Twin Cities Campus

Cognitive Science Minor

CLA Dean's Office

College of Liberal Arts

Link to a list of faculty for this program.

Contact Information:
Center for Cognitive Sciences, University of Minnesota, 205 Elliott Hall, 75 East River Road, Minneapolis, MN 55455 (612-626-3570; fax: 612-626-7253)
Email: cogsci@umn.edu
Website: http://www.cogsci.umn.edu

- Program Type: Graduate minor related to major
- Requirements for this program are current for Fall 2016
- Length of program in credits (Masters): 8 to 9
- Length of program in credits (Doctorate): 14 to 15
- 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.

Cognitive science is broadly concerned with integrating contemporary approaches to the study of mind/brain, and with the systems and processes underlying the acquisition and use of knowledge. The coherence of the program lies in its intellectual focus on cognition. This program spans cellular, behavioral, and psychological levels of scientific analysis in the study of cognition in a single unified graduate program. It integrates the diverse content, methods, and perspectives of a number of different disciplines (e.g., anthropology, biology, artificial intelligence, linguistics, neuroscience, philosophy, and psychology), which are concerned with or in some sense inform our understanding of cognition.

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.

Substitutions for required courses are permitted only with prior permission from the director of graduate studies for cognitive science. Elected courses must be taught by faculty in the minor program or be approved in advance by the director of graduate studies for cognitive science. Courses in the student's major department do not count toward the minor.

Introduction to Cognitive Science

CGSC 8000 - Seminar: Philosophy of the Cognitive Sciences (3.0 cr)
or CGSC 8041 - Cognitive Neuroscience (4.0 cr)
or An appropriate substitute approved by the DGS.

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

Major Electives

Take 5 or more credit(s) from the following:
•CGSC 8xxx
•**Cognitive Psychology**

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•PSY 5014 - Psychology of Human Learning and Memory (3.0 cr)
or PSY 5015 - Cognition, Computation, and Brain (3.0 cr)
or PSY 5062 - Cognitive Neuropsychology (3.0 cr)
or PSY 5064 - Brain and Emotion (3.0 cr)
or PSY 5137 - Introduction to Behavioral Genetics (3.0 cr)
or PSY 8010 - Advanced Topics in Learning (3.0 cr)
or PSY 8031 - Seminar: Visual Perception (2.0 cr)
or PSY 8036 - Topics in Computational Vision (3.0 cr)
or PSY 8055 - Seminar: Cognitive Neuroscience (3.0 cr)
or PSY 8056 - Seminar: Psychology of Language (3.0 cr)
or PSY 8201 - Social Cognition (3.0 cr)
or EPSY 8116 - Reading for Meaning: Cognitive Processes in the Comprehension of Texts (3.0 cr)
or EPSY 8117 - Writing Empirical Paper and Research/Grant Proposals in Education and Psychology (3.0 cr)
or CPSY 8301 - Developmental Psychology: Cognitive Processes (4.0 cr)
or EEB 5322 *{Inactive}*(3.0 cr)

•Computer Science
•CSCI 5421 - Advanced Algorithms and Data Structures (3.0 cr)
or CSCI 5511 - Artificial Intelligence I (3.0 cr)
or CSCI 5115 - User Interface Design, Implementation and Evaluation (3.0 cr)
or CSCI 5521 - Machine Learning Fundamentals (3.0 cr)
or CSCI 5525 - Machine Learning: Analysis and Methods (3.0 cr)
or CSCI 5561 - Computer Vision (3.0 cr)
or CSCI 8115 - Human-Computer Interaction and User Interface Technology (3.0 cr)
or CSCI 8211 - Advanced Computer Networks and Their Applications (3.0 cr)
or CSCI 8442 - Computational Geometry and Applications (3.0 cr)
or CSCI 8551 - Intelligent Agents (3.0 cr)
or CSCI 8725 - Databases for Bioinformatics (3.0 cr)

•Linguistics
•LING 5001 - Introduction to Linguistics (4.0 cr)
or LING 5201 - Syntactic Theory I (3.0 cr)
or LING 5202 - Syntactic Theory II (3.0 cr)
or LING 5205 - Semantics (3.0 cr)
or LING 5206 - Linguistic Pragmatics (3.0 cr)
or LING 5801 - Introduction to Computational Linguistics (3.0 cr)
or LING 8200 - Topics in Syntax and Semantics (3.0 cr)
or LING 8210 - Seminar in Syntax (3.0 cr)
or LING 8900 - Seminar: Topics in Linguistics (3.0 cr)
or LING 8921 - Seminar in Language and Cognition (3.0 cr)

•Neuroscience
•NSC 5202 - Theoretical Neuroscience: Systems and Information Processing (3.0 cr)
or NSC 5461 - Cellular and Molecular Neuroscience (3.0 cr)
or NSC 5561 - Systems Neuroscience (4.0 cr)
or NSC 8217 - Systems and Computational Neuroscience (2.0 cr)

•Philosophy
•PHIL 4615 *{Inactive}*(3.0 cr)
or PHIL 8131 - Epistemology Survey (3.0 cr)
or PHIL 8180 - Seminar: Philosophy of Language (3.0 cr)
or PHIL 8182 - Formal Semantics of Natural Language (3.0 cr)
or PHIL 8620 - Seminar: Philosophy of the Biological Sciences (3.0 cr)
or PHIL 8670 - Seminar: Philosophy of Science (3.0 cr)

Doctoral

Major Electives

Take 11 or more credit(s) from the following:

•CGSC 8xxx

•Cognitive Psychology
•PSY 5014 - Psychology of Human Learning and Memory (3.0 cr)
or PSY 5015 - Cognition, Computation, and Brain (3.0 cr)
or PSY 5062 - Cognitive Neuropsychology (3.0 cr)
or PSY 5064 - Brain and Emotion (3.0 cr)
or PSY 5137 - Introduction to Behavioral Genetics (3.0 cr)
or PSY 8010 - Advanced Topics in Learning (3.0 cr)
or PSY 8031 - Seminar: Visual Perception (2.0 cr)
or PSY 8036 - Topics in Computational Vision (3.0 cr)
or PSY 8055 - Seminar: Cognitive Neuroscience (3.0 cr)
or PSY 8056 - Seminar: Psychology of Language (3.0 cr)

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or PSY 8201 - Social Cognition (3.0 cr)
or EPSY 8116 - Reading for Meaning: Cognitive Processes in the Comprehension of Texts (3.0 cr)
or EPSY 8117 - Writing Empirical Paper and Research/Grant Proposals in Education and Psychology (3.0 cr)
or CPSY 8301 - Developmental Psychology: Cognitive Processes (4.0 cr)
or EEB 5322 *{Inactive}*(3.0 cr)

•Computer Science
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or CSCI 5115 - User Interface Design, Implementation and Evaluation (3.0 cr)
or CSCI 5521 - Machine Learning Fundamentals (3.0 cr)
or CSCI 5525 - Machine Learning: Analysis and Methods (3.0 cr)
or CSCI 5561 - Computer Vision (3.0 cr)
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or CSCI 8211 - Advanced Computer Networks and Their Applications (3.0 cr)
or CSCI 8442 - Computational Geometry and Applications (3.0 cr)
or CSCI 8551 - Intelligent Agents (3.0 cr)
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•LING 5001 - Introduction to Linguistics (4.0 cr)
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or LING 5202 - Syntactic Theory II (3.0 cr)
or LING 5205 - Semantics (3.0 cr)
or LING 5206 - Linguistic Pragmatics (3.0 cr)
or LING 5801 - Introduction to Computational Linguistics (3.0 cr)
or LING 8200 - Topics in Syntax and Semantics (3.0 cr)
or LING 8210 - Seminar in Syntax (3.0 cr)
or LING 8900 - Seminar: Topics in Linguistics (3.0 cr)
or LING 8921 - Seminar in Language and Cognition (3.0 cr)

•Neuroscience
•NSC 5202 - Theoretical Neuroscience: Systems and Information Processing (3.0 cr)
or NSC 5461 - Cellular and Molecular Neuroscience (3.0 cr)
or NSC 5561 - Systems Neuroscience (4.0 cr)
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•Philosophy
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