Beginning Fall 2012

Concentration in Cognitive Neuroscience

(Option A – Biol Major/Psych Minor)

BA in Biology with Psych Minor
Coursework in Biological Sciences: (45 qtr hrs total)
- BIOL 1011 (Winter Qtr) Evolution, Heredity, Biodiversity (with lab) (5 hrs)
- BIOL 1010 (Spring Qtr) Physiological Systems (with lab) (5 hrs)
- BIOL 2120 (Fall Qtr) Cell Structure and Function (with lab) (5 hrs)
- BIOL 2510 General Genetics (Winter Qtr) (with lab) (5 hrs)
- Either BIOL 2010 General Ecology (Fall Qtr) or BIOL 2050 Conservation Biology (Spring Qtr) (5 hrs)
- BIOL 3646 Seminar: Cognitive Neuroscience (2 hrs)
- Any three of the following:
  - BIOL 3640 Intro to Neurobiology or
  - BIOL 3642 Neuropharmacology or
  - BIOL 3641 Systems Neuroscience or
  - BIOL 3650 Endocrinology
- BIOL 2xxx and BIOL 3xxx Electives for a total for 45 qtr hrs (with no more than 5 hrs of BIOL 3991 Independent Study and/or BIOL 3950 Undergraduate Research)

Specialty Psychology Minor: (22 qtr hrs total)
Pre-requisite course: SOCS 1710 — Foundations in Psychology (counts toward Foundation Requirement)
- PSYC 2031 Intro to Cognitive Neuroscience
- Either PSYC 2040 Cognition and Learning or PSYC 2130 Neural Bases of Perception
- Either PSYC 2080 Drugs and Behavior or PSYC 2150 Motivation and Emotion or PSYC 3666 Brain Development and Cognition
- PSYC 3035 Seminar: Cognitive Neuroscience (2 hrs)
- At least one elective:
  - Additional course listed above
  - PSYC 2050 Child Development
  - PSYC 2500 Abnormal Psychology
  - PSYC 2510 Personality
  - PSYC 2740 Social Psychology

Chemistry - ONE YEAR that includes:
- CHEM 1010 General Chemistry (with lab)
- CHEM 2451 Organic Chemistry I (with lab)
- CHEM 2xxx or higher (at least 4 hrs)

Math: (8 qtr hrs of mathematics/statistics)
- Either MATH 1951 AND 1952
- or [MATH 1200 or 1951] and [BIOL 2090 or PSYC 2300]

BS in Biology with Psych Minor
Coursework in Biological Sciences: (45 qtr hrs total)
- BIOL 1011 (Winter Qtr) Evolution, Heredity, Biodiversity (with lab) (5 hrs)
- BIOL 1010 (Spring Qtr) Physiological Systems (with lab) (5 hrs)
- BIOL 2120 (Fall Qtr) Cell Structure and Function (with lab) (5 hrs)
- BIOL 2510 General Genetics (Winter Qtr) (with lab) (5 hrs)
- Either BIOL 2010 General Ecology (Fall Qtr) or BIOL 2050 Conservation Biology (Spring Qtr) (5 hrs)
- BIOL 3646 Seminar: Cognitive Neuroscience (2 hrs)
- Any three of the following:
  - BIOL 3640 Intro to Neurobiology or
  - BIOL 3642 Neuropharmacology or
  - BIOL 3641 Systems Neuroscience or
  - BIOL 3650 Endocrinology
- BIOL 2xxx and BIOL 3xxx Electives for a total for 45 qtr hrs (with no more than 5 hrs of BIOL 3991 Independent Study and/or BIOL 3950 Undergraduate Research)

Minor coursework requirements: The BS in Biology with concentration in Cognitive Neuroscience requires TWO minors: a specialty minor in Psychology and a minor in Chemistry.

Specialty Psychology Minor: (22 qtr hrs total)
Pre-requisite course: SOCS 1710 — Foundations in Psychology (counts toward Foundation Requirement)
- PSYC 2031 Intro to Cognitive Neuroscience
- Either PSYC 2040 Cognition and Learning or PSYC 2130 Neural Bases of Perception
- Either PSYC 2080 Drugs and Behavior or PSYC 2150 Motivation and Emotion or PSYC 3666 Brain Development and Cognition
- PSYC 3035 Seminar: Cognitive Neuroscience (2 hrs)
- At least one elective:
  - Additional course listed above
  - PSYC 2050 Child Development
  - PSYC 2500 Abnormal Psychology
  - PSYC 2510 Personality
  - PSYC 2740 Social Psychology

Chemistry Minor: (20 hrs minimum)
- CHEM 1010 General Chemistry (with lab)
- CHEM 245x Organic Chemistry I, II, and III (with labs)
- CHEM 2110 Analysis Equilibrium Systems (with lab)

NOTE: Many graduate programs (including medical schools) require at least 2 yrs of chemistry - one year of inorganic and one year of organic. To satisfy a year-long requirement for inorganic chemistry, students should also take CHEM 2130 Chem of the Elements. Some graduate programs also require or recommend biochemistry.

(continued on pg. 2)
Math: (12 qtr hrs)
- Either MATH 1951, 1952, 1953
- or MATH 1951, 1952 AND [BIOL 2090 or PSYC 2300]

Physics: (15 qtr hrs)
- PHYS 111x Gen Physics (with labs) or
- PHYS 121x University Physics (with labs)

Concentration in Cognitive Neuroscience (Option B – Psych major/Biol minor)

BA or BS in Psychology: Information regarding a Psychology Major is available through the Department of Psychology.

Specialty Biology Minor: (27 qtr hrs)
- Either BIOL 1011 (Winter Qtr) Evolution, Heredity, Biodiversity (with lab) (5 hrs) AND BIOL 1010 (Spring Qtr) Physiological Systems (with lab) (5 hrs)
- or NATS 122x Molecules to Humankind (with labs) (12 hrs)
- BIOL 2120 Cell Structure and Function (with lab) (5 hrs)
- BIOL 3646 Seminar: Cognitive Neuroscience (2 hrs)
- At least TWO of the following:
  - BIOL 3640 Introduction to Neurobiology
  - BIOL 3641 Systems Neuroscience
  - BIOL 3642 Neuropharmacology

Concentration in Cognitive Neuroscience (Option C - Biology/Psychology Double Major)

Biology Major: Follow specialty coursework listed on pg. 1 for BA or BS in Biology.

Psychology Major: Follow major requirements posted by Department of Psychology.

Additional requirements and notes for BA/BS in Biology

ASSESSMENT – All Biology majors will participate in program assessment activities in their first year (knowledge pre-test) and in their last quarter at DU (knowledge post-test, Senior survey, and digital submission of an example of their best work in Biology). During the BIOL experience at DU, plan to keep digital copies of your best works (could be advanced lab, research project, analysis paper, challenging exam, or other work) for self-evaluation and submission into the Assess-It system before graduation.