

# Community Ecology and Environmental Biology

## Syllabus: BIOC61H3 Fall 2019

Course Instructors: Dr. Rachel Sturge, [rachel.sturge@utoronto.ca](mailto:rachel.sturge@utoronto.ca), SW 563B  
Office hours: Mon or Tues 11:10 am to 12pm or by appointment  
TA: Laura McCaw, [laura.mccaw@mail.utoronto.ca](mailto:laura.mccaw@mail.utoronto.ca)

Recommended Textbook: Gary G. Mittelbach. *Community Ecology*.

Class meeting time: Lectures Mondays 15:10-17:00 BV 260  
Tutorials\* Wednesdays 14:10 – 17:00 MW 120  
\* Students attend on alternate weeks

### 1) Course Description

This class is a lecture and tutorial course that gives students an introduction to community ecology and environmental biology. Community ecology is the ecology of interactions, and foundational in biodiversity science. A basic understanding of community ecology is important to understanding, synthesizing, and applying many universal concepts in ecology. In this course, we will examine the principles and main concepts in community ecology and learn about what impacts ecological communities at local and global scales. As a group, we will increase our awareness of the communities in which we live and our influence on them.

### 2) Learning Outcomes

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

1. Correctly use common ecological terms and principles from the fields of community ecology and environmental biology.
2. Describe the processes that affect ecological communities, including species interactions and environmental change.
3. Characterize the structure of ecological communities.
4. Read and interpret scientific literature from the field, and use that literature to synthesize persuasive arguments in both debates and in written form.
5. Describe and make predictions about the impacts of anthropogenic activities on ecological communities.

### 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, participation in lectures and tutorials, and group-based active learning exercises. Class attendance (lecture and tutorial) is **mandatory** and prompt arrival is crucial. **Students who miss three 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

Students will be broken into two groups based on their last names (group A and group B). Each group will attend tutorial on a different week (see schedule of classes on the last page of this syllabus for specific dates). Students who wish to permanently switch groups have until **Friday, September 13<sup>th</sup>** to request this – you do this by emailing the teaching assistant. After this time, no students may make a permanent switch. Students who know they will miss a tutorial may contact their TA to request a one-time switch. This must happen **ONE WEEK** before the tutorial they will miss. Only students with valid reason will be permitted to switch tutorials.

In tutorial, students will spend time analyzing and discussing scientific papers on topics related to lecture, as well as participating in group-based exercises aimed at promoting deeper thinking about the concepts introduced in this course. Some of these activities will take place outside, and may occasionally be held offsite. For these activities, students should pay attention to any weather forecasts and dress accordingly.

Students are expected to read the assigned paper and come to tutorial prepared to discuss it. Discussion will take place in both small groups and as a class-wide discussion in which each group will present their findings for one or more questions. **At the end of the class-wide 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 of 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 material from these papers will be covered on exams.

In addition to paper discussions, tutorial exercises may include, but are not limited to, completing worksheets, other writing assignments, or giving small presentations to your tutorial group. Some of these activities may require that you read additional material or conduct research outside of the classroom. Any written assignments are expected to be turned in to Turnitin.com (see section 6 of this syllabus for details). 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 assigned days of tutorial and must obtain permission from the TA to switch sections. Without a valid reason, students will not be permitted to attend a tutorial section other than the one they have been assigned to. The lowest tutorial score will be dropped at the end of the semester. 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. **Students who miss three 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 one midterm worth 25% and one cumulative final exam worth 40% of your final grade. All exams will be based on lectures, tutorials, and 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 (worth 40% of your final grade) will take place during the final exam period.

**Makeup midterm** 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/missed-term-work-policy> for details on acceptable documentation and how to submit it). Students with a valid excuse will be given a makeup test 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 test 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 three 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%     |
| Lecture Participation   | 10%     |
| Reading Quizzes   | 5%      |
| Tutorials ( <b>if you miss three tutorials, you will earn 0% here</b> ) | 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. 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 three 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.

## 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: Monday 15:10-17:00 BV 260

Tutorials: Wednesdays 14:10 – 17:00 MW 120\*\*

\*\* students will attend tutorial on alternate weeks

Readings from Gary Mittelbach *Community Ecology* (recommended).

| Week | Date    | Topic   | Chapter |
|------|---------|---|---------|
| 1    | Sep. 2  | <b>NO CLASS OR TUTORIAL THIS WEEK</b>                                     |         |
| 2    | Sep. 9  | Introduction & Patterns of Biodiversity<br>Tutorial 1 - Group A           | 1, 2    |
| 3    | Sep. 16 | Biodiversity & Ecosystem Functions<br>Tutorial 1 - Group B                | 3       |
| 4    | Sep. 23 | Population growth & density dependence<br>Tutorial 2 - Group A            | 4       |
| 5    | Sep. 30 | Predators & Prey<br>Tutorial 2 - Group B                                  | 5, 6    |
| 6    | Oct. 7  | Competition<br>Tutorial (all students) – Exam review session              | 7, 8    |
| 7    | Oct. 14 | <b>READING WEEK - NO CLASS</b>  |         |
| 8    | Oct. 21 | <b>MIDTERM EXAM</b><br>Tutorial 3 - Group A                               |         |
| 9    | Oct. 28 | Mutualisms & Facilitation<br>Tutorial 3 - Group B                         | 9       |
| 10   | Nov. 4  | Food chains & food webs<br>Tutorial 4 - Group A                           | 10, 11  |
| 11   | Nov. 11 | Metapopulations<br>Tutorial 4 - Group B                                   | 12, 13  |
| 12   | Nov. 18 | Species Coexistence & Environmental Heterogeneity<br>Tutorial 5 - Group A | 14      |
| 13   | Nov. 25 | Evolutionary Community Ecology<br>Tutorial 5 - Group B                    | 15      |
| 14   | Dec. 2  | <b>EXAM REVIEW SESSION DURING LECTURE TIME</b>                            |         |

\* Schedule is subject to change based on inclement weather or other unforeseen circumstances