

Brain, Behavior, and Cognition

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The Brain, Behavior, and Cognition (BBAC) major integrates foundational knowledge from courses in Biology and Psychology as they apply to neural science. Students majoring in BBAC will interrogate what, if anything, is special about the human brain, and how diversity in nervous system organization contributes to specializations in behavioral complexity and diversity across animal species.

Learning Goals: Upon graduation, students will

- have a basic understanding of the structure and function of the nervous system, and know core concepts that are the basis for understanding the neural sciences, drawing from biology, psychology, chemistry, and related foundational areas.
- be able to apply the scientific method to evaluate published work, to conduct a structured scientific inquiry, and to be able to collect, analyze and interpret scientific information.
- be capable of communicating scientific knowledge in written and oral forms.
- apply the principles of research ethics, including responsible conduct of research, and research with human subjects or nonhuman animals, and understand the value of animal models in the study of neural sciences.

The Brain, Behavior, and Cognition major:

- 53-59 total credits
 - 18-19 credits from Biology
 - 18 credits from Psychology
 - 4 credits from Brain, Behavior, and Cognition
 - 13-18 additional credits from supporting and interdisciplinary courses
- Required Biology courses
 - Biology 111 and 205
 - Biology 320, 323, or a Biology special topic in neuroscience at 200 or 300-level
 - 8 additional credits chosen from:
 - Biology 206 is strongly recommended
 - Developmental Biology 224, 227, 319, 329
 - Anatomy/Physiology 221, 222, 310
- Required Psychology courses
 - Psychology 110
 - 8 credits from Psychology 215, 225, 229, and 290
 - 4 additional credits chosen from the following areas:
 - Clinical/Personality foundation area: Psychology 216, 260, or 270
 - Developmental foundation area: Psychology 218, 219, or 240
 - Either Psychology 217 or 220
 - Note: Psychology 220 requires instructor consent and prerequisite of 210.
 - 3 credits from the following 300-level seminars: Psychology 309, 310, 315, 317, 335, 339, or 349
- Required Brain, Behavior, and Cognition courses

- 3 credits from BBAC 490 or 498
- BBAC 499
- Required supporting courses:
 - Statistics (3-4): MATH 128, PSYC 210, or ECON 227
 - Chemistry (4-8): CHEM 125, 126, 135, 136, or 140
 - Organic Chemistry (CHEM 245) is recommended for those intending to go to graduate school in an area of neuroscience.
- Required interdisciplinary courses
 - 6 additional credits from the following:
 - Computer Science 167, 215, 267
 - Philosophy 200, 210, 217, 261, 262, 315, 332
 - Economics 215, 325
 - RWPD 225, 325
 - Anthropology 217, 228, 360
 - BBMB 227, 325, 326, 430
- Other Notes
 - Interdisciplinary courses taken to fulfill requirements form another major may not count toward the BBAC major.
 - No more than 12 credits earned in off-campus programs and transfer credit.
 - No more than 4 credits in independent study may be applied toward the major.
 - No courses for the major may be taken P-D-F after the major is declared.
- Senior Requirements
 - BBAC 490 or 498
 - BBAC 499
 - Senior Assessment
 - Research-based thesis
 - Oral examination
- Honors
 - Students do not apply for admission to candidacy for honors.
 - Accumulated at least 87 credits
 - Completed two semesters of residency at Whitman.
 - Cumulative GPA of at least 3.300 on all credits earned at Whitman College
 - Major GPA of at least 3.500
 - Earn a grade of at least A- on the honors thesis
 - Pass the senior assessment with distinction
 - Chair of the program will notify the Registrar of students who are candidates for Honors no later than the beginning of week 12 of the semester.
 - An acceptable digital copy of the Honors Thesis must be submitted to Penrose Library no later than Reading Day.

481, 482 Special Projects

Not offered 2023-24

1-2 credits

Research projects or independent studies arranged with individual students. The students must consult with a faculty member prior to the semester of the anticipated project to determine if the project is suitable, and the project must be done with the supervision of a Whitman faculty member. Prerequisite: consent of instructor.

490 Senior Thesis

Not offered 2023-24

1-3 credits

After carrying out a supervised research project involving the collection and analysis of data, seniors will write a thesis on that research in an accepted scientific style with guidance from the thesis instructor. Research can take place between the sophomore and senior year, and may be completed at another institution. Each student also will publicly present their research results in the BBAC 499 Senior Seminar. A total of three credits are required in the senior year; credits may be taken in the Fall and/or Spring. *Prerequisite:* consent of thesis advisor.

498 Honors Thesis

Not offered 2023-24

3 credits

Research and writing of the senior honors thesis. Students register for BBAC 490, not for BBAC 498. The registration will be changed from BBAC 490 to 498 for those students who attain honors in BBAC. Open only to senior BBAC majors.

499 Senior Seminar

Not offered 2023-24

1 credit

The senior seminar will serve as the capstone of the major by providing a forum for all seniors to present their thesis research, address questions and discuss their work with their peers.