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 (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/)

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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 3.0 GPA 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.

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BCOG 100</td>
<td>Introduction to the Brain and Cognitive Science</td>
<td>3</td>
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<tr>
<td>BCOG 200</td>
<td>Introduction to Programming for the Brain and Cognitive Sciences</td>
<td>4</td>
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<tr>
<td>Statistics Course</td>
<td></td>
<td>4</td>
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<tr>
<td>PSYC 235</td>
<td>Intro to Statistics (or equivalent)</td>
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<tr>
<td>Multi-disciplinary Breadth Courses</td>
<td>Select two of the following:</td>
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<td>ANTH 101</td>
<td>Introduction to Anthropology</td>
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<td>or ANTH 102Human Origins and Culture</td>
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or ANTH 104 Talking Culture
or ANTH 143 Biology of Human Behavior
INFO 102 Little Bits to Big Ideas
or CS 125 Introduction to Computer Science
LING 100 Intro to Language Science
MCB 170 Society and the Brain
PHIL 100 Intro to Philosophy-ACP
or PHIL 101 Introduction to Philosophy
PHIL 102 Logic and Reasoning
or PHIL 103 Logic and Reasoning QR II
PSYC 100 Intro Psych
or PSYC 103 Intro Experimental Psych

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

LING 301 Elements of Syntax
LING 302 Elements of Phonology
LING 304 Elements of Morphology
LING 307 Elmnts Semantics & Pragmatics
LING 425 Intro to Psycholinguistics
MCB 419 Brain, Behavior & Info Process
MCB 462 Integrative Neuroscience
PHIL 407 Logic and Linguistic Analysis
PHIL 425 Philosophy of Mind
PHIL 430 Theory of Knowledge
PHIL 443 Phenomenology
PHIL 453 Formal Logic and Philosophy
PHIL 454 Advanced Symbolic Logic
PHIL 471 Contemporary Phil of Science
PHIL 477 Philosophy of Psychology
PSYC 302 Applied Neuroscience
PSYC 351 Thinking and Reasoning
PSYC 361 The Psychology of Aging
PSYC 402 Intro Clin Neuropsych
PSYC 403 Memory and Amnesia
PSYC 404 Cognitive Neuroscience
PSYC 408 Human Behavior Genetics
PSYC 413 Advanced Neuropsychopharmacology
PSYC 414 Brain, Learning, and Memory
PSYC 421 Principles of Psychophysiology
PSYC 423 Language Acquisition
PSYC 433 Evolutionary Neuroscience
PSYC 450 Cognitive Psychophysiology
PSYC 451 Neurobio of Aging
PSYC 453 Cog Neuroscience of Vision
SHS 301 General Speech Science
SHS 427 Language and the Brain

Total Hours 42-43

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