

Neuroscience and Behavior B.A. Major Requirements & Pre-Health Concentration

Total Credits: 86

Prerequisite Credits: 27

Major Credits: 40

Pre-Health Concentration Credits: 19

Prerequisites: (27 credits)-

Intro Psych PSY 10000 or 20000 (University Core 5 or AP credit)
Calculus I MATH 10350 or 10550
Calculus II MATH 10360 or 10560 (Either Calculus I or II can count towards the University Core 1)
General Chemistry I & Lab CHEM 10171/11171 (Can count towards the University Core 2)
Organic Chemistry I & Lab CHEM 10172/11172 (Can count towards the University Core 3)
BIOS: Big Questions (BIOS 10171) & Lab (BIOS 11173)
BIOS: Molecules to Ecosystems (BIOS 10172) & Lab (BIOS 11174)

Required Core: (19 credits)

NSBH Core 1: Systems Neuroscience (NSBH/SC 20450 and 21450) & Lab
NSBH Core 2: Intro to Cognitive Neuroscience (NSBH/PSY 30520)
NSBH Core 3: Molecular Neuroscience (NSBH/CHEM30301)
Perspectives on the NSBH major (NSBH 20010)
Psychology Statistics (PSY 30100)
PSY Research Methods (PSY 30160)

Biological Science Electives: (2 courses/6 credits minimum)

Required:

Human Physiology BIOS 30344

1 course/3 credits minimum) from the following:

| | |
|--|---------------------------|
| Animal Behavior | BIOS 30407 |
| Embryology | BIOS 30301 |
| Cellular Neurobiology | BIOS 30410 |
| Advanced Neurobiology | BIOS 30338 |
| Developmental Neuroscience | BIOS 40202 |
| Human Gross Anatomy | BIOS 40339 |
| Neuro-Infectious Disease | BIOS 40203 |
| Clinical Resrch Rare Neglct Dis | BIOS 40450/60565 |
| Intro to Mol and Med Pharma | BIOS 40436 |
| Topics in Neuro: Neuroendocrinology | BIOS 60572 |
| Topics in Neuro: Sex Diff in Brain & Behav | BIOS 60572 |
| Topics in Physiology | BIOS 60571 (Li, Duffield) |
| Behavioral Ecology | BIOS 60552 (Archie) |

Psychological Science Electives: (2 courses/6 credits minimum)

| | |
|------------------------------------|----------------|
| Cognitive Psychology | PSY/NSBH 30400 |
| Sensation perception | PSY/NSBH 30440 |
| Learning and Memory | PSY/NSBH 30430 |
| Abnormal psychology | PSY/NSBH 30310 |
| Adolescent development | PSY/NSBH 30220 |
| Developmental Psychology | PSY/NSBH 30200 |
| Cognitive Aging | PSY/NSBH 33528 |
| Neurodevelopmental disorders: ADHD | PSY/NSBH 43451 |
| The sleeping brain | PSY/NSBH 43562 |
| Intro to quant neuroscience | PSY/NSBH 40126 |
| Food and the Brain | PSY/NSBH 43357 |
| Cognition & Emotion | PSY/NSBH 43308 |
| Language Development | PSY/NSBH 43251 |
| Mental Health and Aging | PSY/NSBH 43230 |
| Cognitive Development | PSY/NSBH 43250 |

Additional Elective Requirements: (3 courses/9 credits minimum)

Free choice among bio and psych electives already listed above as well as additional coursework opportunities in other departments. Up to 6 credits of undergrad research w/approved faculty advisers can be earned toward Additional Electives.

Required:

BioChemistry BIOS

2 courses/6 credits minimum from the following:

| | |
|---|---|
| Fundamentals of Bio Anthropology | ANTH 20201 |
| Human Ethology | ANTH 20105 (Hum. Kind Unpl. ANTH 10209) |
| Advanced Human Ethology | ANTH 43310 |
| Primate Behavior & Ecology | ANTH 35110 |
| Evolution/Med Perspectives Fatherhood | ANTH 40120 |
| Infancy: History, Development, Evolution | ANTH 30190 |
| Computational & Mathematical Neuroscience | ACMS 40740 |
| Artificial Neural Networks | ACMS 4XXXX |
| Neuropharmacology | CHEM/NSBH 40404 |
| Chemistry in Service of Community | CHEM 30331 |
| Brain Health Comm-Eng Research | CSC/NSBH 45000 |
| Physics of Cells | PHYS 50401 |
| Philosophy of Mind | PHIL 43901 |
| Minds, Brains, Persons | PHIL 20208 |
| Summer Service Learning Program: Plasticity and Compassion | CSC/NSBH 33939 |

PreMed (Medical School) Requirements: (19)

| | |
|----------------------------|------------------|
| General Chemistry II & Lab | CHEM 20273/21273 |
| Organic Chemistry II & Lab | CHEM 20274/21274 |
| Physics I & Lab | PHYS 20210/21210 |
| Physics II & Lab | PHYS 20220/21220 |
| BIO Electives | Genetics |
| Cell Bio | BIOS 30341 |

| <u>BA NSBH Major & PreMed Concentration Sample Curriculum</u> | |
|--|---|
| <u>First Year Fall</u> | <u>First Year Spring</u> |
| Bios: Big Questions & Lab | BIOS: Molecules to Ecosystems & Lab |
| Gen Chem I & Lab | Orgo Chem I & Lab |
| Intro Psychology | |
| | |
| | |
| <u>Sophomore Year Fall</u> | <u>Sophomore Year Spring</u> |
| Orgo Chem II & Lab | Gen Chem II & Lab |
| Calculus I | Calculus II |
| NSBH CR1: Systems Neuro & Lab | NSBH CR3: Mol Neuroscience |
| NSBH CR2: Intro to Cog Neuro | |
| | |
| | |
| <u>Junior Year Fall</u> | <u>Junior Year Spring</u> |
| Physics I & Lab | Physics II & Lab |
| Psychological Science Elective (1) | Additional Elective (BioChem) |
| Biological Science Elective (Human Phys) | Genetics (Pre-Health Req) |
| | Psychology Statistics |
| | |
| <u>Senior Year Fall</u> | <u>Senior Year Spring</u> |
| Perspectives on the NSBH Major | Psychological Science Elective (2) |
| Additional Elective (2) | Additional Elective (3) |
| Psychology Res Methods | |
| Biological Science Elective (2) | |