BRAIN & COGNITIVE SCIENCE, BSLAS

for the degree of Bachelor of Science in Liberal Arts & Sciences Major in Brain & Cognitive Science

department website: http://www.psychology.illinois.edu/undergrad/

department faculty: Psychology Faculty (https://psychology.illinois.edu/directory/faculty/)

advising: Psychology advising (https://psychology.illinois.edu/academics/undergraduate-program/advising-services/)

overview of college admissions & requirements: Liberal Arts & Sciences (http://catalog.illinois.edu/schools/las/academic-units/)
college website: https://las.illinois.edu/

email: psych-advising@illinois.edu (bcog-advising@illinois.edu)

The Brain and Cognitive Science major introduces the student to a simple question: How do intelligent systems work? Our world provides two examples of complex intelligent systems—human beings (and possibly some other animals) and intelligent computer systems. Brain and Cognitive Science majors investigate the brain and behavior of intelligent biological systems (e.g. people) from the perspective that the brain is a kind of computer. Consequently, students must learn about how brains and computers work, and how these can explain what we know about mental functions including perception, learning, memory, and language. Brain and Cognitive Science majors make use of discoveries from a number of different disciplines, including psychology, neuroscience, computer science, linguistics, philosophy, and anthropology, and has applications to the development of technology in education, health, language sciences, and design.

The Brain and Cognitive Science major provides fundamental training in psychology, neuroscience, and computation, and it allows a great deal of flexibility with regard to more advanced courses. The major requires training in statistics, a laboratory course, and the capstone course. Students should contact our Undergraduate Advising Office for help in creating a plan of study and research that best meets their goals and interests.

Academic Advising

The Psychology Undergraduate Advising Office is open to help students choose patterns of courses relevant to their interests, as well as to help students explore graduate school, professional school, and career options. Advising is done by an award-winning staff of academic professionals along with mentoring by faculty for students with research interests. Peer registration assistants are also available to help with the registration process.

Undergraduate Degree Programs in Psychology

BSLAS in Psychology (p. 1)

BSLAS in Psychology (http://catalog.illinois.edu/undergraduate/las/psychology-bslas/#majortext) with the following concentrations:

• Behavioral Neuroscience (http://catalog.illinois.edu/undergraduate/las/psychology-bslas/behavioral-neuroscience/)
• Clinical/Community Psychology (http://catalog.illinois.edu/undergraduate/las/psychology-bslas/clinical-community-psychology/)
• Cognitive Neuroscience (http://catalog.illinois.edu/undergraduate/las/psychology-bslas/cognitive-neuroscience/)
• Cognitive Psychology (http://catalog.illinois.edu/undergraduate/las/psychology-bslas/cognitive-psychology/)
• Developmental Psychology (http://catalog.illinois.edu/undergraduate/las/psychology-bslas/developmental-psychology/)
• Diversity Science (http://catalog.illinois.edu/undergraduate/las/psychology-bslas/diversity-science/)
• Intradisciplinary Psychology (http://catalog.illinois.edu/undergraduate/las/psychology-bslas/intradisciplinary-psychology/)
• Organizational Psychology (http://catalog.illinois.edu/undergraduate/las/psychology-bslas/organizational-psychology/)
• Personality Psychology (http://catalog.illinois.edu/undergraduate/las/psychology-bslas/personality-psychology/)
• Social Psychology (http://catalog.illinois.edu/undergraduate/las/psychology-bslas/social-psychology/)

For the Degree of Bachelor of Science in Liberal Arts and Sciences Major in Brain and Cognitive Science

A Major Plan of Study Form must be completed and submitted to the LAS Student Academic Affairs Office before the end of the fifth semester (60-75 hours).

Departmental distinction: To be eligible for graduation with Distinction in Psychology, a student must complete a two-semester research sequence in PSYC 494, submit a Senior Thesis that must be approved by the department, and maintain an overall GPA of 3.0 at the time of submission. A student can also enroll in PSYC 492 to facilitate the preparation of a Bachelor’s thesis.

To be eligible for High or Highest Distinction, a student must first be admitted to the Honors Program (requirements: junior standing, 3.5 GPA in Psychology overall, and completion of the statistics and laboratory requirements). The student then has to complete the three semester Honors sequence (PSYC 398, PSYC 498, PSYC 499), submit a Senior Thesis that must be approved by the department, and maintain an overall GPA of at least 3.0 to be awarded High Distinction or a GPA of 3.5 for Highest Distinction.

General education: Students must complete the Campus General Education (https://courses.illinois.edu/gened/DEFAULT/DEFAULT/) requirements including the campus general education language requirement.

Minimum required major and supporting course work: Normally equates to 42 hours of coursework, including at least 12 hours of advanced coursework.

Twelve hours of 300- and 400-level in the major must be taken on this campus.

Minimum hours required for graduation: 120 hours.

Code | Title | Hours
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BCOG 100 | Introduction to the Brain and Cognitive Science | 3
BCOG 200 | Introduction to Programming for the Brain and Cognitive Sciences | 4
Statistics Course | | 4
PSYC 235 | Intro to Statistics (or equivalent) | 4
Multi-disciplinary Breadth Courses | Select two of the following: | 6-7
ANTH 101 | Introduction to Anthropology | 3
or ANTH 102 Human Origins and Culture | 3

Information listed in this catalog is current as of 11/2021
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<tr>
<th>Required Courses</th>
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<tr>
<td>ANTH 104 Talking Culture</td>
<td>or ANTH 143 Biology of Human Behavior</td>
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<td>INFO 102 Little Bits to Big Ideas</td>
<td>or CS 125 Introduction to Computer Science</td>
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<tr>
<td>LING 100 Intro to Language Science</td>
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<td>MCB 170 Society and the Brain</td>
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<tr>
<td>PHIL 100 Intro to Philosophy-ACP</td>
<td>or PHIL 101 Introduction to Philosophy</td>
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<td>PHIL 102 Logic and Reasoning</td>
<td>or PHIL 103 Logic and Reasoning QR II</td>
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<td>PSYC 100 Intro Psych</td>
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<tr>
<td>or PSYC 103 Intro Experimental Psych</td>
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**Intermediate Required Courses:**

Select one of the following: 3

- PSYC 220 Images of Mind
- PSYC 204 Intro to Brain and Cognition
- PSYC 210 Behavioral Neuroscience

**Intermediate Elective Courses:**

Select one of the following: 3

- ANTH 240 Biological Anthropology
- ANTH 243 Sociality of the Great Apes
- ANTH 270 Language in Culture
- CS 173 Discrete Structures
  - or MATH 213 Basic Discrete Mathematics
- CS 225 Data Structures
- PSYC 216 Child Psych
- PSYC 224 Cognitive Psych
- PSYC 230 Perception & Sensory Processes
- PSYC 248 Learning and Memory
- LING 225 Language, Mind, and Brain
- LING 270 Language, Technology & Society
- PHIL 202 Symbolic Logic
- PHIL 250 Conceptions of Human Nature
- PHIL 270 Philosophy of Science
- BCOG 458 Advances in Brain and Cognitive Science 3

**Required Lab**

Select one of the following: 4

- PSYC 311 Behavioral Neuroscience Lab
- PSYC 331 Cognitive Psych Lab
- PSYC 334 Perception Lab
- PSYC 363 Developmental Child Psych Lab
- PSYC 445 Cognitive Neuroscience Lab
- PSYC 489 Neural Network Modeling Lab

**Advanced Electives**

Select four of the following: 12

- ANTH 372 Topics in Lang & Culture
- BCOG 492 Capstone Undergraduate Research (Cognitive Science Capstone)
- CS 361 Probability & Statistics for Computer Science
- CS 440 Artificial Intelligence
- IB 329 Animal Behavior
- IB 432 Genes and Behavior
- IE 340 Human Factors

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