BIO A02

*Life on Earth: Form, Function and Interactions*

*Summer 2018*

**COURSE SYLLABUS**

**Objectives and Outcomes**

The primary goal of this course (BIO A02) is to provide students with the strong foundation required to become a successful biologist. During the term you will learn:

1. the major principles of plant and animal form and function;
2. the key concepts of ecology focusing on the interactions among organisms and between organisms and their environment;
3. an examination of the diversity of life in the plant, animal and fungal kingdoms;
4. some basic laboratory techniques that are required to pursue your chosen field in science;
5. some approaches for finding and reading relevant biology research articles;
6. the proper approach to collecting and analyzing data and then communicating the results using the writing and critical thinking skills presented in labs.

**Course Personnel**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>How to contact¹</th>
<th>Office and Office Hours²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Rachel Sturge</td>
<td>Instructor</td>
<td>E-mail <a href="mailto:biolife@utsc.utoronto.ca">biolife@utsc.utoronto.ca</a> (include Sturge in subject)</td>
<td>SW563B Hours: TBA</td>
</tr>
<tr>
<td>Karolyn Keir</td>
<td>Lab/Course Coordinator for BIO A02</td>
<td>E-mail <a href="mailto:biolife@utsc.utoronto.ca">biolife@utsc.utoronto.ca</a> (include Keir and A02 in subject)³</td>
<td>SW238 Hours: TH 2-3pm or by appointment</td>
</tr>
<tr>
<td>Nicole Alber</td>
<td>Lecture / Laboratory – Bio Help TA</td>
<td><a href="mailto:nikki.alber@utoronto.ca">nikki.alber@utoronto.ca</a> (include biohelp in the subject)</td>
<td>Please see Blackboard.</td>
</tr>
<tr>
<td></td>
<td>Laboratory TA</td>
<td>TBA in your first lab</td>
<td></td>
</tr>
</tbody>
</table>

¹All e-mails must be sent from your university issued e-mail account (@mail.utoronto.ca). Please refer to the section “Communicating information within BIO A02” on page 3 for further details.

²All Course Personnel are only available in their offices during stated office hours.

³Karolyn Keir will only respond to e-mails during regular business hours (M-F, 9am-5pm)
# 2018 Summer Semester - Important Dates

For a list of all important dates for this semester, go to:  
http://www.utsc.utoronto.ca/registrar/dates-and-deadlines

## LECTURE SCHEDULE

<table>
<thead>
<tr>
<th>LEC01</th>
<th>DATE</th>
<th>TIME</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thursday</td>
<td>12 – 3pm</td>
<td>SW 319</td>
</tr>
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</table>

## LAB PRACTICALS AND SCHEDULE

<table>
<thead>
<tr>
<th></th>
<th>DATE</th>
<th>TIME</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRA 0001</td>
<td>Thursday</td>
<td>9 – 12PM</td>
<td>SW 237</td>
</tr>
<tr>
<td>PRA 0002</td>
<td></td>
<td>9 – 12PM</td>
<td></td>
</tr>
<tr>
<td>PRA 0003</td>
<td></td>
<td>3 – 6PM</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week</th>
<th>Lab #</th>
<th>Practical</th>
<th>Dates (2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Odd numbered practicals (ie. P0001, P0003)</td>
<td>May 10th</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Even numbered practicals (ie. P0002)</td>
<td>May 17th</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>Odd numbered practicals</td>
<td>May 24th</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Even numbered practicals</td>
<td>May 31st</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>Odd numbered practicals</td>
<td>June 7th</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>Even numbered practicals</td>
<td>June 14th</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>READING WEEK ➔ NO CLASSES</strong></td>
<td>June 21th</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>Odd numbered practicals</td>
<td>June 28th</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>Even numbered practicals</td>
<td>July 5th</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
<td>Odd numbered practicals</td>
<td>July 12th</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>Even numbered practicals</td>
<td>July 19th</td>
</tr>
</tbody>
</table>
## Course Organization & Evaluation

The final grade in BIO A02 will be determined as follows:

<table>
<thead>
<tr>
<th>Lab Exercises</th>
<th>5 labs</th>
<th>15%</th>
<th>3% per lab</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lab 1: 3% Lab Report</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Labs 2-5: 0.5% for quiz + 2.5% for Lab Report</td>
</tr>
<tr>
<td>Lab Assignment</td>
<td>3%</td>
<td></td>
<td>Submitted at the beginning of Lab 2</td>
</tr>
<tr>
<td>Formal Lab Report (FLR)(^1)</td>
<td>7%</td>
<td>Due at the start of July 2018; exact date will be announced in lab and on Blackboard</td>
<td></td>
</tr>
<tr>
<td>Lecture Material</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exam 1</td>
<td>20%</td>
<td></td>
<td>June 7, 12-2pm</td>
</tr>
<tr>
<td>Exam 2</td>
<td>20%</td>
<td></td>
<td>July 12, 12-2pm</td>
</tr>
<tr>
<td>Exam 3</td>
<td>20%</td>
<td></td>
<td>Will be scheduled during the Final Exam period</td>
</tr>
<tr>
<td>Lecture Participation</td>
<td>10%</td>
<td>iClicker polling participation and completion of in class assignments.</td>
<td></td>
</tr>
<tr>
<td>Online participation</td>
<td>5%</td>
<td>Learning curves</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) A late penalty of 10% per day including weekends applies. Your FLR will be submitted to Turnitin through Blackboard; failure to do so or to submit a Turnitin readable document will result in a grade of zero.

In BIO A02 Summer 2018, we use Turnitin.com for the submission of the FLR. You should be aware of the following policy for the use of Turnitin at the University of Toronto:

"Normally, students are required to submit their course essays to Turnitin.com for review of textual similarity and detection of plagiarism. In doing so, students will allow their essays to be used 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 website."

### A. Lecture Topics (tentative; may change over course)

#### Module 1: Plant Form and Function
- Structure and function
- Reproduction
- Growth & Development
- Defense (time permitting)
- Plant Diversity & Fungi Diversity

#### Module 2: Animal Form and Function
- Nervous systems & Physiology
- Cardiovascular & Respiratory Systems
- Metabolism, nutrition and digestion
- Endocrine Systems (time permitting)
- Animal Diversity

#### Module 3: Ecology
- Animal Behaviour
- Population, Community and Ecosystem Ecology
- Biomes
- Global Ecology
- The Anthropocene
B. Lab Topics

Lab 1: Flower Morphology, Plant Sexual Systems and Plant Vegetative Morphology / Set-up for Formal Lab Report
Lab 2: Behavioural Responses in Terrestrial Isopods / Investigating the Effects of Nutrients on Plant Growth: Analyzing data for Formal Lab Report
Lab 3: Physiological Responses to Temperature using Daphnia spp.
Lab 4: Population Sampling Methods / Set-up for aquatic plant bioassay (Lab 5)
Lab 5: Population Growth Experiment using an aquatic plant bioassay

Communicating information within BIO A02

Quercus
The main source for information for BIO A02 is the Quercus course page. Information such as contact information, office hours, lecture outlines, videos and notes, assignment instructions, test dates and locations and grades will be posted on Quercus throughout the semester. Please check your BIO A02 Quercus page frequently and consult for information before contacting the Instructor, the Course Coordinator or your TA.

Students must use their UTORid to access the BIO A02 Quercus page. Log on at https://q.utoronto.ca/

E-mail
To help the course personnel stay organized and answer your e-mails more quickly and effectively, one central e-mail address serves BIO A02. To communicate with your course instructor and the course coordinator, please e-mail:

biolife@utsc.utoronto.ca

Include the name of the person you wish to e-mail in the subject line to help direct it to that person. If there is no name listed, your e-mail will not be opened or answered.

Please do not use professors’ personal e-mail address for BIO A02 communication!

Remember to always contact the instructor, course coordinator or your TA using your U of T issued e-mail address. E-mails from other e-mail services (@gmail, @yahoo, @hotmail, etc.) will not be answered!
Course Materials

1. **Textbook, LaunchPad and Reef**
   The complete textbook package can be purchased at the UTSC Bookstore, located above Tim Horton’s in the Bladen Wing. The textbook for BIO A02 is:


   **LaunchPad** is an additional, online supplement to help you master the material presented in BIO A02. It will also be used for completing online assessments as assigned in the different modules. You can purchase and access LaunchPad two different ways:
   1. Packaged at no extra cost with the loose-leaf text (approx. $138.00) or hard-cover text (approx. $205.35) purchased through the UTSC bookstore
   2. As a stand-alone item (includes the e-text) for $88.99. This can be purchased through the UTSC bookstore website or through the Macmillan website ([http://www.macmillanlearning.com](http://www.macmillanlearning.com)).
   For Technical Support please call: **1-800-936-6899**

   **Reef** classroom polling is a cloud-based student response software by iClicker. This will help the BIO A02 instructor understand what you know, give everyone a chance to participate in class, and allow you to review material after class.

   Creating your iClicker Reef Student Account
   Go to [iclicker.com.students](http://iclicker.com.students) or download the iClicker Reef Student app for your Apple or Android device to sign up for a Reef account. You should use your U of T e-mail address and student number in the student ID field. Your subscription to Reef is included with the purchase of the textbook. You can find the answers for many of your questions on the iClicker student support site: ([https://community.macmillan.com/community/iclicker-support/iclicker-student-support](https://community.macmillan.com/community/iclicker-support/iclicker-student-support)).

2. **Lab Manual**
   The lab manual is a separate e-publication that will be posted on Blackboard. It is required for all lab practicals. It is titled:


   The lab manual can only be obtained from Blackboard in the folder labelled ‘BIOA02 Lab Manual Summer 2018’. The manual is NOT FOR SALE at the Bookstore! Photocopies of old, out-of-date lab manuals are NOT ACCEPTABLE.

3. **Laboratory Coat and Protective Eyewear**
   **Lab coats and protective eyewear are required for all Biology labs at UTSC.** Lab coats and protective eyewear are sold in various locations on campus (BioSA, EPSA, Bookstore).
Course Regulations

Lectures
Your instructor in BIO A02 creates their lectures so as to cover a great amount of material within the allotted time. In order to get maximum benefit from these lectures, students are advised to:

- **read the relevant sections in your textbook** before the lecture and become familiar with the terms and concepts to be covered
- **download posted lecture material** from Blackboard before each lecture
- **take notes during the lectures** with the aim of understanding the concepts covered
- re-read the relevant sections in your textbook as needed after lecture and create your own study notes; review your notes frequently
- **arrange to see the Instructor or the Bio-Lecture Help TA** during scheduled office hours or by appointment if you are having difficulties understanding material covered in lectures

Attendance in Labs
Attendance in the labs is required to get credit for any associated work. **Labs 2-5 will start with a quiz** on the lab background information so BE ON TIME! If you arrive at your lab within 20 minutes of the scheduled start time, you may write the quiz in the time remaining. The lab door will be closed at the end of the quiz while the TA introduces the lab. If you arrive more than 20 minutes late, you will not be allowed to participate in the lab.

If you miss a lab entirely, **you must contact the Course Coordinator, Karolyn Keir, before the end of your scheduled lab**. You are only allowed to miss one lab practical with valid documentation during the course of the term. Any labs missed without valid documentation or any subsequent labs missed will be assigned a grade of zero.

Students who attend lab practicals that they are not registered in (without prior discussion with the Course Coordinator) will be assigned a grade of zero for any associated work. You must attend the lab practical that you are registered in!

Only FLRs may be submitted late and must be given directly to the Course Coordinator. An appropriate late penalty (10% of the mark per day including weekends) will be applied; work will not be accepted more than 5 days late. Times and dates to hand in late material will be posted on Quercus; FLR will not be accepted on either Saturdays or Sundays.

Tests / Exams
**Students who miss the midterm must contact the Course Coordinator within 3 days of the scheduled test via e-mail.** Only students with a valid, documented reason will be given consideration for a makeup.

**Documentation must apply to the date/time of the originally scheduled test.**

**Students who miss the final exam, which is scheduled during the Final Exam Period, must contact the Registrar’s Office** (http://www.utsc.utoronto.ca/registrar/deferred-exams) and follow the procedures outlined in order to arrange to write a Deferred Final Exam (DFE). The DFE will be scheduled during the December 2018 Exam Period. Please note that the format of any makeup test may differ from the original while covering the same content.
Procedure for missed labs and term tests

In order to be eligible for consideration for a missed term test or lab work, students must provide a valid documented reason to the Course Coordinator.

For missed labs and lab assignments/FLRS:

**You must contact the Course Coordinator before the end of your scheduled lab to be eligible for a make-up lab, to be granted an extension, or to be exempt from your lab. Please remember that you are only allowed to miss one lab practical with valid documentation during the course of the term.***

This summer we are trying a pilot program regarding the requirement of submitting the Verification of Student Illness form for missed term assignments. Specifically, if you are ill during the term, and this illness influences your ability to meet a deadline for submission of a term assignment, rather than submitting a Verification of Student Illness form in your request for accommodation you can submit a Self-Declaration of Student Illness form, indicating the days in which you were ill. This form is meant to take the place of the more typical medical form, and will be available on the department’s website [www.utsc.utoronto.ca/biosci](http://www.utsc.utoronto.ca/biosci).

Please note the following aspects related to this Self-Declaration of Student Illness form:

1. Similar to the submission of a medical form, YOU ARE RESPONSIBLE for contacting the Course Coordinator to make arrangements for an accommodation for this work.

2. You may use the Self-Declaration of Student Illness form ONLY for term assignments. For any term exams in this course you will need to submit a Verification of Student Illness form (See “For Missed Term Tests”). For the final exam you will need to follow the typical procedures for petitioning to write a deferred exam.

3. You may use the Self-Declaration of Student Illness form up to five times in this course. If you require an additional accommodation for a term assignment you must then use the standard Verification of Student Illness form.

4. Submitting a false Self-Declaration of Student Illness form constitutes academic misconduct, and could be subject to sanctions under the Code of Behaviour on Academic Matters.

Please submit any Self-Declaration of Student Illness forms to the Course Coordinator as soon as possible.

For missed term tests:

**You must contact the Course Coordinator within 72 hours of the end of your scheduled term test to be eligible to write a make-up term test***

Please submit a completed University of Toronto Verification of Illness or Injury Form. Form can be found here:

[http://www.utsc.utoronto.ca/registrar/verification-illness-or-injury](http://www.utsc.utoronto.ca/registrar/verification-illness-or-injury)

The date/time of the original test that was missed must be clearly indicated as well as a clear statement of the medical issue.
Important UTSC Policies

1. Information on Academic Integrity

2. Information Regarding AccessAbility Services at UTSC
   Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach the AccessAbility Services Office (SW 302). All enquiries are confidential. You can contact AccessAbility Services at ability@utsc.utoronto.ca or visit their website (www.utsc.utoronto.ca/ability/).

3. Information on Religious Observances
   It is a policy at UTSC to provide special consideration for recognized holy days, which may be observed by our students. As a student, it is your responsibility to check the due dates for all course work and scheduled dates for tests/exams on a regular basis. Inform the Course Coordinator of any potential conflicts at least 7 days prior to the date of the test/assignment.

4. Information regarding final marks
   After the final exam, final marks are calculated and submitted to the Department for review. Once approved, the final mark for each student in the course will be released on ROSI/ACORN. Final marks are not negotiable and instructors are not permitted to discuss final marks with students. If students have concerns about their final mark, they should consult the proper procedures to be followed as outlined by the Registrar’s Office:
   http://www.utsc.utoronto.ca/registrar/petitions

   Once final marks are posted, it is an academic offense to ask for your mark to be changed (see Academic Handbook for further details)