

ECOLOGY

Syllabus: BIOB50H3-Y Fall 2018

Course Instructor:	Dr. Rachel Sturge, rachel.sturge@utoronto.ca , SW 563B Office hours: Mon or Tues 11am to 12pm or by appointment
Course Coordinator:	Jennifer Campbell, jacampbell@utsc.utoronto.ca , SW 421D Office hours: TBA
Teaching Assistants:	Stephanie Penk and Juan Vargas Soto.
Textbook:	Bowman, W.D., Hacker, S.D., and M.L. Cain. <i>Ecology</i> 4 th ed. Sinauer Associates Inc. Paper and e-book options available
Class meeting time:	<u>Lectures</u> Tuesday 16:10 – 18:00 AC 223 <u>Tutorials</u> Thursday 17:10 – 19:00 AC 223* * Tutorials rotate with BIOB10 and BIOB34 (see page 4 for details)

1) Course Description

This class is a lecture and tutorial course that gives students an introduction to the main principles of ecology, the science of the interactions of organisms with each other and with their environment. The course covers community and population ecology, and provides an emphasis on how ecology relates to other areas of biology, and to contemporary human and environmental issues.

2) Learning Outcomes

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

1. Correctly use common biological terms and principles from the study of ecology and use them to interpret the material covered in this course.
2. Apply studied ecological terms and principles to new situations.
3. Analyze ecological principles based on the ability to distinguish between facts and inference.
4. Describe the flow and conversion of energy as it flows through trophic levels and relate this to the physical laws of thermodynamics.
5. Explain how natural selection and genetic changes within populations leads to evolution and speciation.
6. Describe how the physical, biological, and social environments interact with the internal requirements of organisms, and also identify the underlying physiological and behavioural processes that this involves.
7. Describe the processes involved in population growth, species abundance and patterns of organism distribution. Use major mathematical models to describe these processes in a given example.

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, and group-based active learning exercises. Class attendance is **mandatory** and prompt arrival is crucial. Tutorial attendance is not mandatory but is strongly encouraged.

b) Reading Quizzes

Students are expected to complete each week's reading assignment before lecture and to be prepared to discuss these readings in class. Reading quizzes are due one hour **before** lecture each week. Your lowest two quiz grades will be dropped at the end of the semester. Late quizzes will be worth 50% of the original quiz grade, and must be completed before the last day of class. Quizzes are worth 10% of your final grade.

Students who do not wish to participate in reading quizzes may choose to opt out of this portion of the grade. Instead, the final exam will be worth 55% for any who choose this option.

The LAST DAY to opt out is Friday, September 14th at 11:59pm. To opt out, please email your TA (Juan Vargas Soto) from your UofT email account, with the subject header 'Opt out of BIOB50 quizzes'. No late opt outs will be accepted.

c) Tutorials and the Integrative Poster Assignment

Many of the tutorials for this and the other B-level courses will be dedicated to the Integrative Research Poster assignment. This will be time when you and your group members can meet to work on the assignment, practice it, and receive feedback from TAs and from other students. There will also be two tutorial sessions that are for BIOB50 material (see the schedule of classes on page 6 for details). Please plan to attend these as this will be when you will get a chance to practice applying what you have learned to new questions, which will help you when answering short answer questions on the exams.

The integrative poster assignment is a research project that integrates concepts across one or more of the B-level Biology courses (i.e. BIOB10, BIOB34, BIOB50), and culminates in a poster presentation to your peers. The details of this project are outlined in a document posted on Quercus, and will be discussed in the Tutorial session held on **Thursday, September 13, 5-7pm**. This will be worth 10% of your final grade.

d) Exams

There will be a midterm worth 35% and a cumulative final exam worth 45% of your final grade. All exams will be based on lecture material as well as on the assigned readings. 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 will take place during the final exam period. It will be cumulative and will have a similar format to the midterm exam.

Makeup midterm exams If you miss the midterm due to a university-accepted reason, please contact the course coordinator 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 us within three days will earn a score of zero and no makeup exam will be permitted (note that students who are unable to contact us within this time frame due to circumstances beyond their control are exempt from this, provided they can properly document the reason why.) 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.

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 tutorials (i.e. integrative research assignments). 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. For more details, please refer to the relevant sections of this syllabus.

Category	Percent
Midterm Exam	35%
Reading Quizzes	10%
Integrative Research Assignment	10%
Final Exam (cumulative, during final exam period)	45%

Late penalties

Reading quizzes that are completed late will be worth 50% of the original quiz value. For the integrative research assignment, please refer to the relevant document on Quercus to find out late penalties.

One week 'Statue of Limitations'

All grading questions about exams, quizzes, assignments, 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

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

Lecture: Tuesday 16:10-18:00 AC 223

Readings from "Ecology" 4th edition, Bowman et al.

Week	Date	Topic	Reading
1	Sep 4	Intro & The Physical Environment	1, 2
2	Sep 11	The Biosphere & Environmental variation	3, 4, 5
3	Sep 18	Evolutionary Ecology part 1	6, 7
4	Sep 25	Evolutionary Ecology part 2 BIOB50 TUTORIAL 1	7, 8
5	Oct 2	Population Distribution and Demography	9, 10
6	Oct 9	READING WEEK	
7	Oct 16	Population Dynamics	10, 11
8	Oct 23	Predation, Herbivory and Parasitism	12, 13
9	Oct 30	Competition, Mutualisms and Commensalisms	14, 15
10	Nov 6	Communities	16, 17
11	Nov 13	Biogeography & Species Diversity	18, 19
12	Nov 20	Ecosystems	20, 21, 22
13	Nov 27	Applied Ecology	23, 24, 25
Final Exam will be held during final exam period, Midterm date is TBA			