

The Role of Zoos and Aquariums in Conservation

Syllabus: BIOC62H3 Winter 2021

Course Instructors:	Staff of the Toronto Zoo and other guest lecturers	
Course Coordinators:	UTSC: Dr. Rachel Sturge, rachel.sturge@utoronto.ca , SW 563B TA: A.J. Masson, andrew.masson@mail.utoronto.ca	
	Toronto Zoo: Dr. Kevin Kerr, Manager of Species Recovery and Program Assessment	
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 online*
	<u>Tutorials</u>	T1 Thursdays 16:10 – 18:00 online T2 Fridays 10:10 – 12:00 online
Exclusions:	BGYC62H3	
Prerequisites:	BIOB50H3 & BIOB51H3	

* Lecture format will be determined by guest lecturers – some have chosen to give synchronous lectures, which will occur through Zoom, and others plan to pre-record. All lectures will become available as per the scheduled lecture time period.

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 *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 and will be given by the course coordinators. The second part of lecture will be conducted by guest experts from the Toronto Zoo and Royal Botanic Gardens, with potential lectures from experts from elsewhere. Please see Lecture Schedule for details. Some of the lectures will be given solely by guest experts.

Tutorials: Tutorials will be conducted by the TA and may occasionally be attended by the instructors or course coordinators. Marks are given for in-class tutorial assignments and activities. Most activities will involve group work, and may involve take home assignments that require group work outside of tutorial. Participation from all group members is required to earn marks. Tutorials will take place through Quercus.

2) Learning Outcomes

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

1. Explain the origins of the modern zoo.
2. Identify the governing bodies that oversee accredited zoos and describe their role in managing species in zoos.
3. Define biological diversity and compare and contrast different species concepts.
4. Contrast animal rights and animal welfare and assess the challenges of maintaining wild animals in captivity.
5. 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.
6. List the categories for global extinction risk and critically evaluate the role of modern zoos in conservation.
7. 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.
8. 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>

Potential offences include, but are not limited to:

In papers and assignments:

- Using someone else's ideas or words without appropriate acknowledgement.
- Submitting your own work in more than one course without the permission of the instructor.
- Making up sources or facts.
- Obtaining or providing unauthorized assistance on any assignment.

On tests and exams:

- Using or possessing unauthorized aids.
- Looking at someone else's answers during an exam or test.
- Misrepresenting your identity.

In academic work:

- Falsifying institutional documents or grades.
- Falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from Dr. Sturge or from other institutional resources (see <http://academicintegrity.utoronto.ca/>).

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 your 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. This includes having your TopHat device charged / ready to answer questions by the start of class.
- 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. To earn participation credit, these students will then need to use a remote device to answer TopHat questions.

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. Lectures will vary in the format, but students are expected to attend them synchronously, unless there is a reason why this is not possible (e.g. student is in a different time zone). Lectures that are given through Zoom will be recorded and posted afterwards, and lectures that are pre-recorded will be posted to the course websites and students are expected to watch them and answer the TopHat questions during the scheduled lecture time. Students who have made arrangements to attend lecture asynchronously are still expected to watch the lecture videos and complete all active learning questions by end of day on the day this content is posted (11:59pm EDT).

Class attendance for tutorials is **mandatory** and prompt arrival is crucial. **There are no options for attending tutorial asynchronously, but students in a different time zone can gain permission to attend the tutorial time that works best for them.** We will be using TopHat Classroom for lecture participation – please see Quercus for more details.

b) Reading Quizzes

Each week in which there is an assigned reading, there will be an associated reading quiz. These quizzes will be posted online and due at 11:00 on lecture days. Your lowest reading quiz score will be dropped. You have one week to complete each quiz. Late quizzes will not be accepted. You are responsible for checking the course website regularly to ensure you know when each quiz is due. Note: an electronic version of the textbook is available for student use from the university library.

c) 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. It is your responsibility to check the course website regularly to ensure you are prepared for tutorial. Tutorials will make use of Quercus features, including Blackboard collaborate. Students who are concerned about connectivity issues should contact the TA at the start of the semester.

No makeup tutorials will be permitted. All students are expected to attend their own tutorial section, and 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. **Note that tutorial attendance is MANDATORY.**

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.

d) Midterm and Final Exams

There will be a midterm exam worth 30%*, and a cumulative final exam worth 40%* of your final grade. All exams will be based on lecture material, assigned readings, and zoo visits (if such can be arranged this year, due to covid-19 concerns), as well as on material discussed during tutorials. Readings supplement the lecture material and are immeasurably helpful in preparing for exams. The final exam will take place during the final exam period. It will be cumulative, but material covered after the midterm will be more heavily weighted.

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 documentation to support your absence (see <https://www.utoronto.ca/biosci/misssed-term-work-policy> for details on acceptable documentation and how to submit it). **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.

* For students who opt out of TopHat, the midterm exam is worth 35% and the final exam is worth 45% of their final grade. See Quercus for details on TopHat / opting out of TopHat.

e) Zoo Visit

In the past, during the semester students visited the zoo with their TAs and the Course Coordinator. This visit occurred on a weekend and was mandatory for all students. We are working to come up with an alternative this year that will be safe for all participants. Regardless, any in person aspects of this visit will be optional this year for all students. Please feel free to opt out without penalty if you do not wish to participate.

f) 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

g) 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 that **NO MAKEUP TUTORIALS ARE PERMITTED AND ATTENDANCE IS MANDATORY**. For more details, please refer to the relevant sections of this syllabus.

Category	Percent
Midterm exam	30%
Participation*	10%
Reading Quizzes	5%
Tutorials (<u>if you miss four tutorials, you will earn 0% here</u>)	15%
Final Exam (cumulative, during final exam period)	40%

* Participation is based on TopHat active learning activities. Students can opt out of TopHat usage (but must let me know by the last day to add classes). For students who opt out, the grades change as follows: Midterm Exam 35%, Final Exam 45%.

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. **If you are consistently late for lecture or tutorial, this will result in penalties applied to your participation grade.**

Forms required to document missed coursework: Students miss class or tutorial for a university-accepted reason must provide documentation to support their absence. Note that if you miss course work due to an illness, you can submit a self-declaration of student illness form. This form must be submitted within three days of the missed coursework. There is a limit to the number of times this form may be used. Please see <https://www.utoronto.ca/biosci/missed-term-work-policy> for more details on documentation.

One week 'Statute 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.

6) Turnitin.com

Some of your tutorial assignments will involve group and individual written work. You are expected to submit a digital copy of these assignments, when instructed to do so, through Quercus where your work will be checked via Turnitin.com. Short answer portions of all exams may also be run through Turnitin – you will be told of the exam format in advance, including whether or not Turnitin will be used. The following statement is included for your information, as per University policy:

Normally, students will be required to submit their course essays to Turnitin.com for review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site.

You should have only one account for all of your University of Toronto coursework. Note that you do not need to have an account when submitting work through Quercus – it will be checked by turnitin automatically as part of this process.

Schedule of Classes*

Lecture: Wed 11-13, Tutorials: Thurs 16-18, Fri 10-12

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

Week	Date	Topic	Reading
1	Jan 13	Introduction	-
2	Jan 20	Understanding Biodiversity and Protecting Species Tutorials start this week	1, 2
3	Jan 27	The Evolution of Zoos and Zoo-based Conservation Research	3
4	Feb 3	Animal Welfare (Georgia Mason & Maria Franke)	4
5	Feb 10	Population Biology (Paula Mackie)	5
6	Feb 17	READING WEEK - NO CLASS	-
7	Feb 24	Captive Breeding Programs and Species Recovery (Maria Franke)	6
8	Mar 3	Reintroducing Animals to the Wild (Rick Vos)	7
9	Mar 10	Veterinary Science (Cédric Larouche), Nutrition Science (Jaap Wensvoort et al.), and Traditional Ecological Knowledge (Taylor Tabobondung)	-
10	Mar 17	Educating the Public (Heather House et al.)	8
11	Mar 24	Green Initiatives at the Zoo (Kyla Greenham)	-
12	Mar 31	Botanical Gardens (David Galbraith)	-
13	Apr 7	Conservation Social Sciences (Jill Bueddefeld) & the Future of Zoos	9
Midterm Exam: This will take place outside of class time.			
Final Exam: This will take place during the final exam period			

* Note that topics are subject to change based on inclement weather and schedules of guest lecturers