UNIVERSITY OF COLORADO BOULDER NEUROSCIENCE MAJOR
(For students declaring the Neuroscience major, Spring 2014 and forward)

- A major in Neuroscience (Bachelor of Arts) requires a minimum of 30 hours in neuroscience coursework with grades of C- or better. At least 18 of these hours must be in upper-division course work.
- Twelve hours of upper-division course work for the major must be completed on the Boulder Campus.
- No more than 45 hours in neuroscience courses will apply toward graduation. The only exception to the 45-hour limit is coursework for honors seminars and thesis (NRSC 4001 and 4011, but only up to six hours). Any course that is cross-listed with several departments will count in the department in which the student has the most hours, regardless of how the student registers for the course.
- The grade point average of all work in neuroscience (not including ancillary requirements) must be at least a 2.0.
- A grade of D in a required neuroscience course will not fulfill the requirement, although the credit hours will count toward graduation. If a student receives a grade of D in a required course, he or she must receive a C- or better on an alternative course that meets the requirement, or retake the course and earn a C- or better (and receive zero college credit because the student has already received credit for the D).

Neuroscience Major required courses (credits are in parentheses)

Ancillary Foundation Courses (23 cr; do not count toward major hours or major GPA):
1. Ancillary Molecular Biology requirement (complete one of the following):
   - MCDB 1150* with 1161 or 1171 (4-5) – Intro to MCDB with Lab
   *the above is the preferred and recommended choice
   -MCDB 1111 or 1161 or 1171 (4-5) Core Concepts in Biology I: Evolutionary, Molecular and Cell Biology
   Taking one of the 2-credit labs also covers the lab in requirement #7
   -EBIO 1210 with 1230 (4) – General Biology 1 with Lab
2. Ancillary Calculus requirement (complete one of the following):
   - MATH 1300 (5) – Analytical Geometry and Calculus 1
   - MATH 1310 (5) – Calculus, Systems and Modeling
3. Ancillary General Chemistry sequence requirement (complete one of the following sequences):
   - CHEM 1113 with 1114 (5) and CHEM 1133 with 1134 (5) – General Chemistry 1 and 2 with Labs
   - BCHM/CHEM Majors: the for-majors CHEM courses count. Discuss with your NRSC advisor.
4. Ancillary Organic Chemistry requirement (complete one of the following):
   - CHEM 3311 (4) Organic Chemistry 1
   - CHEM 3351 (4) or CHEM 3451 (4) Organic Chemistry I for BCHM/CHEM Majors
     Students planning graduate/medical school, or work in the biotechnology industry should plan to take
     CHEM 3331 and CHEM 3341, Organic Chemistry II with Lab. Students should verify program
     requirements for any additional Chemistry pre-requisites.

Lower Division Neuroscience Major Requirements (13-14 cr; count towards major hours and GPA):
5. NRSC 2100 (4) – Introduction to Neuroscience (EBIO 1210 or MCDB 1111 or MCDB 1150 is the pre-requisite)
6. NRSC 2200 (2) – Laboratory Techniques in Neuroscience (NRSC 2100 is the pre-requisite)
7. Genetics: Complete one of the following courses (completion of requirement #1 is a pre-requisite):
   - MCDB 2150 or 1161 or 1171 or 2171 (4-5) – Principles of Genetics with Lab (preferred)
   - EBIO 2070 (4) - Genetics: Molecules to Populations (check pre-requisites)
8. Statistics/Computation requirement (complete one of the following; first check pre-requisites):
   - IPHY 2800 (4) – Introduction to Statistics
   - EBIO 1010 (3) – Introduction to Quantitative Thinking for Biologists
   - ECON 3818 (4) – Introduction to Statistics with Computer Applications
   - MATH 2510 (3) – Introduction to Statistics
   - PSYC 2111 (4) – Psychological Sciences I: Statistics (replaces PSYC 3101 starting FA 2015)
   - BCOR 1020 (3) – Business Statistics
Upper Division Neuroscience major requirements (21-22 cr; count towards major hours and GPA):

9. Complete MCDB 3135 (3) – Molecular Cell Biology 1 (check pre-requisites)

10. Complete at least three of the following Neuroscience Core courses (check pre-requisites for each):
    - NRSC 4032* (3) – Neurobiology of Learning and Memory
    - NRSC 4052* (4) – Behavioral Neuroscience
    - NRSC 4072* (3) – Clinical Neuroscience
    - NRSC 4082 (3) – Neural Circuits of Learning
    - NRSC 4092* (3) – Behavioral Neuroendocrinology
    - NRSC 4132* (3) – Neuropsychopharmacology

11. Complete at least 9 hours of upper division elective coursework by taking additional courses from requirement #10 (see above) or from the following Psychology and Neuroscience and General Science courses, with a maximum of 6 credit hours taken outside of Psychology and Neuroscience (please check all pre-requisites and co-requisites before enrolling in courses):

   Psychology and Neuroscience
   NRSC 4011 (3) – Senior Thesis
   NRSC 4015 (3) – Affective Neuroscience
   NRSC 4062* (3) – Neurobiology of Stress
   NRSC 4155/PSYC 4155 (4) – Cognitive Neuroscience/Neuropsychology
   NRSC 4545 (3) – Neurobiology of Addiction
   NRSC 4542 (3) – Neurobiology of Mental Illness
   PSYC 3005 (3) – Cognitive Science
   PSYC 4142 (3) – Brain Injury, Plasticity and Recovery: From Neuron to Behavior
   PSYC 4165 (4) – Psychology of Perception
   PSYC 4175 (4) – Computational Cognitive Neuroscience
   NRSC 4542 (3) – cellular basis of disease
   NRSC 4544 (3) – Cellular Basis of Disease
   PSYC 4155 (4) – Cognitive Neuroscience/Neuropsychology
   PSYC 4165 (4) – Psychology of Perception
   PSYC 4175 (4) – Computational Cognitive Neuroscience

   ECEN 4821 (3) – Neural Systems & Physiological Control
   ECEN 4831 (3) – Brains, Minds, and Computers
   Ecology & Evolutionary Biology
   EBIO 3240 (4) – Animal Behavior
   Integrative Physiology
   IPHY 3410 (3) – Human Anatomy
   IPHY 3430 (3) – Introduction to Human Physiology
   IPHY 3470 (3) – Human Physiology 1
   IPHY 4200 (3) – Physiological Genetics and Genomics
   IPHY 4580 (3) – Sleep Physiology
   IPHY 4720 (4) – Neurophysiology
   Molecular, Cellular & Developmental Biology
   MCDB 3140 (2) – Cell Biology Lab
   MCDB 3280 (3) – Molecular Cell Physiology
   MCDB 4201 (3) – From Bench to Bedside: The Role of Science in Medicine
   MCDB 4426 (3) – Cell Signaling and Developmental Regulation
   MCDB 4444 (3) – Cellular Basis of Disease
   MCDB 4680 (3) – Mechanisms of Aging
   MCDB 3651 (3) – The Brain: Dysfunction to Disease

* If these courses were taken under their prior PSYC heading (i.e. PSYC4032), they still apply to the major.

College of Arts and Sciences Degree Requirements

In addition to the basic Arts & Sciences requirements (foreign language, MAPS, College Core Curriculum, etc.), candidates for the Bachelor of Arts degree must fulfill the following minimum college requirements:

1. A total of 120 hours passed. Only 45 hours from any one department can contribute to this total. (Up to 6 hours of designated departmental honors courses are exempted from this maximum.)
2. 45 semester hours of upper-division work (courses numbered in the 3000’s to 4000’s)
3. Minimum 2.0 GPA overall and in the major.
4. Completion of 45 hours at the University of Colorado at Boulder, 30 of which must be upper division in the College of Arts and Sciences after matriculation.
5. The requirements for the student’s major as set by the department.

Drafted: 8/27/11 (Updated: 08/1/17)