

Questions about the Biological Psychology Concentration

What is the Biological Psychology Concentration?

The Biological Psychology Concentration provides an opportunity for a limited number of Biology and Psychology students to pursue a coherent curriculum that emphasizes the biological basis of behavior. As a concentration – it is not considered a major or minor.

Why should I be interested in this concentration?

Most importantly, it is fun. Students in the concentration are given the opportunity to go beyond the normal classroom experience. Rather than read about science, students are given a hands-on research experience. It is also fun to join other students who share a similar interest in the neurosciences for a number of academic and social functions. Joining the Concentration also ensures access to courses outside your major. For example, it is uncommon for Biology majors to be able to enroll in any Psychology course beyond *Introduction to Psychology (Psy 100)*. The same issue applies to Psychology majors wishing entrance into many courses in the Biology Department. Lastly, participation in this type of program often makes students more competitive when applying to graduate programs.

Who can apply? When does the application process take place? What is involved in applying to the concentration?

All second year Psychology and Biology majors will be invited to an informational meeting early in the spring semester – usually the first week of February. The deadline for turning in completed applications is typically the first Friday in March. Within two to three weeks students are notified of the status of their application. The application process is not complicated. Students fill out a brief form and are asked to write a one to two page essay in which they describe why they are interested in joining the Concentration and how participation in the Concentration will benefit their educational goals. This essay should also describe a student's potential interest in having the opportunity to conduct research with a faculty member during their senior year. In addition to the essay, decisions are based upon two letters of recommendation and consideration of a student's academic performance (GPA) while at Holy Cross. Students who participate in the junior year abroad program are not allowed to apply to the concentration.

How many students are accepted into the program and why is the Concentration limited in size?

Approximately eight students (4 Psychology Majors and 4 Biology Majors) are accepted into the Concentration each year. The primary reason for limiting the number of students entering the Concentration concerns resources. Since students are required to take courses outside their major – larger numbers would have a negative impact on

enrollment levels in some courses that are in high demand. Most importantly, most agree the opportunity to conduct independent research with faculty is crucial to the success of the Concentration. It would be difficult to provide a quality research experience to large numbers of students.

If I join the Concentration, what are the requirements?

- 1) An introductory course in Biology; one of:
 - Biology 131 (Bio Majors Only)
 - Biology 120, 121 (Pre-med Psych Majors – not taken before 3rd year)
- 2) Introduction to Psychology (Psychology 100 or 101)
- 3) Four additional courses chosen from the following list – one of these must be in the non-major department.

Psychology Courses

Sensation and Perception (Psy 220)	Psychology of Language (Psy 237)
Physiological Psychology (Psy 221)	Evolution and Behavior (Psy 253)
Learning (Psy 223)	Biology of Mental Disorders (Psy 315)
Drugs of Abuse (Psy 316)	Biology of Consciousness (Psy 399)
Cognition and Memory (Psy 236)	Hormones and Behavior (Psy 322)
Neuroanatomy and Behavior (Psy 321)	Mind, Body, Health and Medicine (Psy 366)
Cognitive Neuroscience (299)	

Biology Courses

Biology Principles Bio 114 (Approval of Concentration Director required)
Vertebrate Endocrinology (Bio 241)
Cellular Biology (Bio 266) [Lab Required] Biochemistry (Bio 301)
Evolution (Bio 283)
Ethology and Behavioral Ecology (Bio 287)
Animal Physiology (Bio 390) [Lab Required]

4) Students conducting two semesters of senior research thesis for course credit are not required to take any additional courses. If a student's research experience is limited to one semester of course credit, they would need one additional course from the above list. Students who choose not to conduct any thesis work must take two additional courses from the above list.

5) In addition, concentrators must complete two semesters in another science or mathematics (e.g., chemistry, physics, or mathematics).

6) Concentrators are **expected** to attend and participate in two to three co-curricular programs per semester (e.g. attend colloquium or other Concentration sponsored social functions). Failure to attend a minimum number of these co-curricular programs may result in a student being removed from the Concentration.

What types of research experiences are available to members of the Biological Psychology Concentration?

Holy Cross faculty supervises student research projects – typically ongoing projects within the labs of faculty members of the Concentration. Pending approval from the Director, it may also be possible to work with faculty outside of the Concentration. Students can choose from a wide variety of topics in the neurosciences ranging from cellular to behavioral approaches. The list of faculty within the concentration (see below) includes a very brief description of their research interests.

How can I learn more about the Concentration?

Feel free to contact any of the following faculty members of the Concentration.

Psychology Department

Research Interests

John Axelson (Director)	Neuroendocrinology, health & medicine
Daniel Bitran	Biological substrate of anxiety & stress, steroids and memory
Charles Locurto	Biological influences on learning & intelligence testing
Richard Schmidt	Information processing, consciousness, motor control
Greg DiGirolamo	Neurobiological & psychological mechanisms of cognitive control

Biology Faculty

Research Interests

Ken Prestwich	Acoustic signals and sexual selection: energy, signal design and attractiveness
Mary Lee Ledbetter	Communication among cultured animal cells using electrical synapses (gap junctions).
Cara Constance	Biological (Circadian) Rhythms

You should also feel comfortable contacting current members of the Concentration.

Class of 2008

Class of 2009

George Antonio
Caroline Bennett
Nicole Friebel
Mary Hickey
Kerrilyn Murhpy
Lauren Nutlie
Melissa Rubes
Ashley Trama

Lesley Bautista
Emily Cupelo
Lisa Gagne
Julie Guest
Annmae Javier
Amanda McLaughlin
Nischal Nadig
Catherine Zopf