### ANIMAL BEHAVIOR, ECOLOGY, AND CONSERVATION - ABEC

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>ABEC 101</td>
<td>Introductory Animal Behavior I</td>
<td>3</td>
<td>First semester of a two-semester sequence that covers behavior across a wide range of species. Similarities and contrasts allow deductions regarding mechanisms and evolution. Offered: every fall.</td>
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<tr>
<td>ABEC 220</td>
<td>Animal Learning</td>
<td>3</td>
<td>Animal learning and memory research with emphasis on practical animal training. Lab required. Prerequisites: ABEC 101 &amp; ABEC 102. Corequisite: ABEC 220L. Offered: every spring.</td>
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<tr>
<td>ABEC 220L</td>
<td>Animal Learning Lab</td>
<td>1</td>
<td>Required animal learning lab that emphasizes practical animal training. Prerequisites: ABEC 101 &amp; ABEC 102. Corequisite: ABEC 220. Offered: every spring.</td>
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<tr>
<td>ABEC 250</td>
<td>Zoo Animal Husbandry</td>
<td>1</td>
<td>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 &amp; ABEC 102. Offered: Spring of odd-numbered years.</td>
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<tr>
<td>ABEC 251</td>
<td>Zoo Animal Management</td>
<td>3</td>
<td>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 &amp; ABEC 102. Offered: every spring.</td>
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<tr>
<td>ABEC 300</td>
<td>Research Participation (no credit)</td>
<td>0</td>
<td>Recognition for ABEC research assistants, does not carry and credits. Restriction: permission of instructor. Offered: every semester.</td>
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<tr>
<td>ABEC 301</td>
<td>Research Participation (credit)</td>
<td>1</td>
<td>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.</td>
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<tr>
<td>ABEC 302</td>
<td>Photographing Animal Behavior</td>
<td>1</td>
<td>This one-credit course will focus on the use of photography in portraying animal behavior, and in educating the public about animals, and promoting animal welfare/conservation messages. In this course the student will: acquire skills at capturing-depicting the nature and behavior of animals in still images; develop skills at using the images of animals in conveying messages; acquire technical skills associated with the operation of high-end digital, SLR cameras; acquire skills at image post-processing. Additional fee required. Restriction: ABEC majors only. Offered: occasional springs.</td>
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<tr>
<td>ABEC 305</td>
<td>Assessing Animals</td>
<td>3</td>
<td>Assessing Animals will focus on applied behavioral analysis of non-human animals through various methodologies including functional assessments. Students will learn how to use such assessments to achieve behavioral goals through problem solving strategies for non-human animals. Occasional (1-2) weekend days may be required. Prerequisites: ABEC 101 &amp; ABEC 102. Offered: every fall.</td>
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<tr>
<td>ABEC 319</td>
<td>Anthrozoology</td>
<td>3</td>
<td>An engagement with the fundamental issues of the field of Anthrozoology by evaluating the history of human/nonhuman interactions, the categories into which human have sorted animals, and a variety of science-based and value-based approaches to humans’ inevitable intersection with other living beings. Prerequisites: ABEC 101 &amp; ABEC 102. Offered: every spring.</td>
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<tr>
<td>ABEC 330</td>
<td>Animals, Public Policy, and the Law</td>
<td>3</td>
<td>This course provides an overview of both law and public policy as they impact modern societies views and treatment of non-human animals. Students will explore American and other national legal systems, as well as several different senses of the term ‘public policy’ in connection with companion animals, wildlife, research animals, and food animals. Prerequisites: ABEC 101 &amp; ABEC 102. Offered: every spring.</td>
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<tr>
<td>ABEC 332</td>
<td>Animal Welfare</td>
<td>3</td>
<td>The scientific study of assessing the welfare of captive animals. Use of quantitative research to improve welfare. Prerequisites: ABEC 101 &amp; ABEC 102. Restriction: juniors and seniors only. Fulfill College Core: Advanced Writing-Intensive Offered: every spring.</td>
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<tr>
<td>ABEC 333</td>
<td>Conservation Behavior</td>
<td>3</td>
<td>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 &amp; ABEC 102. Offered: every fall.</td>
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ABEC 334 Conservation Psychology  
3 Credits  
Conservation psychology is an interdisciplinary field of study that focuses upon people's relationships with animals and the natural world. Conservation psychology is ultimately concerned with improving the quality of those relationships for the benefit of human and non-human beings as well as natural systems. In this course, students will explore the theoretical foundations of conservation psychology, including ecological approaches to human development, cognition, morality, sociality, emotion and behavior. Students will also learn about and practice various methods for studying human-animal-nature relationships. By the end of this course, students will be able to apply these theories and practices towards the constructive criticism of various conservation projects, policies, and interventions.  
Prerequisites: ABEC 101 & ABEC 102.  
Offered: most fall semesters.

ABEC 335 Conservation Education  
3 Credits  
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. Corequisite: ABEC 335L.  
Restriction: juniors and seniors only.  
Offered: most fall semesters.

ABEC 335L Conservation Education Lab  
1 Credit  
Required weekly lab for Conservation Education (ABEC 335).  
Prerequisites: ABEC 101 & ABEC 102. Corequisite: ABEC 335.  
Restriction: juniors and seniors only.  
Offered: most fall semesters.

ABEC 336 Child Animal Studies  
3 Credits  
This course considers how animals play distinct roles in child development, children's cultures, and even in the social construction of 'childhood.' It draws upon psychology, ethology, ethics, cultural studies, education, and anthropology.  
Prerequisites: ABEC 101 & ABEC 102.  
Restriction: juniors and seniors only.  
Offered: spring of odd-numbered years.

ABEC 338 Recreational Ecology  
3 Credits  
Environmental consequences of outdoor recreation and nature-based tourism activities and their management. History and current state of outdoor recreation, including the policies that have shaped management of natural areas. Positive effects recreation through increased conservation support and stewardship and how both can be managed for coexistence.  
Prerequisites: ABEC 101 & ABEC 102.  
Offered: fall of odd-numbered years.

ABEC 338L Recreational Ecology Lab  
1 Credit  
Weekly lab for Recreational Ecology (ABEC 338).  
Prerequisites: ABEC 101 & ABEC 102. Corequisite: ABEC 338.  
Offered: fall of odd-numbered years.

ABEC 339 Animal Enrichment  
3 Credits  
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 odd-numbered years.

ABEC 340 Research Methods in Animal Behavior  
3 Credits  
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. Corequisite: ABEC 340L.  
Restriction: juniors and seniors only.  
Fulfills College Core: Advanced Writing-Intensive  
Offered: every fall.

ABEC 340L Research Methods in Animal Behavior Lab  
1 Credit  
Prerequisites: ABEC 101, ABEC 102, & one of the following: MAT 131, MAT 141, or PSY 201. Corequisite: ABEC 340.  
Restriction: juniors and seniors only.  
Offered: fall of even-numbered years.

ABEC 341 Urban Ecology  
3 Credits  
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 & ABEC 102.  
Offered: fall of even-numbered years.

ABEC 341L Urban Ecology Lab  
1 Credit  
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 & ABEC 102.  
Offered: fall of even-numbered years.

ABEC 342 Animal Geographies  
3 Credits  
Study of the entanglements of human-animal relations with space, place, location, environment and landscape.  
Prerequisites: ABEC 101 & ABEC 102.  
Restriction: juniors and seniors only.  
Offered: spring of even-numbered years.

ABEC 351 Zoo Exhibitory  
1 Credit  
Critical evaluation of zoo design principles. Involves travel to obtain first-hand study of distant zoological institutions.  
Prerequisites: ABEC 101 & ABEC 102.  
Offered: annually.

ABEC 360 Observational Research Methods  
4 Credits  
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, & one of the following: MAT 131, MAT 141, or PSY 203.  
Restriction: juniors and seniors only.  
Fulfills College Core: Advanced Writing-Intensive  
Offered: spring of odd-numbered years.
ABEC 363 Canine Evolution, Behavior and Cognition  3 Credits
Introduction to the latest theories regarding how dogs evolved and were domesticated; how dogs communicate with humans and with each other, exposure to ground-breaking research into dog behavior, learning, cooperation, and cognition.
Prerequisites: ABEC 101 & ABEC 102. Restriction: juniors and seniors only.
Offered: every spring.

ABEC 370 Animal Cognition  3 Credits
The mental lives of nonhuman animals. Topics include basic processes (perception, attention), physical cognition (tool use, time and numbers) and social cognition (social learning, cooperation). Emphasis is on considering the perspective of the nonhuman animal.
Prerequisites: ABEC 101 & ABEC 102.

ABEC 403 Tropical Ecology  1 Credit
Students will travel to Ecuador over Spring Break to learn tropical ecology first hand. The course will take students to both cloud forest and lowland rainforest ecosystems. Students will complete readings and mini-projects while in the field.
Prerequisites: ABEC 101 or ABEC 102.
Offered: most springs.

ABEC 404 Wildlife Ecology and Conservation in South Africa  3 Credits
Field experience in South Africa, emphasizing field methods for animal observation, and applicability to conservation. This course involves early application (previous fall), travel during summer, and additional fee.
Prerequisites: ABEC 101 & ABEC 102. Restriction: seniors only and permission of instructor.
Fulfills College Core: Core Capstone
Offered: every fall.

ABEC 405 Field Studies in Political Ecology & Wildlife Conservation  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 first to the capital of San Jose, where we will meet with professors working at the nearby 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 the small town of 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.
Prerequisites: ABEC 101 & ABEC 102.

ABEC 490 Canisius Ambassadors for Conservation  4 Credits
Field study of endangered species and ecology, followed by educational outreach to school and public audiences.
Prerequisites: ABEC 101 & ABEC 102.
Offered: every semester.

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.