (3.0 cr)
- HUMF 8001 - Special Topics: Human Factors/Ergonomics (2.0 - 3.0 cr)
- HUMF 8002 - Proseminar in Human Factors/Ergonomics (1.0 cr)
- PSY 5501 - Vocational and Occupational Health Psychology (3.0 cr)
- PSY 5708 - Organizational Psychology (3.0 cr)
- PSY 5862 - Psychological Measurement: Theory and Methods (3.0 cr)
- PUBH 6120 - Injury Prevention in the Workplace, Community, and Home (2.0 cr)
- PUBH 6140 - Occupational and Environmental Epidemiology (2.0 cr)
- PUBH 6470 - SAS Procedures and Data Anaysis (3.0 cr)
- SOC 8412 - Social Network Analysis: Theory and Methods (3.0 cr)

Thesis Credits
Students take a minimum of 10 thesis credits.
HUMF 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)

-OR-

Plan C
in addition to the required courses, students take a minimum of 3 credits in each component: Human Factors Fundamentals, Cognitive Human Factors, and Physical Human Factors; and a minimum of 2, 3-credit courses 50% project-based. The remaining credits are selected from the approved course list.

Human Factors Fundamentals
Take 3 or more credit(s) from the following:
- DES 5185 - Human Factors in Design (3.0 cr)
- HUMF 5001 - Foundations of Human Factors/Ergonomics (3.0 cr)
- HUMF 5211 - Human Factors and Work Analysis (4.0 cr)
- HUMF 5874 - Service Design: Designing complex systems to improve service delivery (4.0 cr)

Cognitive Human Factors
Take 3 or more credit(s) from the following:
- CGSC 8000 - Seminar: Philosophy of the Cognitive Sciences (3.0 cr)
- CGSC 8410 - Perspectives in Learning, Perception, and Cognition (2.0 cr)
- EPSY 8114 - Seminar: Cognition and Learning (3.0 cr)
- IDSC 8721 - Behavioral Decision Theory (3.0 cr)
- IDSC 8722 - Heuristic Decision Making (2.0 cr)
- MKTG 8813 - Consumer Judgment and Decision Making I (2.0 cr)
- PSY 5014 - Psychology of Human Learning and Memory (3.0 cr)
- PSY 5015 - Cognition, Computation, and Brain (3.0 cr)
- PSY 5031W - Perception [WI] (3.0 cr)
- PSY 5037 - Psychology of Hearing (3.0 cr)
- PSY 5062 - Cognitive Neuropsychology (3.0 cr)

- PSY 5064 - Brain and Emotion (3.0 cr)
- PSY 8041 - Proseminar in Perception (3.0 cr)
- PSY 8042 - Proseminar in Cognition, Brain, and Behavior (3.0 cr)
- PSY 8201 - Social Cognition (3.0 cr)

Physical Human Factors

Take 3 or more credit(s) from the following:
- KIN 4133 - Perceptual-Motor Control and Learning (3.0 cr)
- KIN 4136 - Embodied Cognition (3.0 cr)
- KIN 5235 - Advanced Biomechanics II: Kinetics (3.0 cr)
- KIN 5505 - Human-Centered Design - Principles and Applications (3.0 cr)
- KIN 5643 - Applied Motion Capture and Movement Analysis Technology (3.0 cr)
- KIN 8211 - Seminar: Perception and Action (3.0 cr)
- RSC 5135 - Advanced Biomechanics I: Kinematics (3.0 cr)
- RSC 8135 - Advanced Kinesiology (3.0 cr)

Other Approved Human Factors Courses

Take 0 or more credit(s) from the following:

User Interface Design

Take 0 or more credit(s) from the following:
- CSCI 5115 - User Interface Design, Implementation and Evaluation (3.0 cr)
- CSCI 8115 - Human-Computer Interaction and User Interface Technology (3.0 cr)
- NURS 7118 - Human Factors and Human-Computer Interaction in Health Informatics (3.0 cr)
- WRIT 4501 - Usability and Human Factors in Technical Communication (3.0 cr)
- WRIT 8520 - Seminar in Scientific and Technical Communication (3.0 cr)

- **Other Statistics**

  Psy 8960: Select Multivariate Statistics for Social Scientists section only.
  Take 0 or more credit(s) from the following:
- PSY 8960 - Graduate Seminar in Psychology (1.0 - 4.0 cr)
- PUBH 7406 - Advanced Regression and Design (4.0 cr)
- STAT 5021 - Statistical Analysis (4.0 cr)

- **Other Designing Experiments**

  Take 0 or more credit(s) from the following:
- STAT 5303 - Designing Experiments (4.0 cr)

- **Other Research Methods**

  Take 0 or more credit(s) from the following:
- ANTH 4035 - Ethnographic Research Methods (3.0 cr)
- KIN 5981 - Research Methodology in Kinesiology, Recreation, and Sport (3.0 cr)
- PUBH 6341 - Epidemiologic Methods I (3.0 cr)
- PUBH 6342 - Epidemiologic Methods II (3.0 cr)
- PUBH 6343 - Epidemiologic Methods III (4.0 cr)
- PUBH 6806 - Principles of Public Health Research (2.0 cr)

- **Other Human Factors Courses**

  Take 0 or more credit(s) from the following:
- CSCI 5125 - Collaborative and Social Computing (3.0 cr)
- CSCI 5609 - Visualization (3.0 cr)
- CSCI 5619 - Virtual Reality and 3D Interaction (3.0 cr)
- CSCI 8117 - Understanding the Social Web (3.0 cr)
- DES 5165 - Design and Globalization (3.0 cr)
- DES 8151 - Product Development (3.0 cr)
- GDES 8361 - Color, Design, and Human Perception (3.0 cr)
- HUMF 8001 - Special Topics: Human Factors/Ergonomics (2.0 - 3.0 cr)
- HUMF 8002 - Proseminar in Human Factors/Ergonomics (1.0 cr)
- PSY 5501 - Vocational and Occupational Health Psychology (3.0 cr)
- PSY 5708 - Organizational Psychology (3.0 cr)
- PSY 5862 - Psychological Measurement: Theory and Methods (3.0 cr)
- PUBH 6120 - Injury Prevention in the Workplace, Community, and Home (2.0 cr)
- PUBH 6140 - Occupational and Environmental Epidemiology (2.0 cr)
- PUBH 6470 - SAS Procedures and Data Anaysis (3.0 cr)
- SOC 8412 - Social Network Analysis: Theory and Methods (3.0 cr)

50% Project-Based Courses

Take 6 or more credit(s) from the following:
- CSCI 5115 - User Interface Design, Implementation and Evaluation (3.0 cr)
- CSCI 5609 - Visualization (3.0 cr)
- CSCI 5619 - Virtual Reality and 3D Interaction (3.0 cr)
- DES 5185 - Human Factors in Design (3.0 cr)
- DES 8151 - Product Development (3.0 cr)

- HUMF 5874 - Service Design: Designing complex systems to improve service delivery (4.0 cr)
- WRIT 4501 - Usability and Human Factors in Technical Communication (3.0 cr)

Twin Cities Campus

Human Factors and Ergonomics Minor
DHA Human Factors and Ergonomics
College of Design

Link to a [list of faculty](#) for this program.

Contact Information:
Human Factors and Ergonomics Graduate Program, c/o DHA, 240 McNeal Hall, 1985 Buford Avenue, St. Paul, MN 55108. 612-626-1219
Email: cklarqui@umn.edu
Website: http://humanfactors.design.umn.edu/

- Program Type: Graduate minor related to major
- Requirements for this program are current for Fall 2016
- Length of program in credits (Masters): 9
- Length of program in credits (Doctorate): 12
- This program does not require summer semesters for timely completion.

Along with the program-specific requirements listed below, please read the [General Information](#) section of the catalog website for requirements that apply to all major fields.

Human factors and ergonomics (HFE) is the study of how to make technological systems safe, effective, and easy and enjoyable to use. The graduate program offers interdisciplinary coursework that addresses human performance and how it can be enhanced through design of tools, systems, working environments, processes, and organizations. HFE has applications ranging from clothing and living spaces to business processes, the design of health care processes and technology, computer interfaces, and spacecraft cockpits. The minor is available to master's and doctoral students.

Program Delivery
This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission
For an online application or for more information about graduate education admissions, see the [General Information](#) section of the catalog website.

Program Requirements
Use of 4xxx courses toward program requirements is permitted under certain conditions with adviser approval.

Any University of Minnesota graduate student in good standing is eligible to apply. Students discuss appropriate coursework with their advisers and the Director of Graduate Studies for Human Factors and Ergonomics.

Master's students are required to take 9 credits to fulfill the minor.
Doctoral students are required to take 12 credits to fulfill the minor.

Program Sub-plans
Students are required to complete one of the following sub-plans.
Students may not complete the program with more than one sub-plan.

Masters
Students select a minimum of 9 credits in consultation with their adviser and the Director of Graduate Studies for the Human Factors and Ergonomics Graduate Program.

Doctoral
Students select a minimum of 12 credits in consultation with their adviser and the Director of Graduate Studies for the Human Factors

and Ergonomics Graduate Program.

Twin Cities Campus

Human Factors and Ergonomics Ph.D.
DHA Human Factors and Ergonomics
College of Design

Link to a list of faculty for this program.

Contact Information:
Human Factors and Ergonomics Graduate Program, c/o DHA, 240 McNeal Hall, 1985 Buford Avenue, St. Paul, MN 55108. 612-626-1219
Email: cklarqui@umn.edu
Website: http://humanfactors.design.umn.edu/

- Program Type: Doctorate
- Requirements for this program are current for Fall 2016
- Length of program in credits: 66
- This program does not require summer semesters for timely completion.
- Degree: Doctor of Philosophy

Along with the program-specific requirements listed below, please read the General Information section of the catalog website for requirements that apply to all major fields.

Human factors and ergonomics (HFE) is the study of how to make technological systems safe, effective, and easy and enjoyable to use. The graduate program offers interdisciplinary coursework that addresses human performance and how it can be enhanced through design of tools, systems, working environments, processes, and organizations. HFE has applications ranging from clothing and living spaces to business processes, the design of healthcare processes and technology, computer interfaces, and spacecraft cockpits.

Program Delivery
This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission
The preferred undergraduate GPA for admittance to the program is 3.00.

Applicants must submit their test score(s) from the following:
- GRE

International applicants must submit score(s) from one of the following tests:
- TOEFL
  - Internet Based - Total Score: 96
  - Internet Based - Listening Score: 24
  - Internet Based - Writing Score: 24
  - Internet Based - Reading Score: 24
  - Internet Based - Speaking Score: 24
- IELTS
  - Total Score: 7
- MELAB
  - Final score: 82

The preferred English language test is Test of English as Foreign Language

Key to test abbreviations(GRE, TOEFL, IELTS, MELAB).

For an online application or for more information about graduate education admissions, see the General Information section of the catalog website.

Program Requirements
42 credits are required in the major.
24 thesis credits are required.

This program may be completed with a minor.

Use of 4xxx courses toward program requirements is permitted under certain conditions with adviser approval.

A minimum GPA of 3.0 is required for students to remain in good standing.

At least 2 semesters must be completed before filing a Degree Program Form.

Required Courses
 Required Research Methods Core
  PSY 8814 - Analysis of Psychological Data (4.0 cr)
  PSY 8815 - Analysis of Psychological Data (4.0 cr)
 Additional Research Methods Course
  Doctoral students take one additional course in research methods.
  Statistics
   Students choosing PSY 8960 must take 3 credits of Multivariate Statistics for Social Scientists.
   Take 0 or more credit(s) from the following:
   •PSY 8960 - Graduate Seminar in Psychology (1.0 - 4.0 cr)
   •PUBH 7406 - Advanced Regression and Design (4.0 cr)
   •STAT 5021 - Statistical Analysis (4.0 cr)
  or **Designing Experiments**
   Take 0 or more credit(s) from the following:
   •STAT 5303 - Designing Experiments (4.0 cr)
  or **Other Research Methods**
   Take 0 or more credit(s) from the following:
   •ANTH 4035 - Ethnographic Research Methods (3.0 cr)
   •KIN 5981 - Research Methodology in Kinesiology, Recreation, and Sport (3.0 cr)
   •PUBH 6341 - Epidemiologic Methods I (3.0 cr)
   •PUBH 6342 - Epidemiologic Methods II (3.0 cr)
   •PUBH 6343 - Epidemiologic Methods III (4.0 cr)
   •PUBH 6806 - Principles of Public Health Research (2.0 cr)
 Research Ethics
  In addition to course listed below, students have online options. See program Research Ethics page for more information:
  http://humanfactors.design.umn.edu/research_ethics.html
  Take 0 or more credit(s) from the following:
  •DES 8181 - Research Ethics (1.0 cr)
 Doctoral Dissertation Credits
  Students must take at least 24 doctoral thesis credits.
  HUMF 8888 - Thesis Credit: Doctoral (1.0 - 24.0 cr)

Doctoral Course Requirements

Additional Coursework Requirements
 In addition to the required courses, students must take a minimum of 3 credits in each of the following components: Human Factors Fundamentals, Cognitive Human Factors, and Physical Human Factors. Remaining credits are selected from the approved course list.
 Human Factors Fundamentals
  Take 3 or more credit(s) from the following:
  •DES 5185 - Human Factors in Design (3.0 cr)
  •HUMF 5001 - Foundations of Human Factors/Ergonomics (3.0 cr)
  •HUMF 5211 - Human Factors and Work Analysis (4.0 cr)
  •HUMF 5874 - Service Design: Designing complex systems to improve service delivery (4.0 cr)
 Cognitive Human Factors
  Take 3 or more credit(s) from the following:
  •CGSC 8000 - Seminar: Philosophy of the Cognitive Sciences (3.0 cr)
  •CGSC 8410 - Perspectives in Learning, Perception, and Cognition (2.0 cr)
  •EPSY 8114 - Seminar: Cognition and Learning (3.0 cr)
  •IDSC 8721 - Behavioral Decision Theory (3.0 cr)
  •IDSC 8722 - Heuristic Decision Making (2.0 cr)
  •MKTG 8813 - Consumer Judgment and Decision Making I (2.0 cr)
  •PSY 5014 - Psychology of Human Learning and Memory (3.0 cr)
  •PSY 5015 - Cognition, Computation, and Brain (3.0 cr)
  •PSY 5031W - Perception [WI] (3.0 cr)
  •PSY 5037 - Psychology of Hearing (3.0 cr)
  •PSY 5062 - Cognitive Neuropsychology (3.0 cr)

- PSY 5064 - Brain and Emotion (3.0 cr)
- PSY 8041 - Proseminar in Perception (3.0 cr)
- PSY 8042 - Proseminar in Cognition, Brain, and Behavior (3.0 cr)
- PSY 8201 - Social Cognition (3.0 cr)

Physical Human Factors

Take 3 or more credit(s) from the following:
- KIN 4133 - Perceptual-Motor Control and Learning (3.0 cr)
- KIN 4136 - Embodied Cognition (3.0 cr)
- KIN 5235 - Advanced Biomechanics II: Kinetics (3.0 cr)
- KIN 5505 - Human-Centered Design - Principles and Applications (3.0 cr)
- KIN 5643 - Applied Motion Capture and Movement Analysis Technology (3.0 cr)
- KIN 8211 - Seminar: Perception and Action (3.0 cr)
- RSC 5135 - Advanced Biomechanics I: Kinematics (3.0 cr)
- RSC 8135 - Advanced Kinesiology (3.0 cr)

Other Approved Human Factors Courses

Take 0 or more credit(s) from the following:

User Interface Design

Take 0 or more credit(s) from the following:
- CSCI 5115 - User Interface Design, Implementation and Evaluation (3.0 cr)
- CSCI 8115 - Human-Computer Interaction and User Interface Technology (3.0 cr)
- NURS 7118 - Human Factors and Human-Computer Interaction in Health Informatics (3.0 cr)
- WRIT 4501 - Usability and Human Factors in Technical Communication (3.0 cr)
- WRIT 8520 - Seminar in Scientific and Technical Communication (3.0 cr)

- **Other Human Factors Courses**

Take 0 or more credit(s) from the following:
- CSCI 5125 - Collaborative and Social Computing (3.0 cr)
- CSCI 5609 - Visualization (3.0 cr)
- CSCI 5619 - Virtual Reality and 3D Interaction (3.0 cr)
- CSCI 8117 - Understanding the Social Web (3.0 cr)
- DES 5165 - Design and Globalization (3.0 cr)
- DES 8151 - Product Development (3.0 cr)
- GDES 8361 - Color, Design, and Human Perception (3.0 cr)
- HUMF 8001 - Special Topics: Human Factors/Ergonomics (2.0 - 3.0 cr)
- HUMF 8002 - Proseminar in Human Factors/Ergonomics (1.0 cr)
- PSY 5501 - Vocational and Occupational Health Psychology (3.0 cr)
- PSY 5708 - Organizational Psychology (3.0 cr)
- PSY 5862 - Psychological Measurement: Theory and Methods (3.0 cr)
- PUBH 6120 - Injury Prevention in the Workplace, Community, and Home (2.0 cr)
- PUBH 6140 - Occupational and Environmental Epidemiology (2.0 cr)
- PUBH 6470 - SAS Procedures and Data Anaysis (3.0 cr)
- SOC 8412 - Social Network Analysis: Theory and Methods (3.0 cr)

Twin Cities Campus

Landscape Architecture M.L.A.

Landscape Architecture
College of Design

Link to a [list of faculty](#) for this program.

Contact Information:
Department of Landscape Architecture, 144 Rapson Hall, 89 Church Street SE, Minneapolis, MN 55455 (612-625-6860)
Website: http://landarch.design.umn.edu

- Program Type: Master's
- Requirements for this program are current for Fall 2016
- Length of program in credits: 58 to 89
- This program does not require summer semesters for timely completion.
- Degree: Master of Landscape Architecture

Along with the program-specific requirements listed below, please read the [General Information](#) section of the catalog website for requirements that apply to all major fields.

The master of landscape architecture (MLA) is a first-professional degree required for students who wish to become licensed professional landscape architects. The program is accredited by the national Landscape Architecture Accreditation Board (LAAB). The curriculum introduces students to the practice and discipline of landscape architecture, providing them with the artistic, technical, cognitive, and communication skills, in addition to the scientific and aesthetic knowledge, necessary to practice in the profession and in related environmental fields. Students are encouraged to select from electives offered to develop a special focus or to explore more areas in depth.

The MLA program (MLA I) is a three-year, 89-credit degree. Coursework exposes students to the broad field of landscape architecture as both a discipline and a profession. Classes are collaborative in nature and challenge students to delve into landscape issues that cut across multiple systems and scales. Because the core of the curriculum is six design studios, organized in a sequential framework, a commitment to three successive years in the program is essential

Applicants with accredited professional baccalaureate degrees in landscape architecture or architecture may be considered for the advanced-standing MLA degree (MLA II). The MLA II requires at least 58 credits of design studio, research methods, and elective courses.

Program Delivery

This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

The preferred undergraduate GPA for admittance to the program is 3.00.

Other requirements to be completed before admission:
MLA program applicants must have completed a baccalaureate degree.

Special Application Requirements:
Students are admitted for fall semester only. M.L.A. program applicants must apply by January 15, for entry the following fall, to receive first consideration for admission, fellowships, and assistantships. In addition to the Universitys admission requirements, applicants must submit an electronic portfolio in 8.5 x 11 PDF format. GRE scores are not required; however, they can be helpful to applicants seeking national fellowships such as the Fulbright Scholarship. Please refer to the M.L.A. website for detailed information regarding department-specific application requirements and procedures, including a downloadable checklist, at http://landarch.design.umn.edu/prog/mla/adm.html.

International applicants must submit score(s) from one of the following tests:
- TOEFL
  - Internet Based - Total Score: 86
- IELTS
  - Total Score: 6.5
- MELAB
  - Final score: 80

Key to [test abbreviations](#)(TOEFL, IELTS, MELAB).

For an online application or for more information about graduate education admissions, see the [General Information](#) section of the catalog website.

Program Requirements

Plan C: Plan C requires 52 to 83 major credits and 6 credits outside the major.The is no final exam.A capstone project is required.
Capstone Project: See department for more details.

This program may not be completed with a minor.

Use of 4xxx courses towards program requirements is not permitted.

Core Coursework
  All MLA students must take the following courses for a total of 36 credits:
  LA 5131 - Geospatial Data Analysis and Design (3.0 cr)
  LA 5202 - Landscape Analysis Workshop (1.0 cr)
  LA 8201 - Designing Landscapes for Dwelling and Settlement (6.0 cr)
  LA 8773 - Landscape Infrastructure and Systems III (3.0 cr)
  LA 8206 - Making Urban Landscape Space (6.0 cr)
  LA 8301 - Landscape Architecture: Research Issues and Methods (3.0 cr)
  LA 8554 - Project Programming (2.0 cr)
  LA 8774 - Landscape Infrastructure and Systems IV (3.0 cr)
  LA 8302 - Professional Practice (3.0 cr)
  LA 8555 - Advanced Landscape Planning and Design (6.0 cr)
  Outside Coursework
  All MLA students must take at least 6 credits outside landscape architecture, in consultation with their advisor.

MLA I and MLA II Program Options

MLA I Requirements
  Additional Course Requirements
  MLA I students must take the following courses for 32 credits:
  LA 5201 - Making Landscape Spaces and Types (6.0 cr)
  LA 5376 - Representation I (4.0 cr)
  LA 5413 - Introduction to Landscape Architectural History (3.0 cr)
  LA 5771 - Landscape Infrastructure and Systems I (3.0 cr)
  LA 5203 - Ecological Dimensions of Space Making (6.0 cr)
  LA 5204 - Metropolitan Landscape Ecology (3.0 cr)
  LA 5377 - Representation II (4.0 cr)
  LA 5772 - Landscape Infrastructure Systems II (3.0 cr)
MLA I students may participate in the Cities on the Water study abroad option, with the approval of their advisor and the director of graduate studies. Students choosing the study abroad option take 8 credits of LA 8207 and 4 credits of LA 8411 for a total of 12 credits; those not choosing to study abroad take LA 8205 for 6 credits.
  LA 8207 - Cities on Water International Workshop (4.0 - 8.0 cr)
   LA 8411 - The foundational studio course on international applications of sustainable design in urban Europe. (2.0 - 8.0 cr)
  or LA 8205 - Urban Form Options: Landscape Architecture Studio (6.0 - 8.0 cr)
  Landscape Architecture Electives
  MLA I students choosing the Cities on the Water study abroad option take at least 3 elective credits; those not choosing to study abroad take at least 9 elective credits. Credits are selected in consultation with the advisor.
  LA 5xxx
  LA 8xxx

   -OR-

MLA II Requirements
  MLA II students may participate in the Cities on the Water study abroad option, with the approval of their advisor and the director of graduate studies. Students choosing the study abroad option take 8 credits of LA 8207 and 4 credits of LA 8411 for a total of 12 credits; those not choosing to study abroad take 6 credits of LA 8205 and 4 credits of LA 5377 for a total of 10 credits.
  LA 8207 - Cities on Water International Workshop (4.0 - 8.0 cr)
   LA 8411 - The foundational studio course on international applications of sustainable design in urban Europe. (2.0 - 8.0 cr)
  or LA 8205 - Urban Form Options: Landscape Architecture Studio (6.0 - 8.0 cr)

LA 5377 - Representation II (4.0 cr)

Landscape Architecture Electives

MLA II students choosing the study abroad option take at least 4 elective credits; those not choosing to study abroad take at least 6 elective credits. Credits are selected in consultation with the advisor.

LA 5xxx

LA 8xxx

Twin Cities Campus

Landscape Architecture M.S.

Landscape Architecture
College of Design

Link to a list of faculty for this program.

Contact Information:
Department of Landscape Architecture, 144 Rapson Hall, 89 Church Street SE, Minneapolis, MN 55455 (612-625-6860; fax: 612-625-0710)
Website: http://landarch.design.umn.edu

- Program Type: Master's
- Requirements for this program are current for Fall 2016
- Length of program in credits: 30
- This program does not require summer semesters for timely completion.
- Degree: Master of Science

Along with the program-specific requirements listed below, please read the General Information section of the catalog website for requirements that apply to all major fields.

The MS is for students with a clear focus in research related to landscape architecture. MS students build expertise related to the practice of landscape architecture as they learn how to conduct research. Students specialize within areas of faculty expertise, which may include art and landscape architecture, landscape ecology, landscape architectural history and theory, park and recreation design, rural and suburban landscape planning, transportation, planning of world heritage sites, and urban design.

Program Delivery

This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

The preferred undergraduate GPA for admittance to the program is 3.00.

International applicants must submit score(s) from one of the following tests:
- TOEFL
  - Internet Based - Total Score: 79
  - Internet Based - Writing Score: 21
  - Internet Based - Reading Score: 19
  - Paper Based - Total Score: 550
- IELTS
  - Total Score: 6.8
- MELAB
  - Final score: 80

Key to test abbreviations(TOEFL, IELTS, MELAB).

For an online application or for more information about graduate education admissions, see the General Information section of the catalog website.

Program Requirements

Plan A: Plan A requires 6 major credits, 14 credits outside the major, and 10 thesis credits.The final exam is oral.

This program may be completed with a minor.

Use of 4xxx courses towards program requirements is not permitted.

A minimum GPA of 3.00 is required for students to remain in good standing.

At least 4 semesters must be completed before filing a Degree Program Form.

Coursework Requirements
Landscape Architecture Electives
  Take 6 or more credit(s) from the following:
  •LA 5xxx
  •LA 8xxx
 Interest Area Electives
  Choose elective credits, in consultation with the advisor, from coursework outside landscape architecture.
  Take 6 or more credit(s) from the following:
  •xxxx 5xxx
  •xxxx 6xxx
  •xxxx 7xxx
  •xxxx 8xxx
 Remaining Electives
  Choose remaining credits in consultation with the advisor.
  Take 8 or more credit(s) from the following:
  •xxxx 5xxx
  •xxxx 6xxx
  •xxxx 7xxx
  •xxxx 8xxx

Thesis credits
  Take 10 master's thesis credits.
  LA 8777 - Thesis Credits: Master's (1.0 - 18.0 cr)

Twin Cities Campus

Landscape Architecture Minor

Landscape Architecture

College of Design

Link to a [list of faculty](#) for this program.

Contact Information:
Department of Landscape Architecture, University of Minnesota, 144 Rapson Hall, 89 Church Street SE, Minneapolis, MN 55455 (612-625-6860; fax: 612-625-0710)
Email: gsland@umn.edu
Website: http://landarch.design.umn.edu

- Program Type: Graduate minor related to major
- Requirements for this program are current for Fall 2016
- Length of program in credits (Masters): 9
- Length of program in credits (Doctorate): 12
- This program does not require summer semesters for timely completion.

Along with the program-specific requirements listed below, please read the [General Information](#) section of the catalog website for requirements that apply to all major fields.

Students in landscape architecture develop professional design skills through courses that address the increasingly complex relationships between art, ecology, and community that influence and inform design on the land. Courses emphasize three principal areas of study: 1) landscape architecture as a means to add to the aesthetic richness of our culture and environment--helping us to better understand ourselves and our place in the world; 2) integration of biological, geophysical, and ecological processes into lasting, meaningful, and systemically rigorous landscape architecture that sustains and protects the health of people and the ecosystems on which they depend; and 3) design for urban and suburban places and people, with emphasis on gaining knowledge and experience through direct engagement with clients and the public in order to address the problems and opportunities of the metropolitan core of cities.

Program Delivery

This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

For an online application or for more information about graduate education admissions, see the [General Information](#) section of the catalog website.

Program Requirements

Use of 4xxx courses towards program requirements is not permitted.

Minor requirements are determined in consultation with the Landscape Architecture director of graduate studies.

Required Course
Take the following required course for 3 credits:
LA 5413 - Introduction to Landscape Architectural History (3.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans.
Students may not complete the program with more than one sub-plan.

Masters
Electives
Take at least 6 credits from the following:
LA 5003 - Case Studies in Sustainable Landscape Planning and Design (3.0 cr)
LA 5204 - Metropolitan Landscape Ecology (3.0 cr)

LA 5514 - Making the Mississippi (3.0 cr)
LA 5755 - Infrastructure, Natural Systems and the Space of Inhabited Landscapes (3.0 cr)
LA 5771 - Landscape Infrastructure and Systems I (3.0 cr)
LA 8301 - Landscape Architecture: Research Issues and Methods (3.0 cr)

Doctoral
Electives
Take at least 9 credits from the following:
LA 5003 - Case Studies in Sustainable Landscape Planning and Design (3.0 cr)
LA 5204 - Metropolitan Landscape Ecology (3.0 cr)
LA 5514 - Making the Mississippi (3.0 cr)
LA 5755 - Infrastructure, Natural Systems and the Space of Inhabited Landscapes (3.0 cr)
LA 5771 - Landscape Infrastructure and Systems I (3.0 cr)
LA 8301 - Landscape Architecture: Research Issues and Methods (3.0 cr)

Twin Cities Campus

Metropolitan Design Postbaccalaureate Certificate

Design, Housing & Apparel
College of Design

Link to a [list of faculty](#) for this program.

Contact Information:
College of Design, Metropolitan Design Program, 1 Rapson Hall, 89 Church Street SE, Minneapolis, MN 55455 (625-9000; fax: 626-0600)
Email: mdc@umn.edu
Website: http://www.designcenter.umn.edu

- Program Type: Post-baccalaureate credit certificate/licensure/endorsement
- Requirements for this program are current for Fall 2016
- Length of program in credits: 21
- This program does not require summer semesters for timely completion.
- Degree: Metropolitan Design PBacc Certificate

Along with the program-specific requirements listed below, please read the [General Information](#) section of the catalog website for requirements that apply to all major fields.

The metropolitan design certificate at the College of Design prepares students with the essential knowledge and understanding of the city within the complexities of the 21st-century metropolis. As suburban development is losing some of its past seductions, traditional cities are being transformed to accommodate the return to city living, an American counter-trend that requires the integrative approach of many fields of knowledge.

The certificate is open to graduate students in the College of Design and graduate students from other colleges with related urban planning programs are welcome to apply. The certificate is a two-semester, 21-credit course sequence within existing master's degrees at the College of Design. It is strongly recommended that the required urban design courses should be taken in sequence.

Interested students should enroll during the second semester (spring) of graduate studies. It is recommended that students make a decision to enroll in the certificate early so that the completion of courses can be made within the time required for completion of the professional degree.

Program Delivery

This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

Other requirements to be completed before admission:
An application is required including a 2-page statement of interest in the program, university transcripts, and a portfolio of design work (no more 10 pages). Other students not from the College of Design should submit comparable graphic examples and two written papers.

International applicants must submit score(s) from one of the following tests:
- TOEFL
  - Internet Based - Total Score: 79
  - Internet Based - Writing Score: 21
  - Internet Based - Reading Score: 19
  - Paper Based - Total Score: 550
- IELTS
  - Total Score: 6.5
- MELAB
  - Final score: 80

Key to [test abbreviations](#)(TOEFL, IELTS, MELAB).

For an online application or for more information about graduate education admissions, see the [General Information](#) section of the catalog website.

Program Requirements

Use of 4xxx courses towards program requirements is not permitted.

Coursework
 Required Courses
 ARCH 5711 - Theory and Principles of Urban Design (3.0 cr)
 ARCH 5721 - Case Studies in Urban Design (3.0 cr)
 ARCH 8255 - Graduate Architectural Design V (6.0 cr)
 Electives
 Take 9 or more credit(s) from the following:
 •ARCH 5441 - Minnesota: Architecture and Landscapes (3.0 cr)
 •ARCH 5731 - Territorial City (3.0 cr)
 •ARCH 5671 - Historic Preservation (3.0 cr)
 •PA 5501 - Theories and Policies of Development (3.0 cr)
 •ARCH 5361 - 3-D Computer Architectural Modeling and Design (3.0 cr)
 •PA 5511 - Community Economic Development (3.0 cr)
 •PA 8203 - Neighborhood Revitalization Strategies and Theories (4.0 cr)
 •HSG 5467 - Housing and the Social Environment (4.0 cr)
 •HSG 5464 - Understanding Housing: Assessment and Analysis (3.0 cr)
 •HSG 8463 - Housing: Race and Class (3.0 cr)
 •HSG 5463 - Housing Policy (3.0 cr)
 •LA 5405 - Interdisciplinary Studies in Landscape Architecture (1.0 - 6.0 cr)
 •ARCH 8561 - Sustainable Design Theory and Practice (3.0 cr)
 •LA 5204 - Metropolitan Landscape Ecology (3.0 cr)
 •PA 5721 - Energy and Environmental Policy (3.0 cr)
 •PA 5722 - Environmental and Resource Economics Policy (3.0 cr)
 •PA 5723 - Water Policy (3.0 cr)
 •PA 5204 - Urban Spatial and Social Dynamics (3.0 cr)
 •PA 5211 - Land Use Planning (3.0 cr)
 •PA 5212 - Managing Urban Growth and Change (3.0 cr)
 •PA 5231 - Transit Planning and Management (3.0 cr)
 •PA 5261 - Housing Policy (3.0 cr)
 •PA 5802 - Global Economic Policy (3.0 cr)
 •PA 8202 - Networks and Places: Transportation, Land Use, and Design (4.0 cr)

Twin Cities Campus

Museum Studies Minor
Design, Housing & Apparel
College of Design

Link to a [list of faculty](#) for this program.

Contact Information:
Museum Studies Graduate Minor, College of Design, 240 McNeal Hall, 1985 Buford Avenue, 612-626-1219
Email: lnelsonm@umn.edu
Website: http://www.design.umn.edu/prospective_students/programs/museumstudies.html

- Program Type: Graduate free-standing minor
- Requirements for this program are current for Fall 2016
- Length of program in credits (Masters): 7
- Length of program in credits (Doctorate): 12
- This program does not require summer semesters for timely completion.

Along with the program-specific requirements listed below, please read the [General Information](#) section of the catalog website for requirements that apply to all major fields.

The museum studies minor offers a structured graduate curriculum for master's and doctoral students interested in museums. It provides students from a variety of disciplines with an introduction to the issues involved in museum practices (e.g., educational, curatorial, administrative, and conservation). The curriculum includes seminars and internships.

Program Delivery
This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission
Special Application Requirements:
As a minor-only program, all graduate students who have already been accepted into a University of Minnesota Graduate program are eligible for acceptance into the program.

For an online application or for more information about graduate education admissions, see the [General Information](#) section of the catalog website.

Program Requirements
Use of 4xxx courses towards program requirements is not permitted.

Core Course Requirements
All students pursuing the museum studies minor must take the following core coursework, including 1 internship credit (MST 5020). Internships must be approved by the museum studies director of graduate studies.
MST 5011 - Museum History and Philosophy (3.0 cr)
MST 5012 - Museum Practices (3.0 cr)
MST 5020 - Internship (1.0 - 6.0 cr)

Program Sub-plans
Students are required to complete one of the following sub-plans.
Students may not complete the program with more than one sub-plan.

Master's
Complete the 7-credit core curriculum described above.

Doctoral
Doctoral Electives

In addition to the core curriculum, take at least 5 credits from the following courses:
Communication
  Take 0 or more credit(s) from the following:
 •JOUR 5251 - Strategic Communication Theory (3.0 cr)
or **Leadership**
  Take 0 or more credit(s) from the following:
 •ACL 5221 - Creative Entrepreneurship and Resource Development (3.0 cr)
 •OLPD 5048 - Cross-Cultural Perspectives on Leadership (3.0 cr)
 •OLPD 8020 - Leadership: From Theory to Reflective Practice (3.0 cr)
 •PA 5101 - Management and Governance of Nonprofit Organizations (3.0 cr)
 •PA 5104 - Strategic Human Resource Management (3.0 cr)
 •PA 5123 - Philanthropy in America: History, Practice, and Trends (3.0 cr)
 •PA 5253 - Designing Planning and Participation Processes (3.0 cr)
 •PA 5251 - Strategic Planning and Management (3.0 cr)
or **Education**
  Take 0 or more credit(s) from the following:
 •EPSY 5112 - Knowing, Learning, and Thinking (4.0 cr)
 •PSY 5014 - Psychology of Human Learning and Memory (3.0 cr)
or **Evaluation**
  Take 0 or more credit(s) from the following:
 •OLPD 5501 - Principles and Methods of Evaluation (3.0 cr)
 •PA 5311 - Program Evaluation (3.0 cr)
or **Exhibition Design**
  Take 0 or more credit(s) from the following:
 •DES 5185 - Human Factors in Design (3.0 cr)
 •DES 8164 - Innovation Theory and Analysis (3.0 cr)
 •GDES 8361 - Color, Design, and Human Perception (3.0 cr)
 •KIN 5505 - Human-Centered Design - Principles and Applications (3.0 cr)
or **Other Museum Studies Electives**
  Internships (MST 5020) must be approved by the museum studies director of graduate studies. Directed study (MST 8993) must be
  guided by a member of the museum studies graduate faculty.
  Take 0 or more credit(s) from the following:
 •MST 5020 - Internship (1.0 - 6.0 cr)
 •MST 8993 - Directed Study in Museum Studies (1.0 - 4.0 cr)

Twin Cities Campus

Product Design Minor

Design, Housing & Apparel

College of Design

Link to a <u>list of faculty</u> for this program.

Contact Information:
Director of Graduate Studies, Product Design Graduate Minor, 240 McNeal Hall, 1985 Buford Avenue, St. Paul, MN 55108 (612-626-1219)
Email: <u>cklarqui@umn.edu</u>
Website: <u>http://product.design.umn.edu</u>

- Program Type: Graduate free-standing minor
- Requirements for this program are current for Fall 2016
- Length of program in credits (Masters): 11
- Length of program in credits (Doctorate): 12
- This program does not require summer semesters for timely completion.

Along with the program-specific requirements listed below, please read the <u>General Information</u> section of the catalog website for requirements that apply to all major fields.

Product design is the planning of an item intended to be manufactured and sold. These items exist both as discrete artifacts and as actors in larger social systems, such as branded environments, services, experiences, and social interactions. A graduate minor may be earned in product design when it logically relates to the graduate major field. The minor program is designed to suit the particular needs and interests of the student. The course of study is determined in consultation with the student's major adviser and the director of graduate studies for the minor.

Program Delivery

This program is available:
- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

A graduate minor may be earned in product design when it logically relates to the graduate major field.

For an online application or for more information about graduate education admissions, see the <u>General Information</u> section of the catalog website.

Program Requirements

Use of 4xxx courses toward program requirements is permitted under certain conditions with adviser approval.

A minimum of two courses with the PDes designator must be taken to fulfill the minor requirements.

The course of study must be approved by the director of graduate studies for the minor.

Product Design Core Courses
  Courses listed under the core requirement may be used to fulfill the remaining credits if they were not taken to meet the core requirement.
  Required Course
   PDES 5701 - Creativity, Idea Generation, and Innovation (3.0 cr)
  Product Design Process
   Option 1
    PDES 5711 - Toy Product Design (4.0 cr)
   or **Option 2**
    DES 8151 - Product Development (3.0 cr)
   or **Option 3**
    ME 8221 - New Product Design and Business Development I (4.0 cr)
    ME 8222 - New Product Design and Business Development II (4.0 cr)
   or **Option 4**

    BMEN 8401 - New Product Design and Business Development (4.0 cr)
    BMEN 8402 - New Product Design and Business Development (4.0 cr)
  or **Option 5**
    ENTR 6041 - Initiating New Product Design and Business Development (2.0 - 4.0 cr)
    ENTR 6042 - Implementing New Product Design and Business Development (4.0 cr)

Program Sub-plans

Students are required to complete one of the following sub-plans.
Students may not complete the program with more than one sub-plan.

Masters
Electives
 Design Process
  PDES 5711 - Toy Product Design (4.0 cr)
  or DES 8151 - Product Development (3.0 cr)
  or BMEN 8401 - New Product Design and Business Development (4.0 cr)
   BMEN 8402 - New Product Design and Business Development (4.0 cr)
  or ME 8221 - New Product Design and Business Development I (4.0 cr)
   ME 8222 - New Product Design and Business Development II (4.0 cr)
  or DES 8164 - Innovation Theory and Analysis (3.0 cr)
 or **Drawing and Visualization**
  PDES 5702 - Concept Sketching and Rendering (3.0 cr)
  or PDES 5704 - Computer-Aided Design Methods (3.0 cr)
  or GDES 8362 - The Nature of Representation in Visual Communication (3.0 cr)
 or **Prototyping, Manufacturing, and the Environment**
  PDES 5703 - Product Form and Model Making (4.0 cr)
  or CEGE 5571 - Acara Global Venture Design: Grand Challenges [GP] (3.0 - 4.0 cr)
  or ME 5221 - Computer-Assisted Product Realization (4.0 cr)
  or ME 5223 - Materials in Design (4.0 cr)
  or ME 5241 - Computer-Aided Engineering (4.0 cr)
  or ME 8243 - Topics in Design (4.0 cr)
  or ESPM 5603 - Environmental Life Cycle Analysis (3.0 cr)
  or ESPM 5605 - Recycling: Extending Raw Materials Supplies (3.0 cr)
 or **Human Factors**
  DES 5185 - Human Factors in Design (3.0 cr)
  or CSCI 5115 - User Interface Design, Implementation and Evaluation (3.0 cr)
  or GDES 5341 - Interactive Design (3.0 cr)
  or GDES 5386 - Fundamentals of Game Design (3.0 cr)
  or KIN 5505 - Human-Centered Design - Principles and Applications (3.0 cr)
  or HUMF 5001 - Foundations of Human Factors/Ergonomics (3.0 cr)
 or **Understanding the Consumer and the Market**
  PDES 5705 - History and Future of Product Design (3.0 cr)
  or ANTH 5121 - Business Anthropology (2.0 cr)
  or DES 8164 - Innovation Theory and Analysis (3.0 cr)
  or MKTG 6055 - Buyer Behavior (4.0 cr)
  or MKTG 6050 - Business Research Methods (2.0 cr)

Doctoral
Electives
 Design Process
  PDES 5711 - Toy Product Design (4.0 cr)
  or DES 8151 - Product Development (3.0 cr)
  or BMEN 8401 - New Product Design and Business Development (4.0 cr)
   BMEN 8402 - New Product Design and Business Development (4.0 cr)
  or ME 8221 - New Product Design and Business Development I (4.0 cr)
   ME 8222 - New Product Design and Business Development II (4.0 cr)
  or DES 8164 - Innovation Theory and Analysis (3.0 cr)
 or **Drawing and Visualization**
  PDES 5702 - Concept Sketching and Rendering (3.0 cr)
  or PDES 5704 - Computer-Aided Design Methods (3.0 cr)
  or GDES 8362 - The Nature of Representation in Visual Communication (3.0 cr)
 or **Prototyping, Manufacturing, and the Environment**
  PDES 5703 - Product Form and Model Making (4.0 cr)

or CEGE 5571 - Acara Global Venture Design: Grand Challenges [GP] (3.0 - 4.0 cr)
or ME 5221 - Computer-Assisted Product Realization (4.0 cr)
or ME 5223 - Materials in Design (4.0 cr)
or ME 5241 - Computer-Aided Engineering (4.0 cr)
or ME 8243 - Topics in Design (4.0 cr)
or ESPM 5603 - Environmental Life Cycle Analysis (3.0 cr)
or ESPM 5605 - Recycling: Extending Raw Materials Supplies (3.0 cr)
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