ANIMAL BEHAVIOR, ECOLOGY, AND CONSERVATION - ABEC

ABEC 101 Introductory Animal Behavior I
This course covers a broad overview of animal behavior, from the ideas and theories that have shaped the field to basic approaches used to study behavior. We will discuss behavior from a variety of animals, ranging from insects to mammals (including humans!). Special attention will be given to examining the research that shapes the field.
Offered: every fall.
3 Credits

ABEC 102 Introductory Animal Behavior II
Foundational evolutionary and ecological theories in Animal Behavior. Explore key behaviors that lead to an animal’s survival including foraging, mating, habitat selection, and social behavior as well as methods to study animal behavior. Also compare animal behavior in the news to the scientific literature
Offered: every spring.
3 Credits

ABEC 216 Topics in Animal Behavior
Topics in animal behavior will cover varying subdisciplines within animal behavior to offer students an in-depth learning experience. Topics may include areas such as companion animal care, wildlife rehabilitation, captive management, and educating about wildlife.
Prerequisite: ABEC101 or ABEC102.
Offered: occasionally.
3 Credits

ABEC 217 Connecting ABEC to the Wider World
This course aims to introduce and explore the many ways that a degree in Animal Behavior, Ecology, and Conservation (including the four minor areas of Anthrozoology, Animal Behavior, Conservation, and Zoo Biology) is beneficial across a variety of professions. Through readings, discussion and interviews with professionals at various stages of their careers, students will learn how to leverage their academic experience in pursuit of a successful professional career.
Prerequisite: ABEC 101 or ABEC 102 (may be taken concurrently).
Offered: occasionally.
3 Credits

ABEC 219 Diversity of Life
Explore the immense diversity of life from an evolutionary perspective. This course will focus on the characteristics and ecological functions of the major groups of prokaryotes, protists, plants, fungi, and animals.
Prerequisite: ABEC 101 and ABEC 102 (may be taken concurrently).
Offered: once a year.
3 Credits

ABEC 220 Animal Learning
Animal learning and memory research with emphasis on practical animal training. Lab required.
Prerequisites: ABEC 101 & ABEC 102. Corequisite: ABEC 220L.
Offered: every spring.
3 Credits

ABEC 220L Animal Learning Lab
Required animal learning lab that emphasizes practical animal training.
Prerequisites: ABEC 101 & ABEC 102. Corequisite: ABEC 220.
Offered: every spring.
1 Credit

ABEC 250 Zoo Animal Husbandry
Topics in animal husbandry in the zoo setting. Focus is on the specific needs of different taxonomic groups, environmental management, veterinary monitoring, nutrition, and programming.
Prerequisites: ABEC 101 & ABEC 102.
Offered: Spring of odd-numbered years.
1 Credit

ABEC 251 Zoo Animal Management
Modern practices in zoo mission implementation. Focus on managing many facets of zoos: individual animals, populations of animals, visitors, research, education, staff, and budgets. The course is highly project-based and involves considerable group work and participation.
Prerequisites: ABEC 101 & ABEC 102.
Offered: every spring.
3 Credits

ABEC 300 Research Participation
Recognition for ABEC research assistants, does not carry credits.
Restriction: permission of instructor.
Offered: every semester.
0 Credits

ABEC 301 Research Participation (credit)
Recognition for ABEC research assistants. Can be taken up to 3 times for major elective credit; more than three times credit is free-elective.
Restriction: permission of instructor.
Offered: every semester.
1 Credit

ABEC 332 Animal Welfare
How human activity has altered the planet and how those modifications affect the behavior of animals. Review of key principles through the lens of Behavioral Ecology in regards to species requirements for survival, major threats to species existence, and conservation solutions to reduce those threats. Identification of positive human behavior for conservation outcomes.
Prerequisites: ABEC 101 & ABEC 102.
Offered: every fall.
3 Credits

ABEC 333 Conservation Behavior
How human activity has altered the planet and how those modifications affect the behavior of animals. Review of key principles through the lens of Behavioral Ecology in regards to species requirements for survival, major threats to species existence, and conservation solutions to reduce those threats. Identification of positive human behavior for conservation outcomes.
Prerequisites: ABEC 101 & ABEC 102.
Offered: every fall.
3 Credits

ABEC 335 Conservation Education
Applying the theories and principles of conservation psychology to education in informal settings (zoos, aquariums, wildlife refuge). Assessing attitude and behavioral outcomes of conservation education programs.
Prerequisites: ABEC 101 & ABEC 102. Restriction: juniors and seniors only.
Offered: most fall semesters.
3 Credits

ABEC 339 Animal Enrichment
This course emphasizes the role of enrichment in various contexts (laboratory, shelter, and zoo). Multiple opportunities to design and implement enrichment are provided. The course uses the S-P-I-D-E-R framework for enrichment design and effectiveness.
Prerequisites: ABEC 101 & ABEC 102.
Offered: spring of even-numbered years.
3 Credits

ABEC 340 Research Methods in Animal Behavior
Observational and experimental research methods commonly used in studies of wild, captive, and domesticated animals. Evaluate peer-reviewed journal articles, research questions and hypotheses, collect behavioral data in observational and experimental contexts, and analyze and interpret data.
Prerequisites: ABEC 101, ABEC 102, & one of the following: MAT 131, MAT 141, or PSY 202.
Fulfills College Core: Advanced Writing-Intensive
Offered: every fall.
3 Credits
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<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Description</th>
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<tr>
<td>ABEC 341</td>
<td>Urban Ecology</td>
<td>3 Credits</td>
<td>Critical examination of the natural ecosystems in which cities are embedded, from soil and vegetation to biodiversity and landscape scale processes. Investigations into how cities are both centers of human production and consumption that shape global ecologies as well as areas of critical habitat for nonhuman animals, with an aim to understand and promote coexistence. Prerequisites: ABEC 101 &amp; ABEC 102. Offered: fall of odd-numbered years.</td>
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<td>ABEC 341L</td>
<td>Urban Ecology Lab</td>
<td>1 Credit</td>
<td>Using Buffalo as a natural laboratory, visit urban sites of varying characteristics to analyze the effects of different types of urban development and management on ecosystems. Speak to local managers, collect and analyze ecological data, observe urban impacts to wildlife and ecosystems, as well as the connection between social and ecological systems in Buffalo. Prerequisites: ABEC 101 &amp; ABEC 102. Corequisite: ABEC 341. Offered: fall of even-numbered years.</td>
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<td>ABEC 343</td>
<td>Zoogeography</td>
<td>3 Credits</td>
<td>Zoogeography is the branch of biogeography that focuses on the historic and current distribution of animals across the earth. Evolutionary and ecological processes will be explored to understand geographical patterns. Prerequisite: ABEC 101 and ABEC 102. Offered: occasionally.</td>
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<td>ABEC 345</td>
<td>Herpetology</td>
<td>3 Credits</td>
<td>This course will explore the diversity, evolutionary relationships, ecology, behavior, and conservation of reptiles and amphibians. Prerequisite: BIO 111 &amp; BIO 112. Offered: fall of even-numbered years.</td>
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<tr>
<td>ABEC 345L</td>
<td>Herpetology Lab</td>
<td>1 Credit</td>
<td>Optional laboratory for ABEC 345 (herpetology) covers field techniques, applied conservation methods, taxonomic diversity, and identification of local species. Seats in the laboratory section are first come, first serve. Prerequisite: BIO 111 &amp; BIO 112. Corequisite: ABEC 345. Offered: fall of even-numbered years.</td>
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<td>ABEC 346</td>
<td>Integrative Behavior</td>
<td>3 Credits</td>
<td>Integrating numerous fields of Biology, this course will examine both proximate and ultimate causes of behavior, focusing on the neuroendocrine mechanisms that lead to the expression of behavior within given ecological contexts. Emphasis will be given to understanding historical and recent primary literature. Prerequisite: ABEC101 and ABEC102. Offered: spring of odd-numbered years.</td>
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<td>ABEC 347</td>
<td>Avian Conservation and Management</td>
<td>3 Credits</td>
<td>Application of ecological and behavioral principles to the conservation and management of birds. Combines classroom and field experiences to explore applied aspects of anatomy, physiology, taxonomy, and behavior in the conservation and management of major North American avian groups and their habitat. Prerequisite: ABEC 101 and ABEC 102. Offered: occasionally.</td>
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<td>ABEC 351</td>
<td>Zoo Exhibitry</td>
<td>1 Credit</td>
<td>Critical evaluation of zoo design principles. Involves travel to obtain first-hand study of distant zoological institutions. Additional fee required. Cost varies based on destination, but generally are between $200 and $350. Prerequisite: ABEC 101 or ABEC 102. Offered: annually.</td>
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<td>ABEC 360</td>
<td>Observational Research Methods</td>
<td>4 Credits</td>
<td>Study of the principal procedures used in animal behavior research. Involves the conduct of independent research project, from formulation of hypothesis through to presentation of results. Statistical analysis of data is a key component of the class, and students are expected to have completed their statistics requirement. Prerequisites: ABEC 101, ABEC 102, &amp; one of the following: MAT 131, MAT 141, or PSY 201. Restriction: juniors and seniors only. Fulfills College Core: Advanced Writing-Intensive Offered: spring of odd-numbered years.</td>
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<td>ABEC 370</td>
<td>Animal Cognition</td>
<td>3 Credits</td>
<td>This course will critically examine the mental lives of animals. We will attempt to better understand what animals are thinking and how and why they make particular decisions. The emphasis of this course is on critically evaluating research claiming to demonstrate or refute the presence of cognitive abilities across species. Topics studied will include perception, tool use, communication, emotions, and many more. Prerequisite: ABEC 101 &amp; ABEC 102. Restriction: juniors and seniors only. Offered: every spring.</td>
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<td>ABEC 402</td>
<td>Desert Conservation</td>
<td>1 Credit</td>
<td>This field course will focus on the complex desert ecosystems of the United States and conservation efforts. A week of summer travel will include visits to National Parks and Wildlife Refuges, Nature Preserves, and remote field study sites. Additional fee required will cover all travel costs. Please contact the course instructor for current fees. Prerequisite: ABEC101 and ABEC102. Offered: occasionally.</td>
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<td>ABEC 403</td>
<td>Tropical Ecology</td>
<td>3 Credits</td>
<td>This field course provides an in-depth look at the ecology of tropical ecosystems and issues associated with their conservation. During the first portion of the spring semester, students will study the ecology of tropical forest and savannah environments, learn about the conservation issues that impact tropical wildlife species and local communities, and plan a small research study that will be carried out during the field portion of the course. Over spring break, students will participate in an immersive travel experience in Belize, including research activities, field site visits, and exploration of archaeological and cultural sites. Upon returning to campus, students will complete their research project and participate in weekly discussions and reflections about community-based conservation. Prerequisite: ABEC 101 or ABEC 102. Offered: most springs.</td>
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<td>ABEC 404</td>
<td>Wildlife Ecology and Conservation in Africa</td>
<td>3 Credits</td>
<td>Field experience in Africa, emphasizing field methods for animal observation, community-based conservation, and wildlife behavior and management. This course involves early application (previous fall), AND travel during summer. Additional fee required. Please contact the course instructor for current fees. Prerequisite: ABEC 101 &amp; ABEC 102. Restriction: seniors only and permission of instructor. Fulfills College Core: Core Capstone Offered: every fall.</td>
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ABEC 405 Biocultural Diversity Conservation in Costa Rica 3 Credits
This field course provides an in-depth look at the complex sociocultural and political aspects of wildlife conservation and environmental sustainability by immersing students in research, workshops, readings, and discussions with local community groups and conservation experts in Costa Rica. We will travel to the capital of San Jose, where we will meet with professors working at University for Peace, to learn about some of the history around conservation, indigenous peoples, and sustainability in Costa Rica. We will also learn about current work being done at the national and local level in areas of environmental education and community advocacy. We will then travel to Santa Elena to spend five days engaged in wildlife tours, participating in education workshops, and hearing from guest speakers about re-wilding projects, river protection, sustainable farming, and new ecotourism programs. Finally, we will travel to the beautiful coastal town of Manuel Antonio to stay and volunteer with Kids Saving the Rainforest, a non-profit organization dedicated to wildlife rehabilitation, environmental education, and conservation of wildlife. We will work with the public in small research projects at Manuel Antonio National Park to learn about human-wildlife interactions there. Additional fee required. Please contact the course instructor for current fees.
Prerequisites: ABEC 101 & ABEC 102.
Offered: fall of odd-numbered years.

ABEC 491 Internship 1 3 Credits
Internship in animal-related setting. Joint supervision by faculty and agency personnel. Application of classroom lessons to real-world situations. Students should register for the section most closely related to the internship activities. Section A is Anthrozoology, Section B is Animal Behavior, Section C is Conservation, and Section Z is Zoo Biology.
Prerequisites: ABEC 101 and 102, junior or senior standing, minimum GPA of 2.0 in the major, a positive recommendation from a faculty member, & a completed & approved internship application.

ABEC 492 Internship 2 3 Credits
Internship in animal-related setting. Joint supervision by faculty and agency personnel. Application of classroom lessons to real-world situations. Students should register for the section most closely related to the internship activities. Section A is Anthrozoology, Section B is Animal Behavior, Section C is Conservation, and Section Z is Zoo Biology.
Prerequisites: junior or senior standing, minimum GPA of 2.0 in the major, a positive recommendation from a faculty member, & a completed & approved internship application.

ABEC 495 Independent Research 3 Credits
Independent project conducted under the supervision of a faculty member.
Prerequisites: ABEC 101 & ABEC 102. Restriction: permission of instructor.