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 Kottman Hall 370
Laboratory Sat* @ 9:00am – 12:00pm 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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Teaching Assistant: Sara Adamczak
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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 Kreger, 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
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 (RECOMMENDED):

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.

“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/

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 8: (Gehrt & Roach)
Course Expectations & Introduction
Define Course Project
Animal Record Keeping

Tuesday, January 15: (Huebel)
Animal Exhibits – Design and Signage
Master Planning

Saturday, January 19: (Junge)
Animal Handling and Emergencies (ANIMAL HOSPITAL)

Tuesday, January 22: (Kern/Gentzel & Ross)
Internship experience
Education in Zoos

Tuesday, January 29: (Warmolts & Meinelt)
Animal Acquisition/Disposition
Genetic Management—Theory and Application
Studbooks
Species Survival Plans

Saturday, February 2: (Hatcher & Ellsworth)
Animal Nutrition (ANIMAL NUTRITION)
Aquatic Exhibits (DISCOVERY REEF)

Tuesday, February 5: (Greene)
Animal Regulations & AZA accreditation

Tuesday, February 12: (Vineyard & Pratt)
Introduction to Animal Enrichment
Introduction to Animal Transport

Tuesday, February 19: (Borders)
Introduction to Animal Training
Introduction to Mixed Species Exhibits

Saturday, February 23: (Vineyard & Pratt & Borders)
Animal Training & Enrichment (TBD)
Animal Transport (ASIA QUEST)
Tuesday, February 26: (Kreger)
History of Zoos
Work time

Saturday, March 2: (Meinelt and Warmolts)
Species Survival Plans
Sustainability of Animals in Human Care (CONGO EXPEDITION or AUSTRALIA/ISLANDS)

Tuesday, March 5: (Felts & Huebel)
Social Organization of Vertebrates
Control of Reproduction
Group Work Time

Tuesday, March 12:
No Class – SPRING BREAK

Tuesday, March 19: (Gehrt)
Disease Management and Risk
Controlling Native Wildlife Populations in Zoos

Saturday, March 23: (Felts)
Mixed Species Exhibits (HEART OF AFRICA)

Tuesday, March 26: (Greene & Peters)
Zoo Ethics
Animal Rights vs. Animal Welfare

Tuesday, April 2: (Kreger)
Field Conservation

Tuesday, April 9: (Stalf)
The Future of Zoos

Saturday, April 13: (Beetem & Spear) Arrive at Wilds @ 10AM/Depart Wilds @ 2PM
Research in Zoos and at the Wilds
Managing mixed species at the Wilds

Tuesday, April 16: (Gannon)
Generating revenue

Saturday, April 20: (All Instructors)
GROUP PRESENTATIONS AT THE ZOO
**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.