# Neuroscience Major Requirements (B.S.)

**Introductory Courses** *(must complete ALL)*

BIO 111 – General Biology and  BIO 112 – General Biology

CHE 120 – Chemical Principles of Organic Molecules and  140 – Reactions of Organic Molecules

PSY 111 – General Psychology and  PSY 112 – General Psychology

**Neuroscience Core** *(PSY 309\* - Statistics & Research Design II with Lab is also highly recommended)*

BIO 311 – Neurobiology with Lab

*OR*  PSY 210 – Biopsychology with Lab

MAT 109 – Statistical Inference & Data Analysis

OR  PSY 209 – Statistics & Research Design I with Lab

*Six advanced courses below must be taken from three different departments. At least two courses must be from each category and at least four courses must be at-or-above the 300-level.*

**Advanced Courses: Physical Properties of the Nervous System**

BIO 205 – Cellular and Molecular Biology with Lab

BIO 209 – Genetics with Lab

BIO 301 – Integrative Human Anatomy with lab

BIO 302 – Developmental Biology with Lab

BIO 350 – Introduction to Toxicology *(BIO 205 is a pre-requisite)*

BIO 394 – Special Topics *(may be cross-listed as NEU 394)*

BIO 424\* – Integrative Human Physiology with Lab *(\*W3 writing course)*

CHE 220 – Quantitative Chemical Analysis

CHE 303 – Chemistry of Biological Compounds

CHE 309/BIO 409 – Biochemistry *(BIO 205 is a pre-requisite)*

CHE 320 – Introduction to Medicinal Chemistry

NEU 294/394 – Special Topics

NEU 295/395 – On-Campus Research

**Advanced Courses: Emergent Properties of the Nervous System**

BIO 328 – Behavioral Ecology with Lab

PSY 233 – Traditional Psychiatric Disorders

*OR*  PSY 234 – Medical and Developmental Disorders

PSY 305 – Psychopharmacology with Lab

PSY 313 – Learning and Applied Behavioral Analysis with Lab

PSY 316 – Cognitive Neuroscience with Lab

PSY 317 – Sensation and Perception with Lab

PSY 410 – Neuroscience Research Methods with Lab

NEU 294/394 – Special Topics

NEU 295/395 – On-Campus Research

**Capstone**

NEU 300 – Junior Seminar

*OR*  BIO 392 – Biology Junior Seminar

*OR*  CHE 392\* – Chemistry Junior Seminar *(\*W3 writing course)*

*OR*  PSY 399\* – Psychology Junior Seminar *(\*W3 writing course)*

NEU SCE – Neuroscience Senior Capstone Experience

*SCE Advisor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

**NOTE:** Science students are highly encouraged to take Computer Science (CSI) courses to augment their undergraduate education. Especially recommended are a basic computing course such as CSI 100: Basics of Computing, and valuable foundational courses such as CSI 111: Computer Science and CSI 220: Data Science. Students interested in applying to graduate neuroscience programs, medical, health science, or veterinary schools should choose CHE 220 and CHE 309/BIO 409 as two of their advanced course electives with the major and should also take Calculus and General Physics courses. Students interested in such programs should consult with the Pre-Med advisor and their Neuroscience major advisor.