Zoo Science and Management  
Course Syllabus  Spring 2020 - revised

Course Number:  ENR 4360  
Title:  Zoo Science and Management.  
Credit hrs:  2  
Prerequisites:  ENR 3300 (319), OR ENR 3600 (340), OR ENR 3611 (311), OR permission of instructor

Time and Place:  
Lecture:  Tues @ 6:30-8:30 pm  
Laboratory:  Sat* @ 9:00am – 12:00pm  
Kottman Hall 370  
Columbus Zoo and Aquarium  
*alternating Saturdays

Supervising Instructor:  Dr. Stanley D. Gehrt  (gehrt.1@osu.edu; 2-1930)  
School of Environment and Natural Resources

Zoo Instructor:  Danielle Ross, Vice President of Education  
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Associate Instructors:  
Dan Beetem, Director, Animal Management, the Wilds  
Becky Ellsworth, Curator, Shores Region  
Adam Felts, Curator, Heart of Africa/Asia Quest Regions  
John Gannon, Senior Vice President, Guest Services & Business Strategies  
Lewis Greene, Senior Vice President, Conservation and Animal Care  
Dana Hatcher, Animal Nutrition Manager  
Karen Huebel, Director, Theming and Interpretive Design  
Krystina Jarvis, Administrative Assistant, Animal Care  
Randy Junge, DVM, Vice President, Animal Health  
Hardy Kern, Animal Programs Specialist  
Mike Kregel, PhD, Vice President, Conservation  
Audra Meinelt, Assistant Curator, Congo Expedition  
Shannon Morarity, Assistant Curator, Heart of Africa  
Patty Peters, Vice President, Community Relations  
Carrie Pratt, Curator, North America/Polar Frontier Regions  
Shelly Roach, Registrar  
Stephen Spear, PhD, Director of Wildlife Ecology, the Wilds  
Tom Stalf, President and CEO  
Kelly Vineyard, Senior Curator, Congo Expedition/Australia Regions
Doug Warmolts, Vice President, Animal Care

**COURSE DESCRIPTION:**
2 credits
This course is a collaboration between the School of Environment and Natural Resources and the Columbus Zoo and Aquarium, and provides students a unique opportunity to combine formal coursework with first-hand experience with zoo/aquarium professionals associated with a world-renowned zoo/aquarium. This course introduces students to the different elements involved with zoo science and management. Leading zoos are involved in setting and meeting the highest standards for animal care and exhibition, zoo-based education and research programs, national and international training programs, and field-based research and conservation activities. Zoo professionals must participate in international partnerships focused on wildlife management, science and conservation around the world. Great zoos also educate and inspire visitors, and allow visitors to see animals and their behaviors they might never see in the wild. Thus, zoos have the potential to shape public opinion regarding the value of wildlife and their habitats. Students will become familiar with the concepts and challenges associated with these biological, educational, ethical, and administrative aspects of zoo science through lecture and practical experience. This course will be of interest for students interested in careers as a zoo or wildlife park curator, conservationist focused on rare species, environmental educator, or a leader in international wildlife management programs.

**COURSE OBJECTIVES:**
Develop familiarity with conceptual and practical elements of operating and managing a zoo, including: 1) Identify and use the biological concepts, principles, and theories that constitute the foundation of managing captive wildlife, 2) employ techniques central to wildlife husbandry, including animal growth, development, behavior and welfare, 3) develop a familiarity with areas of specialization in zoo science and additional qualifications that are required in seeking careers in those fields, 4) employ zoo science terminology accurately, 5) describe ethical challenges in the management and research of captive animals.

**TEXT (NOT REQUIRED, OPTIONAL):**


*Building a Future for Wildlife: the World Zoo and Aquarium Conservation Strategy,* published by the World Association of Zoos and Aquariums (WAZA, 2005). This document outlines the role of zoos in wildlife conservation with a focus on both responsibilities and opportunities unique to zoological institutions.

Additional optional text: “Why Zoos & Aquariums Matter: Assessing the Impact of a Visit to a Zoo or Aquarium.” (co-authored by SENR faculty, Dr. Joe Heimlich)

**COURSE FORMAT:**
Classes will be held at OSU and at the Columbus Zoo, and zoo professionals will serve as instructors for classroom lectures as well as ‘fieldwork’ behind the scenes at the zoo. The class is held on Tuesday evenings on campus and at the Zoo on alternate Saturdays during spring semester. Students will be expected to arrange transportation to the Zoo for Saturday classes.

**GRADING POLICY:** The class is letter-graded, based on the following breakdown:

1. Attendance and Participation – 20%
2. Student Journals – 20%
3. Quizzes (given at the beginning of each class) – 25%
4. Zoo Project – 35%

Grading: A 90-100; B 80-89; C 70-79; D 60-69; E < 60. Plus/minus grading applied to the following overlap ranges (88-92; 78-82; 68-72; 58-62).

Students will be expected to maintain a journal throughout the course. These journals should contain observations and notes from lectures and facility tours, impressions of the class and the information that is presented. Student journals will provide valuable feedback to the instructors and to zoo staff about the quality of the course and will be returned to the students for future reference after a grade has been assigned. Quizzes will be short, 4-5 questions, delivered at the beginning of each class. A zoo project will constitute a major portion of the grade. Students will work in groups on this project throughout the semester. The plan will incorporate different concepts and subject areas that are covered in class. The final examination will consist of an oral presentation to the zoo instructors.

**DISABLED STUDENTS:**
Students with disabilities who need accommodations should contact Dr. Gehrt at the telephone number or email address above to make arrangements. Special needs must be discussed and arrangements made well in advance (preferably prior to the start of class) of when they are required. Special accommodations may be arranged through the OSU Office of Disability Service, 150 Pomerene Hall, 1760 Neil Ave., Phone – 292-3307, website - [http://www.ods.ohio-state.edu/](http://www.ods.ohio-state.edu/)

**ACADEMIC MISCONDUCT STATEMENT**
Academic misconduct as defined by the university (Faculty Rule 3335-31-02) will not be tolerated. Submitting plagiarized work to meet academic requirements including the representation of another’s work or ideas as one’s own; the unacknowledged word for word use of another person’s ideas; and/or the falsification, fabrication, or dishonesty in reporting research results shall be grounds for charges of academic misconduct and will be assigned a grade of E.
TOPICAL OUTLINE AND SCHEDULE

Times:
Tuesdays (at OSU, 370 KH) – 6:30 PM – 8:30 PM
Saturdays (at Zoo/Wilds) – 9:00 AM – 12:00 PM

Tuesday, January 7: (Gehrt & Kreger)
Course Expectations & Introduction
Define Course Project
History of Zoos

Tuesday, January 14: (Huebel)
Animal Exhibits – Design and Signage
Master Planning

Saturday, January 18: (Junge)
Animal Handling and Emergencies (ANIMAL HOSPITAL)

Tuesday, January 21: (Roach) OR SATURDAY JAN 11
Animal Record Keeping

Tuesday, January 28: (Kern/Gentzel & Ross)
Internship experience
Education in Zoos

Saturday, February 1: (Hatcher & Ellsworth)
Animal Nutrition (ANIMAL NUTRITION)
Aquatic Exhibits (DISCOVERY REEF)

Tuesday, February 4: (McCauley & Smith)
Introduction to Animal Enrichment
Introduction to Animal Transport

Tuesday, February 11: (Borders)
Introduction to Animal Training
Introduction to Mixed Species Exhibits

Saturday, February 15: (McCauley & Smith & Borders)
Animal Training & Enrichment (TBD)
Animal Transport (ASIA QUEST)

Tuesday, February 18: (Gehrt)
Disease Management and Risk
Controlling Native Wildlife Populations in Zoos

Tuesday, February 25: (Greene)
Animal Regulations & AZA accreditation
Tuesday, March 3: (Warmolts & Meinelt)
Animal Acquisition/Disposition
Studbooks
Species Survival Plans

Tuesday, March 10:
No Class – SPRING BREAK

Tuesday, March 17: (Felts & Huebel)
Animal Welfare and Sustainability of Populations
Group Work Time

Saturday, March 21: (Felts)
Animal Welfare and Sustainability (HEART OF AFRICA)
CANCELLED

Tuesday, March 24: (Greene & Peters)
Zoo Ethics
Animal Rights vs. Animal Welfare

Saturday, March 28: (Meinelt and Warmolts)
Species Survival Plans (CONGO EXPEDITION or AUSTRALIA/ISLANDS)
CANCELLED

Tuesday, March 31: (Kreger)
Field Conservation

Tuesday, April 7: (Bonifas) - MIDYEAR
Generating revenue

Saturday, April 11: (Beetem & Spear) Arrive at Wilds @ 10AM/Depart Wilds @ 2PM
Research in Zoos and at the Wilds
Managing mixed species at the Wilds
CANCELLED

Tuesday, April 14: (Stalf)
The Future of Zoos

Saturday, April 18: (All Instructors)
GROUP PRESENTATIONS AT THE ZOO – We will likely either present via ZOOM or substitute the presentation with a prospectus (report).

NOTE: Saturday classes following Spring Break have been cancelled. The Tuesday evening schedule will be modified each week depending on zoo staff schedules, just as it was prior to Spring Break.
Group Project

Zoos regularly develop Master Plans, which involve assessing their current exhibit offerings and developing and prioritizing future acquisitions, renovations, and new exhibits. Early in the semester, we will assign students to groups of 5. Each group will work collaboratively on a group project. This year, we require each group to review the current exhibits at the Columbus Zoo & Aquarium, and identify a potential addition (species) to a specific region. After identifying and justifying a potential new exhibit, the group will design it, keeping in mind all of the principles we cover in the class during the semester. Balancing the Zoo’s conservation goals with revenue and guest experience, make (and justify) recommendations on animals to house in this new area. Describe factors you would consider in designing their housing, as well as a description of what the space would look like for the visitors. Be prepared to share an estimated cost of your overall project. Each group will present their design to zoo staff and the class on April 20. The presentation will be the final exam for the class.