

Neuroscience Major

Requirements	<u>Current</u>	<u>Proposed</u>
Prerequisites (7) [Proposed 6]	Psych 6 Psych 10 or equivalent Bio 15 (now Bio 12)	Psych 6 or Bio 34 Psych 10 or Bio 29
	Any 4 of the following: Math 3, 4 Chem 5, 6 Phys 3, 4 Comp Sci 5, 15 Engin 20	Any 4 of the following: Math 3, 4 Chem 5, 6 Phys 3, 4 Comp Sci 5, 15 Engin 20
Required Courses (7) [Proposed 8]	Psych 21 or 28 Psych 26 Psych 65	Psych 21 or 28 Psych 26 Psych 65 Psych 46 or Bio 12 & 13
	Four Electives (1 must be \geq 70s)	Four Electives (2 must be \geq 50s)
Culminating Exp. (1)	Psych 90, 91	Psych 90, 91 or Psych 80's seminar or Bio 74

Notes:

- Due to redundancy - you cannot get credit for both Psych 6 and Bio 34.
- Electives must have a significant neuroscience content and be approved by the NS Committee.
- All Bio courses will have Bio 11 (Introduction to Biology) as a prerequisite. This requirement will be waived for those students who have already taken some Bio courses.

Courses that Qualify for Elective Credit

Bio 27 - Animal Behavior
Bio 37 - Endocrinology
Bio 39 - Computational Molecular Biology
Bio 63 - Developmental Genetics
Bio 69 - Cell Signaling
Bio 74 - Advanced Neurobiology
Bio 79 - Genetics and Physiology of Behavior

Psych 21 - Perception
Psych 28 - Cognition
Psych 50 - Issues in Neuroscience
Psych 51 - Issues in Information Processing (only those courses that contain sufficient neuroscience content will be allowed for credit)
Psych 52 - Issues in Learning and Development (only those courses that contain sufficient neuroscience content will be allowed for credit)
Psych 60 - Principles of Human Brain Mapping fMRI
Psych 64 - Laboratory in Sensory Psych
Psych 80s - Seminar courses with a neuroscience emphasis

Some Education courses that contain a neuroscience emphasis (approved on a year-to-year basis)

Some Mathematics and Computer Science courses for students interested in computational neuroscience (approved on a year-to-year and per student basis)

Some graduate level courses that may be open to undergraduates (may vary with different years). For example, Neuroscience 150 (co-listed Physiology 150) will be offered Spring of 2007 and will be open to students who have taken Psych 6, Bio 34 or Medical Neuroscience at DMS. Psych 111 (Granger W07), may also possibly be open to advanced undergraduates.

Specific Courses Approved for Elective Credit 2006-2007

Psych 50's level courses:

Psych 50 (Fall, 10) Hemispheric differences in the human brain (Funnell)
Psych 50 (Fall, 10A) Hormones and behavior (Robinson)
Psych 50 (Winter, 10A) Spatial cognition and navigation: a neurobiological perspective (Taube)
Psych 50 (Winter, 11) Drugs and behavior (Robinson)
Psych 50 (Spring, 2A) Sleep and sleep disorders (Sateia)
Psych 51 (Fall, 2A) Cognitive Development (Stein)
Psych 51 (Spring, 2) The Psychology of thinking, reasoning, and problem solving (Dunbar)
Psych 52 (Spring, 12) Animal behavior and learning (Cramer)
Psych 52 (Spring, 9L) Developmental psychopathology (Scheiner)
Psych 53 (Spring, 10A) Emotion (Whalen)

Psych 60's level courses

Psych 60 (Winter, 2A) Principles of human brain mapping with MRI (Van Horn)

Psych 80's level courses (also satisfy the Culminating Experience):

Psych 80 (Spring, 3A) Functional neuroanatomy through clinical cases (Steven)
Psych 81 (Fall, 10A) The broken brain (Kelley)
Psych 82 (Spring, 10A) Transgenic approaches in behavioral neuroscience (Robinson)
Psych 86 (Spring, 2A) The neural basis of consciousness (Tse)
Psych 87 (Fall, 10A) Nature and nurture (Cramer)

Education courses

Education 50 (Spring, 9L) The reading brain (Coch)
Education 58 (cross listed with Psych 52) (Winter, 10A) Language acquisition (Petitto)

Graduate level courses:

Physiology 150 (Spring, Time TBD) Advanced Neuroscience (Henderson)
Psych 111 (Winter, Time TBD) Computational Neuroscience (Granger)

New Courses for 2006-2007

Psych 46 - Cellular & Molecular Neuroscience (Spring, 11 [probably]) Maue
Combines many of the neural aspects of Bio 12 (Cell Structure) and Bio 13 (Gene Regulation). Prerequisite: Psych 6 or Bio 34.

Psych 111 – Computational Neuroscience (Winter, TBA) Granger
Graduate level course that advanced undergraduates could take if interested in computational analyses. Permission of instructor.

Physiology 150 – Advanced Neuroscience (Spring, TBA) Henderson
Designed for graduate students and those undergraduates at the advanced level with an interest in the integration of neuroscience from molecular through behavioral aspects.
Prerequisite: Psych 6 or Bio 34; permission of instructor.