

BIOPSYCHOLOGY

Overview

Biopsychology sits at the interface of biology and psychology. It uses principles of evolution, genetics, physiology, neurobiology, and endocrinology and integrates information from these areas of study to explain perception, cognition, motivation, behavior, memory, and other aspects of the psychology of whole organisms.

Students concentrating in Biopsychology at New College typically emphasize biology or psychology but take a significant number of courses in the second discipline. Working closely with faculty, students have the flexibility to choose courses based on their interests and needs. Course selection should be made so that students acquire the skill sets most relevant for doing their own research work in their areas of interest, typically animal behavior and cognition, sensation and perception, neuroscience, and/or neuroendocrinology. Common paths for students who graduate in biopsychology include animal training, lab animal study and care, veterinary school, medical school, zoo or aquarium management, and graduate school in biology or psychology.

Faculty in Biopsychology

Peter Cook (<https://www.ncf.edu/directory/peter-cook/>), Associate Professor of Psychology

Jayne Gardiner (<https://www.ncf.edu/directory/jayne-gardiner-loewy/>), Associate Professor of Biology (On Leave)

Heidi Harley (<https://www.ncf.edu/directory/heidi-e-harley/>), Professor of Psychology/Peg Scripps Buzzelli Chair/Director of Environmental Studies Program

Athena Rycyk (<https://www.ncf.edu/directory/athena-rycyk/>), Associate Professor of Biology and Marine Science

Requirements for the AOC in Biopsychology

A minimum of twelve (12) academic units.

Code	Title
Introductory Biology Course	
Select one of the following:	
BIOL 2100	Foundations of Biology I* (Whole animal focus)
BIOL 2200	Foundations of Biology II* (Neuroscience focus)
Introductory Psychology Course	
Select one of the following:	
PSYC 2135	Introductory Psychology Seminar: The Sensory World of Animals*
PSYC 2140	Introductory Psychology Seminar: Animal Thinking*
PSYC 2145	Introductory Psychology Seminar: Animal Thinking with Dolphin Lab*
PSYC 2170	Introduction to Psychology Seminar: The Exotic Sensory World of Animals*
PSYC 2175	Introductory Psychology Seminar: Thinking Neuro-Scientifically*
Biological Psychology Course	
PSYC 3560	Biological Psychology

Quantitative Reasoning or Statistics Course

Select **one** from the following examples:

STAT 2100	Introduction to Applied Statistics*
BIOL 2150	Biostatistics
STAN 2700	Dealing with Data I*
STAN 2800	Dealing with Data II

Research Methods Course

BIOL 4960	Research Methods in Biology
or PSYC 4550	Research Methods in Psychology

Laboratory Course

Select **one** from the following examples:

BIOL 3210	Neurobiology Laboratory
BIOL 3360	Animal Behavior Laboratory
BIOL 3610	Fish Biology Laboratory
BIOL 4510	Organismic Biology Laboratory
PSYC 2300	Animal Behavior Processes Laboratory: Goldfish Learning and Cognition
PSYC 4400	Cognitive Laboratory in Parallel Approaches to Facilitating Wellbeing Across Species

Internship or Research Experience

On- or off-campus credit-bearing internship or participation in the Research Experiences for Undergraduates (REU) program of the National Science Foundation

Intermediate Electives

Select **one** intermediate elective from the following examples:

PSYC 3400	Cognitive Psychology
PSYC 3000	Behavioral Endocrinology
BIOL 3200	Neurobiology

Intermediate or Advanced Electives

Select **three** more intermediate or advanced electives, either whole animal-oriented or neuro-oriented:

Examples of Whole Animal-Oriented Electives:

BIOL 2360	Animal Behavior
BIOL 3370	Invertebrate Zoology
PSYC 3400	Cognitive Psychology
PSYC 4800	Humans and Other Animals: Exploration of a Complex Relationship

Examples of Neuro-Oriented Electives:

BIOL 3200	Neurobiology
PSYC 3000	Behavioral Endocrinology
PSYC 4100	Neuroscience of Sport and Exercise
PSYC 4410	Comparative Cognition
PSYC 4475	Advanced Topics in Cognitive Neuroscience
PSYC 4200	Laboratory in Comparative Brain Connectivity

Thesis Seminar

Select at least **one** thesis-oriented seminar or tutorial:

PSYC 4998	Psychology Senior Seminar
PSYC 4999	Psychology Senior Seminar II

Additional Requirement

Senior Thesis in Biopsychology and Baccalaureate Exam

Click here (<https://drive.google.com/file/d/12kGrCkVsEz8q4ZLh47gMunn45JV6lmch/view/?usp=sharing>) for a checklist of requirements.

Representative Senior Theses in Biopsychology

- Optimal Metacontrast Masking of Chromatic Stimuli with and without Luminance Cues
- Sex and Age-based Differences in the Hunting Behaviors of Schizocosa Spiders (Araneae: Lycosidae)
- Whistle Production Rates in a Group of Male Bottlenose Dolphins (*Tursiops truncatus*) Over Changes in Composition
- Tool Use in River Otters (*Lutra Canadensis*)
- Vocal Productions of Rhythms by the Bottlenose Dolphin (*Tursiops truncatus*)