

The Role of Zoos in Conservation

Syllabus: BIOC62H3 Winter 2018

Course Instructors:	Staff of the Toronto Zoo and Royal Botanic Gardens and other guest lecturers	
Course Coordinator:	Dr. Rachel Sturge, rachel.sturge@utoronto.ca , SW 563B Office hours: Wed 13:10-15:00 or by appointment	
	<u>TAs:</u> Andrew Masson and Emily Chenery	
Textbook:	Fa, J.E., Funk, S.M. and D. O'Connell (2011) <i>Zoo Conservation Biology</i> . Cambridge University Press: Cambridge, U.K.	
Class meeting time:	<u>Lectures</u>	Wednesdays 11:10 – 13:00 BV 363
	<u>Tutorials</u>	T1 Thursdays 17:10 – 19:00 MW 223 T2 Fridays 10:10 – 12:00 PO 101
Exclusions:	BGYC62H3	
Prerequisites:	BIOB50H3 & BIOB51H3	

1) Course Description

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

Lectures: Lectures will be generally split into two sections. The first part of lecture will consist of theory. The second part of lecture will be conducted by guest experts from the Toronto Zoo & Royal Botanic Gardens. Please see Lecture Schedule for details.

Tutorials: Tutorials will be conducted by the TAs and will be occasionally attended by the instructors or course coordinator. Marks are given for in-class tutorial assignments and activities. Some activities will involve group work. Participation from all group members is required to earn marks.

2) Learning Outcomes

At the end of this course, students should be able to...

1. Explain the origins of the modern zoo and identify the governing bodies that oversee North American zoos.
2. Define biological diversity and compare and contrast different species concepts.
3. Contrast animal rights and animal welfare and assess the challenges of maintaining wild animals in captivity.
4. Describe the consequences of loss of genetic diversity, analyze the success of captive breeding and reintroduction programs and assess the appropriateness of different species for zoo conservation.
5. List the categories for global extinction risk and critically evaluate the role of modern zoos in conservation.
6. Identify the different types of zoo visitors, and evaluate the different modes of visitor education and assess the balance of the zoos need to provide a guest experience with their obligation to function as a conservation centre.
7. Describe the different methods by which zoos can achieve environmentally sustainable operations.

3) Academic Honesty

All work in this course is covered by the University of Toronto's policies on Academic Misconduct (see below hyperlink), which outlines the behaviours that constitute academic dishonest, as well as the processes for addressing academic offences. The University treats cases of cheating and plagiarism very seriously, so please **REVIEW THIS MATERIAL** as you are expected to be familiar with it.

<http://www.governingcouncil.utoronto.ca/Assets/Governing+Council+Digital+Assets/Policies/PDF/ppjun011995.pdf>

Note that academic dishonest includes (but is not limited to) failure to properly acknowledge other people's words, information or ideas (including information in textbooks), making up sources or facts, citing non-accredited sources (such as Wikipedia) as if they were peer-reviewed, submitting your own work in more than one course without the permission of both instructors, obtaining or providing unauthorized assistance on any assignment or test (including the use of unauthorized aids or looking at the answers of another student), misrepresenting your identity or falsifying / altering any documents required by the university (for example, a doctor's note.)

All students should have confidence in their ability to master this course material and earn an acceptable grade. If you are struggling with the material, please come see me or speak with the Teaching Assistant. You should also consider forming study groups as research has shown that students who participate in study groups earn, on average, higher grades in courses than those who do not.

4) Course Policies

- Come to class on time and be ready to start as soon as class begins.
- Read all material related to that day's lecture / tutorial BEFORE class, and complete any pre-class assignments in advance.
- Ask questions and discuss the material with other students. Group discussion promotes learning.
- Be an active learner and participate fully in all aspects of the course. Hold yourself and your teammates accountable for all tasks assigned to you / them in any group activity. Be honest with yourself if you are not contributing as fully as you should be, and make positive changes, if necessary.
- If using technology, which includes (but is not limited to) cellphones, tablets and computers, please use them responsibly. The human mind is NOT capable of multitasking (as many scientific studies have shown), and distracted learners are not high-achieving learners. We reserve the right to dock points from any students caught using electronic devices for non-class activities, and also to ban them from future use of these devices while in class.

5) Assessment

a) Methods of instruction

The basic information of this course will be presented through lectures on major topics, assigned readings from the textbook, and group-based active learning exercises in both lecture and in tutorial. Class attendance (both lecture and tutorial) is **mandatory** and prompt arrival is crucial.

b) Tutorials

We will spend time in tutorial discussing lecture material, analyzing and discussing scientific papers on topics that relate to each week's lecture, and participating in group-based exercises aimed at promoting deeper thinking about the concepts introduced in this course. These exercises may include, but are not limited to, completing writing assignments, debates, and presentations. Some of these activities will require that you read additional material or conduct research outside of the classroom. More details regarding these assignments will be given out as the semester progresses.

No makeup tutorials will be permitted. All students will be allowed to drop their lowest tutorial score, regardless of the reasons for the missed tutorial. Note this dropped score also includes all university-accepted excused absences (such as illness.) If you will miss more than one tutorial for a university-accepted reason, you must contact your TA or myself as soon as possible so we can discuss alternate accommodations.

Late penalties

No late assignments will be accepted for work that is completed in tutorial. For all other assignments, work that is turned in late will be penalized by 10% per day, **starting with 5 minutes after the due date / time**, unless the student provides documented proof of the reason for their tardiness.

c) Midterm and Final Exams

There will be one midterm exam worth 20%, and one cumulative final exam worth 40% of your final grade. All exams will be based on lecture material, assigned readings, and zoo visits, as well as on material discussed during tutorials. Readings supplement the lecture material and are immeasurably helpful in preparing for exams. All exams will consist of multiple choice, short answer and problem-solving questions.

The final exam (worth 40% of your final grade) will take place during the final exam period. It will be cumulative, and will have a similar format to the midterm exam, but may include a few essay questions as well. You will be given advanced notice on the format of this final exam.

Makeup midterm exams. If you miss the midterm due to a university-accepted reason, please contact me within three days of the missed test and provide me with documentation to support your absence. Students with a valid excuse will be given a makeup exam within one week of the missed test (unless there is a valid reason for a longer delay). Students who fail to contact me within three days will earn a score of zero and no makeup exam will be permitted (note that students who are unable to contact me within this time frame due to circumstances beyond their control are exempt from this.) Makeup midterm exams will consist solely of ten short answer questions. If you miss the final exam, you must go through the registrar's office to request a deferred exam.

d) Zoo Visit

During the semester, students will visit the zoo with their TAs and the Course Coordinator. This visit will occur on a Saturday. Students are expected to make their own way to the zoo and to meet their TA at a pre-arranged spot. There will be two possible visit days (both Saturdays). You are expected to attend on the Saturday that your tutorial section is scheduled to visit the zoo. However, if you are unable to do so you **MUST** let your TA know in advance and gain permission to attend on the alternate Saturday. More details about this visit will be given in class.

Please note that you will be spending a great deal of time outside during this visit, and you are expected to dress appropriately for the weather.

e) Accessibility

We welcome students with diverse learning styles and needs at this University and in this course. If you require some sort of accommodation, please see me or contact the AccessAbility Services Office (see below links) as soon as possible. We will work with you to ensure that you are able to meet the course learning objectives successfully. The UTSC AccessAbility Service staff are available by appointment to assess your specific needs, provide referrals, and to arrange appropriate accommodations. All enquiries are confidential.

UTSC AccessAbility: ability@utsc.utoronto.ca, (416) 287-7560, SW 302

f) Grading policies

Students are responsible for all material that is presented in lecture and tutorial. If you miss a class, you are strongly advised to obtain the notes and assignments from another student. Participation in lecture and tutorial will be an important factor in determining borderline grades, so attendance and participation are strongly advised. Please note again that **NO MAKEUP TUTORIALS ARE PERMITTED.** For more details, please refer to the relevant sections of this syllabus.

Category	Percent
Midterm exam	30%
In class exercises	10%
Tutorials	20%
Final Exam (cumulative, during final exam period)	40%

Late penalties

No late assignments will be accepted for work that is completed in lecture or tutorial. For all other assignments, work that is turned in late will be penalized by 10% per day, **starting with 5 minutes after the due date / time**, unless the student provides documented proof of the reason for their tardiness. Please note that traffic difficulties are not considered a legitimate excuse for a late submission.

One week 'Statue of Limitations'

All grading questions about exams, homework, quizzes, group exercises, literature reviews, etc. must be addressed within one week of the scores being posted online or handed out in class. After this time, no changes will be made to existing grades unless there is a calculation error. Thus, it is essential that you check your grades regularly and contact your TA or instructor within one week if you feel an error has been made or if you are unsure why you lost points.

Schedule of Classes

Lecture: Wed 11-13 BV 363, Tutorials: Thurs 17-19 MW 223, Fri 10-12 PO 101

Readings From: Fa et al. *Zoo Conservation Biology*

Week	Date	Topic	Reading
1	Jan 10	Introduction	-
2	Jan 17	Understanding Biodiversity and Protecting Species Tutorials start this week	1, 2
3	Jan 24	The Evolution of Zoos and Zoo-based Conservation Research	3
4	Jan 31	Learning for Animals (Chris Dutton, Jaap Wensvoort, Jeff Young)	-
5	Feb 7	Animal Welfare (Georgia Mason)	4
6	Feb 14	Population Biology (Gaby Mastromonaco)	5
7	Feb 21	READING WEEK - NO CLASS	-
8	Feb 28	Captive Breeding Programs and Species Recovery (Maria Franke)	6
9	Mar 7	Green Initiatives at the Zoo (Kyla Greenham)	-
10	Mar 14	Reintroducing Animals to the Wild (Andrew Lentini)	7
11	Mar 21	Botanical gardens and arboretums (Sean Fox)	-
12	Mar 28	Educating the Public (Heather House et al.)	8
13	Apr 4	Zoos & conservation genomics (M. Nandadevi Cortes Rodriguez), and the future of zoos	9
Final Exam: During the final exam period			