

Cognitive Science (CGSC)

Cognitive Science (CGSC) Courses

CGSC 5001 [0.5 credit]

Cognition and Artificial Cognitive Systems

An introduction to the contribution of artificial intelligence and computer modeling of cognitive processes to cognitive science.

CGSC 5002 [0.5 credit]

Experimental Research in Cognition

An introduction to the contribution of experimental psychology to cognitive science.

CGSC 5003 [0.5 credit]

Language and Cognition

An introduction to the contribution of theoretical linguistics and linguistic research to cognitive science.

Includes: Experiential Learning Activity

Also listed as ALDS 5301 and LING 5608.

CGSC 5004 [0.5 credit]

Cognition and Conceptual Issues

An introduction to the contribution of philosophy of mind, philosophy of language, and other conceptual investigations to cognitive science.

CGSC 5005 [0.5 credit]

Cognition and Neuroscience

An introduction to the contribution of neuroscience to cognitive science.

CGSC 5100 [0.5 credit]

Issues in Cognitive Science

A survey of the central problems and issues of cognitive research to start the process of acquiring the interdisciplinary breadth required to understand research in cognitive science.

CGSC 5101 [0.5 credit]

Experimental Methods and Statistics

An introduction to the design of experiments and the statistics needed to interpret data in cognitive science. Also listed as HCIN 5400.

CGSC 5103 [0.5 credit]

Formal Methods

The class introduces students to various formal methods relevant to cognitive science, possibly including (but not limited to) formal logic, the theory of computation, probability theory, decision theory.

Precludes additional credit for CGSC 5102.

Prerequisite(s): permission of the department.

Seminar.

CGSC 5303 [0.5 credit]

Linguistic Analysis, Culture and Cognition

Universals of language from a cross-cultural perspective.

Study of lesser-known languages leading to critical understanding of universal human concepts and communication practices in culture-specific configurations. Cross-linguistic analysis as a means to general understanding of diversity and universality in human cognition.

CGSC 5601 [0.5 credit]

Cognitive Architectures

Cognitive architectures and how to evaluate them against human data; how to create cognitive models using cognitive architectures such as ACT-R.

Precludes additional credit for CGSC 5106 (no longer offered), CGSC 6004 (no longer offered).

Also offered at the undergraduate level, with different requirements, as CGSC 4601, for which additional credit is precluded.

CGSC 5605 [0.5 credit]

Hyperdimensional Cognitive Models

Modelling cognition using artificial intelligence techniques such as reinforcement learning, vector-symbolic models, neural networks, and/or machine learning.

Also offered at the undergraduate level, with different requirements, as CGSC 4605, for which additional credit is precluded.

CGSC 5901 [0.5 credit]

Special Topics in Cognitive Science

Seminar on current, important issues related to Cognition and Neuroscience, Philosophy, Computer Science, Linguistics and/or Psychology. Topics will vary from year to year.

CGSC 5907 [0.5 credit]

Independent Research

Permission to register and approval of research plan must be obtained from the graduate supervisor. A final research report must be filed in the departmental office prior to submission of course grade. The course may be repeated for credit.

Includes: Experiential Learning Activity

CGSC 5908 [1.0 credit]**Research Project**

Students may enroll in multiple sections of this course (as necessary) to complete their Research credits.

Includes: Experiential Learning Activity

CGSC 5909 [2.5 credits]**M. Cog. Thesis**

Includes: Experiential Learning Activity

CGSC 6002 [0.5 credit]**Methodology Rotation I**

Students spend one term in a laboratory or other research venue using a method for studying cognition (behavioural, linguistic-theoretic, computational, conceptual, neuroscientific). Assignments will be as specified by each rotation supervisor.

Includes: Experiential Learning Activity

CGSC 6003 [0.5 credit]**Methodology Rotation II**

Students spend one term in a laboratory or other research venue using a different method for studying cognition (behavioural, linguistic-theoretic, computational, conceptual, neuroscientific). Assignments will be as specified by each rotation supervisor.

Includes: Experiential Learning Activity

CGSC 6101 [0.5 credit]**Advanced Statistics for Cognitive Science**

Topics may include data wrangling, data visualization, advanced regression, mixed effects models, and procedures for seeing structure in data (e.g., clustering, multidimensional scaling).

Includes: Experiential Learning Activity

Prerequisite(s): CGSC 5101 or permission of the department.

CGSC 6501 [0.5 credit]**Special Topics in Cognitive Science**

Seminar course on a topic of interest to students in Cognitive Science. Topics will vary from year to year. Lectures three hours per week.

CGSC 6801 [0.5 credit]**Proseminar in Cognitive Science**

A survey of the central problems and issues of natural and artificial cognition and a brief examination of contemporary neuroscience.

Precludes additional credit for CGSC 6800 (no longer offered).

CGSC 6901 [0.5 credit]**Directed Studies in Cognitive Science I****CGSC 6902 [0.5 credit]****Directed Studies in Cognitive Science II****CGSC 6909 [0.0 credit]****Ph.D. Thesis**

Includes: Experiential Learning Activity