Millersville University offers a B.S. in biology with an option in animal behavior. This option is designed for students who wish to specialize in the study of animal behavior, a science that considers the causes, functions, development, physiological mechanisms and evolutionary history of animal behavior. Students can select coursework that will prepare them for careers working with animals in the context of research, conservation, education, zoos and aquariums, or for graduate programs in research or veterinary medicine.

DEGREES/CONCENTRATIONS

BACHELOR OF SCIENCE (B.S.)

Biology, Animal Behavior Option – The animal behavior option offers comprehensive classroom instruction, laboratory training and field experience in all aspects of animal behavior, including classical ethology, behavioral ecology and the physiological mechanisms underlying behavior.

MINORS

Many animal behavior option students combine their interest in animal behavior with their goal of becoming a veterinarian by selecting courses that provide a strong foundation in animal comparative anatomy and physiology.

Other students choose to complete a second option within the biology major, such as the environmental biology option, for those interested in applying the study of behavior to the management and conservation of wild animals, or the marine biology option, for those particularly interested in the behavior of marine animals.

Another common combination for students in the animal behavior option is to take advantage of the opportunity to minor or double-major in psychology.

COURSES

Additional information about the animal behavior option, including required coursework, can be found at www.millersville.edu/academics/scma/biology/degrees/animal-behavior-option.php.

OVERVIEW

Millersville University’s animal behavior option offers rigorous classroom instruction in a small-class setting, and opportunities to work with live animals both in the lab and in the field. Students are required to participate in either independent research with a professor or to complete an off-campus internship in animal behavior. A wide range of research and internship opportunities are available, and students are provided with guidance and support so they may choose an experience that best meets their own personal interests and goals.

CO-OPS AND INTERNSHIPS

All students in the animal behavior option gain out-of-classroom, hands-on experience working with animals by either participating in an animal behavior-related co-op or internship, or by conducting independent research with professors. These in-depth opportunities give students real-world experiences that solidify their classroom learning and prepare them for careers in animal behavior.
ABOUT OUR GRADUATES

All graduates of this program will possess a solid foundation in the ethological principles of animal behavior as well as an understanding of the physiological bases of animal behavior. Students can also receive training in the evolution of animal behavior in response to ecological pressures, and on the application of animal behavior to working with animals under human management. Our graduates will also gain familiarity with a variety of modern research approaches used to study animal behavior in the lab and field. Given the strength of our core biology curriculum, all graduates will possess a strong background in biology that will make them competitive for jobs within or outside the animal behavior arena.

FACILITIES AND EQUIPMENT

Students benefit from the chance to take a diversity of field courses offered at the Chincoteague Bay Field Station in Wallops Island, Virginia. These courses provide unique opportunities to gain field-based training in behavioral ecology, conservation biology, marine biology and more.

FACULTY

Animal behavior faculty are devoted to teaching and draw from their extensive research experience.

Dr. Jean Boal is a world expert in the cognitive behavior of cephalopods (octopuses, cuttlefishes and squids). She also studies the communication and predatory behavior of feral cats.

Dr. John Hoover is an experienced neurobiologist who studies the neural control of movement in mammals. He uses neuroanatomical techniques to map motor circuits in the brain and spinal cord.

Dr. Brent Horton is an active field biologist who studies the hormonal and genetic bases of social behavior in wild birds. He is currently studying social networking in an Amazonian bird species.

Several other faculty members have important, behavior-related expertise:

Dr. Aaron Haines is a certified wildlife and conservation biologist who teaches courses in mammology, ornithology and conservation biology.

Dr. Sharmin Maswood is an expert in the behavioral neuroscience of mammals. Her research focuses on the interactions between steroids and cognition in rats.

Faculty in the psychology department who also contribute to the education of our animal behavior students include Dr. Kelly Banna (learning and motivation), Dr. Shawn Gallagher (sensory biology and behavior) and Dr. Debra Vredenburg (animal-human interactions).

To learn more about our biology department, including our faculty, go to www.millersville.edu/academics/scma/biology/faculty/index.php.

STUDENT & ALUMNI SPOTLIGHTS

Jennifer Houtz ’18
Jennifer is currently studying the social behavior of Amazonian birds and the development of gut microbiomes in nestling sparrows.

Amber Lewis ’13
Amber is currently a student at St. George’s University School of Veterinary Medicine. As an undergraduate, Amber developed new methods for determining the prey of feral cats, based on scat analysis.

Marshall Edens ’09
Marshall is a science teacher at Conestoga Valley Senior High School. As an undergraduate, Marshall studied the impact of traffic noise on the dawn chorus of songbirds.

Paula Roy ’06
Paula is a doctoral candidate in ecology and evolutionary biology at the University of Kansas. As an undergraduate, Paula demonstrated conceptual learning in octopuses and coauthored an international publication on the research.

Carrie (Warso) Blakeslee ’06
Carrie is a research ecologist at the United States Geological Survey. As an undergraduate, Carrie studied learning in octopuses.

Jessica (Grudowski) Cobb ’04
Jessica is an environmental specialist at the New Jersey Department of Environmental Protection. As an undergraduate, Jessica studied the behavior of cuttlefish.