

# Conservation Biology

## Syllabus: BIOC63H3 Fall 2019

Course Instructors: Dr. Rachel Sturge, [rachel.sturge@utoronto.ca](mailto:rachel.sturge@utoronto.ca), SW 563B  
Office hours: Mon or Tues 11am to 12pm or by appointment  
TA: Sara Campbell, [sarae.campbell@mail.utoronto.ca](mailto:sarae.campbell@mail.utoronto.ca)

Textbook: Primack. *Essentials of Conservation Biology*. (recommended)

Class meeting time: Lectures Tuesday 16:10 – 18:00 MW 120  
Tutorials Thursday 09:10 – 11:00 BV 264

### 1) Course Description

This course introduces the scientific foundation and practice of conservation biology. It reviews ecological and genetic concepts constituting the basis for conservation, including patterns and causes of global biodiversity, the intrinsic and extrinsic value of biodiversity, the main causes of the worldwide decline of biodiversity, and approaches to save it. The course combines case studies and broad conceptual approaches to showcase the interdisciplinary nature of conservation biology, and demonstrate the social, political and economic factors that affect the discipline.

The overall goal of the course is to provide students with an introduction to both the scientific basis of modern conservation biology and the application of these principles to conservation problems around the world. After completing the course, the students should exhibit familiarity with the relevant primary and secondary scientific literature and be able to locate, summarize and synthesize information from these sources.

### 2) Learning Outcomes

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

1. Correctly use common biological terms and principles from the conservation biology use them to interpret the material covered in this course.
2. Apply studied terms and principles to new situations.
3. Analyze conservation principles based on the ability to distinguish between facts and inference.
4. Synthesize general principles from different sub-fields of conservation biology to solve problems using creative thinking.
5. Read and interpret scientific literature from the field, and use that literature to synthesize persuasive arguments in both debates and in written form.
6. Explain how our understanding of ecology and genetics shapes current approaches to conservation.

### 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.
- 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. I 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, student-led literature reviews of recent articles, and group-based active learning exercises. Class attendance (both lecture and tutorial) is **mandatory** and prompt arrival is crucial.

**Students who miss four tutorials will automatically earn a zero for their tutorial grade.** We will be using iClicker Cloud for lecture participation – please see Quercus for more details.

##### b) Tutorials

We will spend time in tutorial analyzing and discussing scientific papers on topics that relate to each week's lecture. Students are expected to read the assigned paper and come to tutorial prepared to discuss it. In tutorial, students will work in small groups to answer questions related to that week's article. Groups will then be randomly assigned questions and asked to present their findings to the class as a whole. **At the end of the discussion, students will take a quiz designed to test their understanding of the paper.** Through these discussions, you will learn how to read scientific literature critically, and how to identify both the limits of a study and the general principles that we can draw from it. Reading scientific literature requires understanding the basics of methodology, putting effort into thinking about the research and the results, and critical thinking skills. In addition, these readings will supplement the lecture material, and the material from these papers **will be covered on tests / exams.**

In addition to literature discussions, students participate in active learning and group-based exercises aimed at promoting deeper thinking about the concepts introduced in this course. These exercises may include, but are not limited to, 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 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. Students who miss four tutorials will automatically fail the tutorial component, receiving a zero for this portion of their final grade.**

### **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. Illness on the day an assignment is due is **NOT** considered an acceptable excuse for late assignments – plan to email assignments to your TA or your instructor BEFORE the deadline if you are ill on the day they are due.

### **c) Exams**

There will be a midterm exam worth 25% of your final grade, and a cumulative final exam worth 40% of your final grade. Both exams will be based on lecture and tutorial material as well as on the assigned literature. Readings supplement the lecture material and are immeasurably helpful in preparing for exams. Both exams will consist of multiple choice, short answer and problem-solving questions. The midterm exam will take place during the scheduled lecture time and final exam will take place during the final exam period.

**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.

**d) 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](mailto:ability@utsc.utoronto.ca), (416) 287-7560, SW 302

**e) 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 AND ATTENDANCE IS MANDATORY. Students who miss four tutorials will receive a zero for this component of their final grade.** For more details, please refer to the relevant sections of this syllabus.

Category	Percent
Midterm Exam	25%
Participation	10%
Final Presentation	10%
Reading quizzes	5%
Tutorials ( <b><u>if you miss four tutorials, you will earn 0% here</u></b> )	10%
Final Exam (cumulative, during final exam period)	40%

**Late penalties**

No late assignments will be accepted for reading quizzes, or 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. Illness on the day an assignment is due is **NOT** considered an acceptable excuse for late assignments – plan to email assignments to your TA or your instructor BEFORE the deadline if you are ill on the day they are due.

### **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, and **MAY NOT** be used to excuse yourself from the midterm exam. There is also 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.

Please note that self-declaration of illness **DOES NOT** remove the requirement of tutorial attendance. **Students who miss four tutorials will receive zero for the tutorial component of their final grade, regardless of the reasons for these absences.** Also note that, even though we will drop your lowest tutorial score, you still need to document all absences for tutorials – if you miss one tutorial that you have properly documented, and a second tutorial for which you have no documentation, this second absence will count as a zero, lowering your tutorial grade.

### **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.

### **f) Final Presentations**

Students will work in small groups to prepare a 10-minute presentation that they will give in the last few weeks of tutorial. The topic should be an elaboration on some topic covered in the course, or an area of conservation biology that was not covered that interests you. These must be presentations of a specific scientific topic and should include a current review of the topic and also future directions of the field. All presentation topics must be approved by your TA. Note that portions of this assignment will be due throughout the semester (see below). You will be given more details in tutorial. **All students must attend class during all days of presentation as part of their presentation grade.** Please see the deadlines on the following page for additional information.

**Presentation Deadlines\***

<b>Sep 26</b>	<ul style="list-style-type: none"> <li>• Proposal drafts should be brought to tutorial</li> <li>• Students will read each other's work / provide feedback</li> </ul>
<b>Oct 1</b>	<ul style="list-style-type: none"> <li>• Presentation proposals are due for grading <b>IN LECTURE</b></li> </ul>
<b>Oct 24</b>	<ul style="list-style-type: none"> <li>• Outline drafts should be brought to tutorial</li> <li>• Students will read each other's work / provide feedback</li> </ul>
<b>Oct 31</b>	<ul style="list-style-type: none"> <li>• Outlines are due for grading</li> </ul>
<b>Last few weeks of class</b>	<ul style="list-style-type: none"> <li>• Presentations will take place in tutorial</li> </ul>

\* Dates subject to change based on inclement weather or other unforeseen circumstances. Students will be given advance notice of any changes.

**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. 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 the submission process.

### Schedule of Classes\*

Instructor: Dr. Rachel Sturge (rachel.sturge@utoronto.ca)

Lecture: Tuesday 16:10-18:00 MW 120, Tutorial: Thursday 09:10-11:00 BV 264

#### Readings from *Essentials of Conservation Biology* (recommended)

Week	Date	Topic	Reading
1	Sep 3	Introduction <b>No tutorial this week</b>	1, 2
2	Sep 10	Global Biodiversity Patterns	3
3	Sep 17	Extinction	7, 8
4	Sep 24	Habitat Loss <b>Proposal review in tutorial</b>	9
5	Oct 1	Climate change and invasive species <b>Proposal due for grading <u>at start of LECTURE</u></b>	10
6	Oct 8	<b>MIDTERM EXAM</b>	
7	Oct 15	<b>READING WEEK</b>	
8	Oct 22	Overexploitation and small populations <b>Outline review in tutorial</b>	11, 12
9	Oct 29	Conserving species at risk <b>Outlines due for grading</b>	
10	Nov 5	Protected Areas	15-17
11	Nov 12	Conservation outside of protected areas <b>Final Presentations in tutorial</b>	18
12	Nov 19	Restoration Ecology <b>Final Presentations in tutorial</b>	19
13	Nov 26	Humans & Sustainable development <b>Final Presentations in tutorial</b>	20 - 22
<b>FINAL EXAM WILL TAKE PLACE DURING EXAM PERIOD</b>			

\* Subject to change based on inclement weather or other unforeseen circumstances