BIOC62H 2014
The Role of Zoos in Conservation

Lecturers: Staff of the Toronto Zoo
Course coordinator: Dr. Katharina Braeutigam (katharina.braeutigam@utoronto.ca)
Tutorial assistant: Mr. Andrew Masson (amasson@uvm.edu)

Lectures: Wednesdays 11:00 am - 1:00 pm in SW128
Tutorials: Thursdays 4:00 pm - 6:00 pm in AA209
Fridays 10:00 am - noon in AA205
Office hours: By appointment
Exclusions: None
Prerequisites: BIOB50H (Ecology) & BIOB51H (Evolutionary Biology)

Course Description
A lecture/discussion course that examines the role of zoos in conservation, with an emphasis on contemporary topics such as: the involvement of zoos in *in situ* and *ex situ* conservation; captive breeding and re-introduction of species; new technologies to assist reproduction in wild populations; the importance of nutrition and behavioural enrichment in captive animals; zoos and animal health and welfare; zoos and public involvement/education; and the role of zoos in wildlife research.

Evaluation

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<tr>
<th>Component</th>
<th>Weight</th>
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<tr>
<td>Midterm test</td>
<td>25%</td>
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<td>(on lecture and tutorial materials, including required readings, up to test date)</td>
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<td>Essay</td>
<td>25%</td>
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<td>(due February 24th at noon. Penalty for late submission is 10% per day of maximum mark available for assignment)</td>
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<tr>
<td>Tutorial participation</td>
<td>15%</td>
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<td>Final exam</td>
<td>35%</td>
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<td>(cumulative, on all lecture/tutorial materials, but with emphasis on post-midterm material)</td>
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Essay

The existence of zoos is often controversially discussed in the public. Zoos counteract criticism by stating that: *Zoos play important roles in conservation efforts and are not exclusively showcases for animals.* What do you think? Consider a broader picture, e.g. zoo concepts, cost-benefit of programs, scientifically measurable success of conservation efforts (sustainable population size and genetics etc.), focus on locally or globally endangered species, flagship species.
Your essay should be a critical examination of the topic, and should make use of specific examples of animals and/or plants to support your critique. Your essay can focus on a specific animal to support your position, if you would find this easier. Regardless, the essay must have the structure of a peer-reviewed position paper (i.e., published in Trends in Ecology & Evolution), and, as such, must properly reference peer-reviewed literature. Maximum length is 15 pages, double-spaced, including tables and figures. More details on the essay will be provided on Blackboard. The submission deadline is 12:00 noon, on February 24th, 2014 (in Room SW567).

**Required reading & background reading**

Lecture readings are provided below. You are expected to read this material before the lecture and/or tutorial indicated. Knowledge of the textbook material will be expected for the mid-term and final examinations. The readings will comprise chapters from the following text, which is available from the UTSC Bookstore.


Background readings are provided to supplement course material. This material will not be included on mid-terms or exams. These sources include the following list, and other material may be posted on the intranet.

- *Toronto Zoo Conservation, Education and Research Activities Report 2011-2012* (Zoo will provide copies for all students enrolled)
- Toronto Zoo - [www.torontozoo.com/conservation](http://www.torontozoo.com/conservation)
- Association and Zoos and Aquariums - [www.aza.org](http://www.aza.org)
- World Association of Zoos and Aquariums - [www.waza.org](http://www.waza.org)

**Lecture Schedule**

1. **Wednesday, January 8th 2014**  
   **Introduction, including course details**  
   **Lecturers:** Dr. Katharina Braeutigam UTSC; Andrew Masson UTSC  
   **Required reading:** Chapters 1, 2 & 10

2. **Wednesday, January 15th 2014**  
   **The “visible” zoo: Visit to the Toronto Zoo.**  
   **Required reading:** Chapters 5 & 6

3. **Wednesday, January 22nd 2014**  
   **Conservation, Education and Research at the Toronto Zoo - an overview.**  
   **Lecturer:** Dr. William Rapley, Executive Director, Conservation, Education and Wildlife, Toronto Zoo, and Adjunct Faculty Member, UTSC
**Recommended Reading:** Toronto Zoo Conservation, Education, and Research Activities Report 2011-2012
**Required reading:** Chapters 3 & 10 (in chapter 3 focus on “international”, not UK)

(4) Wednesday, January 29th 2014
**Biodiversity, Conservation, Selection of Zoo Collections.**
**Lecturers:** Bob Johnson, Curator of Reptiles and Amphibians, Toronto Zoo; Dr. Kevin Kerr, Curator of Birds & Invertebrates, Toronto Zoo
**Required reading:** Chapter 10
**Recommended Reading:** CBD Global Biodiversity Outlook

(5) Wednesday, February 5th 2014
**Aquatic conservation challenges and success.**
**Lecturer:** Cindy Lee, Curator of Fishes and Marine Invertebrates, Toronto Zoo
**Required reading:** Chapters 10 & 14

(6) Wednesday, February 12th 2014
**Case studies in amphibian and reptile conservation: integration of biology, culture and community based social marketing.**
**Lecturer:** Bob Johnson, Curator of Reptiles and Amphibians, Toronto Zoo
**Required reading:** Chapter 14

**Reading Week**

(7) Wednesday, February 26th 2014
**Captive breeding and recovery of two critically endangered mammals at the Toronto Zoo.**
**Lecturer:** Maria Franke, Curator of Mammals, Toronto Zoo
**Required reading:** Chapters 4 & 9

(8) Wednesday, March 5th 2014
**The conservation challenges facing botanical gardens.**
**Lecturer:** Dr. David Galbraith, Head of Science, Royal Botanical Gardens

(9) Wednesday, March 12th 2014
**Animal health in zoo collections and conservation programs.**
**Lecturer:** Dr. Graham Crawshaw, Senior Veterinarian, Toronto Zoo
**Required reading:** Chapter 11

(10) Wednesday, March 19th 2014
**Reproductive management in zoo species.**
**Lecturer:** Dr. Gabriela Mastromonaco, Curator of Reproductive Programs & Research, Toronto Zoo
**Required reading:** Chapters 7 & 9

(11) Wednesday, March 26th 2014
**Zoo nutrition programs, feeding of browse to zoo animals.**
Lecturer: Jaap Wensvoort, Nutritionist, Toronto Zoo
Required reading: Chapters 8 & 12

(12) Wednesday, April 2\textsuperscript{nd} 2014
Education programming in zoos: inspiring action and changing behaviours.
Lecturers: Heather House, Manager of Education, Toronto Zoo;
Steve Jones, Education Programs Coordinator, Toronto Zoo
Required reading: Chapters 13 & 15

Tutorials

There will not be a tutorial every week, but it is expected that students will use the tutorial
time when there is not a tutorial to read the required readings. Each tutorial that is scheduled
will run for up to 2 hours. The tutorial will have a structured format in which ideas, opinions,
data, and interpretation of the topic can be aired. Students will be divided into groups, and
group members will each present group thinking throughout the term. Each student is
expected to contribute, and therefore will be expected to have (minimally) read the required
readings. Marks will be assigned for participation in tutorials.

Tutorial Schedule

I  The “visible” versus the “invisible” zoo. Compare and contrast the facets of zoo
operations, using the Toronto Zoo as a case study.
  Session 1: Thursday, January 30\textsuperscript{th} from 4:00-6:00 pm in AA 209
  Session 2: Friday, January 31\textsuperscript{st} from 10:00-noon in AA205
  Required reading: Chapters 5 & 6

II  Biodiversity, conservation, and the role of zoos
  Session 1: Thursday, February 13\textsuperscript{th} from 4:00-6:00 pm in AA 209
  Session 2: Friday, February 14\textsuperscript{th} from 10:00-noon in AA205
  Required reading: Chapter 10, Toronto Zoo Conservation and Education
  Activities Report 2011-2012
  Required assignment: The tutorial will focus on what we understand by
  biodiversity, its classification and value. Species of interest will be used to illustrate
  these concepts. Focus will be on species currently included in zoo conservation
  programs. You and your group will present two taxonomic groups with
  representative species. This will also allow you to incorporate what you’ve learned
  so far.

Reading week

III  Ethical debate tutorial: based on the balance between conservation and animal
welfare
  Session 1: Thursday, March 6\textsuperscript{th} from 4:00-6:00 pm in AA 209
  Session 2: Friday, March 7\textsuperscript{th} from 10:00-noon in AA205
Required reading: Chapters 7 & 10

Required assignment: You and your group should prepare a 5 minute debate around the following provocative statement: “Zoos support animal conservation at the expense of animal welfare”. You and your group should work together to develop two cases: one case in favour of the resolution, and one case against the resolution. Your group will be called upon to present one or the other case in the tutorial.

IV Behind the scenes tour of the Toronto Zoo
  Session 1: Thursday, March 13th.
  Session 1: Friday, March 14th.

V Zoos in the press, Contemporary topics related to the role of zoos in conservation.
  Session 1: Thursday, March 20th from 4:00-6:00 pm in AA 209
  Session 2: Friday, March 21st from 10:00-noon in AA205
  Special guests: Dr. William Rapley, TZ staff
  Required reading: Chapters 4, 7, 8 & 10
  Required assignment: You and your group will chose and read two popular press articles concerning animal welfare and/or conservation related to zoos. In the tutorial your group should make a presentation indicating how these press articles relate to the material you have learned in the course, and how they represent real or perceived issues related to the role of zoos in conservation.

VI Future of Zoos
  Session 1: Thursday, April 3rd from 4:00-6:00 pm in AA 209
  Session 1: Friday, April 4th from 10:00-noon in AA205
  Required assignment: You and your group will make a presentation on what zoos will look like in the future. Don’t be afraid to think “out of the box”.

Special Dates

February 18th – 22nd - READING WEEK - no lectures
TBA (likely the week following Reading Week) - MIDTERM EXAMINATION - based on all material prior to Reading Week
Monday February 24th- 12:00 noon, SW567 - ESSAY DUE
April 5th - 9th - STUDY BREAK – no lectures
TBA - FINAL EXAMINATION - in examination period and based on material in the entire course.