

■ Cognitive Science Concentration in the Psychology Major ■

Cognitive Science is a rapidly growing interdisciplinary approach to understanding intelligent behavior. It brings together researchers from cognitive psychology, artificial intelligence, neuroscience, linguistics and philosophy of mind. Participating in this concentration offers:

- Coherence to joint majors
- A high density of smaller classes
- Earlier exposure to in-depth research/lab experiences
- Very strong preparation for cognitive science related careers

This concentration provides students with a deep and broad cognitive science training without adding significantly to the core set of requirements for a bachelor degree. Rather, it recommends particular non-psychology courses that are most consistent with cognitive science work that happen to also satisfy existing Arts and Sciences and psychology requirements. Yet, flexibility is offered regarding which area of cognitive science any particular student chooses to explore in depth.

Requirements for Cognitive Science Concentration **Introductory and Core courses and for the Cognitive Science Concentration**

Students MUST earn a 'C' or better in all of the following courses:

- Introduction to Cognitive Science (PSY 0005)*
- Introduction to Psychology (PSY 0010)
- Statistics (STAT 0200, 1000, or 1100) [STAT 1000 is recommended]
- Research Methods (PSY 0035)
- Introduction to Cognitive Psychology (PSY 0422)*
- Students must take four out of the five following course options:
Social Psychology (PSY 0105); Psychology of Personality (PSY 0160); Developmental Psychology (PSY 0310); Biopsychology (PSY 0505) OR Introduction to Neuroscience (NROSCI 1000); Abnormal Psychology (PSY 1205)
- Two 1000-level PSY course [one 1000-level course which must be in the cognitive area, meaning that these courses cover cognitive psychology content]
- One of the following psychology elective courses: Directed Research (PSY 1903) [PSY 1903 in a cognitive psychology oriented lab is strongly recommended to fulfill this requirement]; or Sensation and Perception (PSY 0510). Talk to your advisor about other PSY courses that could fulfill this requirement.
- Cognitive Psychology Lab (PSY 0423)* Note: This course is writing-intensive.

Co-requisite courses for the Cognitive Science Concentration

- Math co-requisite: Intro to Computer Programming (CS 0007)* or Intermediate Programming Using Java (CS 0401)* [preferred for students pursuing the CS depth area]
- Bioscience co-requisite: Drugs and Behavior (NROSCI 0081)* or Introduction to Neuroscience (NROSCI 1000)* [fulfills the psychology bioscience co-requirement]
- Social Science co-requisite: Aspects of Language (LING 0080)* or Introduction to Linguistics (LING 1000)
- Philosophy co-requisite: Minds and Machines (PHIL 0440)* or Concepts of Human Nature (PHIL 0010)* or Intro to Philosophical Problems (PHIL 0080)* or History of Modern Philosophy (PHIL 0210)* or Philosophy and Science (PHIL 0610)* or The Nature of Emotions (HPS 0605)* or Mind and Medicine (HPS 0612) or Artificial Intelligence and the Philosophy of Science (HPS 0616) or Explanations of Humans and Society (HPS 0623)*

Please note a course used to fulfill a co-requisite course requirement will not count toward one of the courses used to fulfill the advanced depth area requirement for the Cognitive Science concentration.

Advanced depth requirement courses

The requirement is two additional courses (five courses for Computer Science) within a single “CogSci” department: *Neuroscience, Linguistics, Philosophy, & Computer Science*. Students interested in completing a related area in their selected advanced depth area will need to complete at least one additional course within a single “CogSci” department. Approved possible courses to fulfill this requirement are as follows:

Neuroscience:

- ___ Drugs and Behavior (NROSCI 0081)*+
- ___ Introduction to Neuroscience (NROSCI 1000)*+
- ___ Functional Neuroanatomy (NROSCI 1011)
- ___ Neurophysiology (NROSCI 1012)
- ___ Synaptic Transmission (NROSCI 1017)
- ___ Biological Basis of Learning and Memory (NROSCI 1040)
- ___ Neural Basis of Cognition (NROSCI 1034 or 1134)

Linguistics:

- ___ Aspects of Language (LING 0080)*+
 - ___ Introduction to Linguistics (LING 1000)+
 - ___ Language and the mind (LING 1580)
 - ___ Phonetics and Phonemics (LING 1578)
 - ___ Morphology (LING 1773)
- (any 1000-level psychology course on language as long as it is not used toward a psychology 1000-level requirement)

Philosophy and Philosophy of Science:

- ___ Concepts of Human Nature (PHIL 0010)*+
- ___ Intro to Philosophical Problems (PHIL 0080)*+
- ___ History of Modern Philosophy (PHIL 0210)*+
- ___ Minds and Machines (PHIL 0440)*+
- ___ Philosophy and Science (PHIL 0610)*+
- ___ The Nature of Emotions (HPS 0605)*+
- ___ Mind and Medicine (HPS 0612)+
- ___ Artificial Intelligence and the Philosophy of Science (HPS 0616)+
- ___ Explanations of Humans and Society (HPS 0623)*+
- ___ Empiricism (PHIL 1140)
- ___ Philosophy of Mind (PHIL 1440)
- ___ Introduction to Philosophy of Science (HPS 1653)
- ___ Philosophy and Animals (PHIL 1800)

Computer Science

Students pursuing this depth area must complete all five CS courses:

- ___ Discrete Structures for Computer Science (CS 0441)
- ___ Data Structures (CS 0445)
- ___ Algorithm Implementation (CS 1501)
- ___ Formal Methods in Computer Science (CS 1502)
- ___ Introduction to Artificial Intelligence (CS 1571)

* These courses can fulfill Arts & Sciences general education requirements in addition to CogSci. Make sure to check with your advisor about these course requirements.

+ Courses can be used for co-requisite courses or depth courses, but cannot be used to fulfill more than one requirement.

Please see your assigned psychology advisor with any questions about the Cognitive Science Concentration:
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