

CC Report Addendum
MOTION 2: Neuroscience major revision

CC Motion 3: Approve revision of the Neuroscience major.

Requirements for the Major

6 Core Courses. Students must also complete the course work in one of two concentrations (Behavioral Neuroscience or Cellular and Molecular Neuroscience).

The Neuroscience Core

- 1) Biol 107: Human Biology: Anatomy and Physiology I
- 2) Biol 108: Human Biology: Anatomy and Physiology II
- 3) Chem 201: General Chemistry I
- 4) Chem 202: General Chemistry II
- 5) Psyc 213: Behavioral Neuroscience
- 6) Senior capstone experience. Choose one of the following:
 - a. Neur 400: Neuroscience capstone
 - b. **Neur 499: Research/Thesis**
 - b. ~~Biol 499: Research/Thesis~~
 - c. ~~Psyc 401: Thesis in Psychology~~

Cellular/Molecular Neuroscience Concentration

A minimum of 15 courses (at least 9 of which are 300-level or above) to include the following (in addition to the core courses listed above):

- 7) Choose one of the following
 - a. ~~Biol 209: Biostatistics and Experimental design~~ **Biol 309: Biostatistics and Experimental Design**
 - b. Psyc 300: Research Methods (Please note that Psyc 300 has a prerequisite of Psyc 227: Psychological Statistics)
- 8) Chem 311: Organic Chemistry I
- 9) Chem 312: Organic Chemistry II
- 10) ~~Biol 312: Genetics~~ **Biology 212: Genetics**
- 11) Chem 317: Survey of Biochemistry or Chem 414: Biochemistry I
 - i. Note: Chem 317 is a survey course that covers biomolecules and biochemical processes in a single semester. Chem 414 and Chem 415: Biochemistry II constitute a two-semester sequence for students seeking a more detailed presentation of biochemistry. The first semester concerns biological molecules and the second semester concerns metabolism, cell signaling, and biochemical genetics. Students who elect to take Chem 414 are advised to also take Chem 415.
- 12) Biol 325: Cellular and Molecular Neuroscience
- 13) Two additional biology/chemistry courses at the 300- or 400-level
Biol 307: Animal Physiology

Biol 311: Developmental Biology
Biol 410: Molecular Foundations of Developmental Biology
Biol 411: Experimental Embryology
Biol 412: Molecular Genetics
Biol 495: Directed Study
~~Biol 499: Research~~
Chem 415: Biochemistry II
Chem 495: Directed Study (as approved by program director)
Neur 395: Directed Study
Neur 499: Research/Thesis

14) One additional Psychology course from the following:

Psyc 302: Neuropsychopharmacology
Psyc 311: Foundations of Learning
Psyc 313: Advanced Behavioral Neuroscience
Psyc 314: Advanced Human Neuroscience
Psyc 321: Brain Injury and Recovery
Psyc 329: Special topics in neuroscience (as approved by program director)
~~Psyc 395: Directed study~~
Neur 395: Directed Study
Neur 499: Research/Thesis

Behavioral Neuroscience Concentration

A minimum of 13 courses (at least 7 of which are 300-level or above) to include the following (in addition to the core courses listed above):

- 7) Psyc 227: Statistics
- 8) Psyc 300: Research Methods
- 9) Two additional Psychology courses from the following:

Psyc 302: Neuropsychopharmacology
Psyc 311: Foundations of Learning
Psyc 313: Advanced Behavioral Neuroscience
Psyc 314: Advanced Human Neuroscience
Psyc 321: Brain Injury and Recovery
Psyc 329: Special topics in neuroscience (as approved by program director)

- 10) Three additional courses at the 300- or 400-level

Biol 307: Animal Physiology
Biol 311: Developmental Biology
Biol 312: Genetics
Biol 325: Cellular and Molecular Neuroscience
Biol 410: Molecular Foundations of Developmental Biology
Biol 411: Experimental Embryology
Biol 412: Molecular Genetics
~~Biol 495: Directed Study~~
Psyc 302: Neuropsychopharmacology
Psyc 311: Foundations of learning

Psyc 313: Advanced behavioral neuroscience

Psyc 314: Advanced human neuroscience

Psyc 321: Brain injury and recovery

Psyc 329: Special topics in neuroscience (as approved by program director)

~~Psyc 395: Directed study~~

~~Psyc 400: Directed Research~~

Neur 395: Directed Study

Neur 499: Research/Thesis

11) At least one of the above courses at the 300- or 400-level must include a laboratory component. In Psychology, these courses are denoted in the course catalog with an EXP designation. In Chemistry and Biology, laboratories are included in course descriptions and/or carry 1.25 unit credit.

Students pursuing a major in Neuroscience should be aware of the following:

- ~~• As listed above, students may receive course credit for an independent study in any represented discipline (biology, chemistry or psychology), assuming the research is directly related to the field of neuroscience (as approved by the neuroscience program director).~~
- Students may count up to two units of independent study or directed research (Neur 395, Neur 499 or Chem 395) toward fulfilling major requirements.** That independent or directed study should occur in a single discipline, though a student may petition to include research from different disciplines pending the program director's approval.

Rationale from Prof. Kerr:

We are requesting several changes to the Neuroscience major that will clean up catalog language, reflect the addition of new courses in the program, and reflect changes made to the Biology curriculum and approved by faculty vote last year. We propose to eliminate Psychology 401 and Biol 499 from optional capstone experiences and instead replace them with Neur 499. Neur 499 is a new course in directed research that serves the same function as both Biol 499 and Psyc 401 but is housed within the Neuroscience program. This results in all capstone experience options being controlled within the major program and will allow students' transcripts to reflect the fact that their capstone experience was in the field of Neuroscience. For the same reason (to reflect independent work done in the field of Neuroscience) we propose to replace Biol 495 and Psyc 395 with Neur 395 as optional independent study options to complete some 300-level requirements.

We also propose the addition of language that limits directed research and independent study credits in the major. It was always the intention of Neuroscience-affiliated faculty that students be allowed to complete two (but only two) units of research credit toward major requirements.