

**BIO A02**  
***Life on Earth: Form, Function and Interactions***  
**Winter 2020**

## COURSE SYLLABUS

### Objectives and Outcomes

The primary goal of 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

Name	Title	How to contact <sup>1</sup>	Office and Office Hours <sup>2</sup>
Dr. Ivana Stehlik	Instructor for Module 1	E-mail <a href="mailto:biolife@utsc.utoronto.ca">biolife@utsc.utoronto.ca</a> (include <b>Stehlik</b> in subject)	SW563C Hours: TBA
Dr. Stephen Reid	Instructor for Module 2	E-mail <a href="mailto:biolife@utsc.utoronto.ca">biolife@utsc.utoronto.ca</a> (include <b>Reid</b> in subject)	SW526 Hours: TBA
Dr. Rachel Sturge	Instructor for Module 3	E-mail <a href="mailto:biolife@utsc.utoronto.ca">biolife@utsc.utoronto.ca</a> (include <b>Sturge</b> in subject)	SW563B Hours: TBA
Karolyn Keir	Lab/Course Coordinator for BIO A02 - Contact regarding late enrollment, missed tests, missed labs, marks management and general advising as related to the course as a whole	E-mail <a href="mailto:biolife@utsc.utoronto.ca">biolife@utsc.utoronto.ca</a> (include <b>Keir</b> and <b>A02</b> in subject) <sup>3</sup>	SW238 Hours: TU 2-3pm TH 2-3pm
Sara Campbell	Laboratory – Bio Help TA	<a href="mailto:sarae.campbell@mail.utoronto.ca">sarae.campbell@mail.utoronto.ca</a> (include <b>biohelp - lab</b> in the subject)	Please see Quercus.
	Laboratory TA	TBA in your first lab	

<sup>1</sup>All 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 2 for further details.

<sup>2</sup>All Course Personnel are only available in their offices during stated office hours.

<sup>3</sup>Karolyn Keir will only respond to e-mails during regular business hours (M-F, 9am-5pm)

## Communicating information within BIO A02

### Quercus (q.utoronto.ca)

The main source of information for BIO A02 is the Quercus course page. Information such as contact information and office hours, lecture outlines, videos and notes, assignment instructions, test dates and locations, and grades will be posted on Quercus throughout the semester. Information related to your lab practical will also be posted here. Please check the BIO A02 Quercus page frequently and set notifications so you do not miss any important information.

Log onto Quercus by clicking the “Quercus” link under Quick Links on the UTSC homepage and using your UTORid and password.

### E-mail

To help your professors stay organized and answer your e-mails more quickly and effectively, one central e-mail address serves BIO A02. To communicate with your Instructors and the Course Coordinator, please e-mail:

[biolife@utsc.utoronto.ca](mailto:biolife@utsc.utoronto.ca)

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

Please do not use professors' e-mail addresses for BIO A02 communication!

Remember to always contact the Instructors, Course Coordinator and TAs using your UofT issued e-mail address.

E-mails from other addresses (@gmail, @hotmail, @yahoo, etc.) will not be answered.

## Required course materials:

### 1) Textbook

The complete textbook package can be purchased at the UTSC Bookstore (located above Tim Horton's in the Bladen Wing). The purchase of a textbook is required for BIO A02.

The textbook for BIO A01/A02 is:

**Morris J, Hartl D, Knoll A, Lue R, Michael M. 2019. *Biology How Life Works* (3<sup>rd</sup> ed.) W.H. Freeman & Company: Macmillan Education Imprint.**

### 2) LaunchPad Access (online learning tool)

LaunchPad is an additional, online learning tool to help you master the material presented in BIO A02, as well as complete the online assessments associated with certain modules. You can purchase and access LaunchPad a few different ways:

- 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
- As a stand-alone item that includes the e-text for \$88.99. This can either be purchased through the UTSC Bookstore website or directly through the MacMillan website (<http://www.macmillanlearning.com/catalog>)  
For technical support, please call: 1-800-936-6899

### 3) Lab Manual

The lab manual is a separate publication that is required for all lab practicals. It is titled:

Keir K, Gladilina E, Armstrong C. 2020. *BIO A02 – Life on Earth: Form, Function & Interactions – Lab Manual for Winter 2020*. Toronto, Ontario.

The lab manual is for sale at the UTSC Bookstore. Photocopies of old, now out-of-date manuals are NOT ACCEPTABLE. Reports at the end of each lab for 2020 are unique to this version of the manual and originals are required to receive credit for your practicals. **Copies of reports will not be provided by your TA!**

Students must have their own copy of the appropriate lab information when they come to their practical. It is the responsibility of each student to read each lab in advance and bring the manual to each of their scheduled practicals.

### 4) Lab 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). Disposable gloves and other supplies will be provided in the labs as needed. Students should bring pencils, pens, rulers and calculators to all labs. Always check your lab manual for any special

## Course Organization & Evaluation

The content in BIO A02 will be delivered through lectures and labs. Students will be evaluated through a number of different mediums (as outlined below). Each module will evaluate the students' understanding of the material with a **term test** (see schedule below). All term tests will use a multiple – choice question format and the date/time and location will be announced later and posted on the BIO A02 Quercus webpage.

Module and Instructor	Approximate schedule for term test
1 – Dr. Stehlik	Early- to mid February 2020
2 – Dr. Reid	Early- to mid March 2020
3 – Dr. Sturge	During UTSC Exam Period in April 2020

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

**Laboratory component of final grade = 31%** (see breakdown below)

**Labs: 6 online quizzes x 0.5% = 3%**

There will be 6 online laboratory quizzes delivered through Quercus. You are responsible for completing each quiz by the assigned due date. No make-ups are possible. The first quiz, which will be focused on Lab 1, must be completed by Monday, January 20, 2020 at 11:59am (just before noon). The other five quizzes are to be completed before each of your scheduled labs. You must attend the associated lab to receive credit for the quiz. Quiz marks will revert to zero if you are absent from the associated lab.

**6 lab reports x 2.0% = 12%**

Lab Reports (1-6) will be completed during scheduled lab periods and submitted to Lab TA before you leave the lab. It is a prudent use of time to complete as much of these reports as possible before your scheduled lab period.

**Formal Lab Report (FLR) = 8%**

Submitted online through Quercus by 11:59am (just before noon) on Friday, March 6, 2020.

**Lab Exam = 8%**

Laboratory exam will cover all 6 labs in BIOA02 and will be delivered with the test for Module 3 during the final exam period.

**Lecture component of final grade =**

**69% of final grade (see breakdown below)**

**Module 1 =>**

**23% of final grade (see breakdown below)**

**20% Term Test #3**

**3% Online Assessments delivered through Quercus, mark is determined by # of correct answers/total # of questions.**

**Module 2 =>**

**23% of final grade (all Term Test #2)**

**Module 3 =>**

**23% of final grade (see breakdown below)**

**20% Term Test #3**

**3% Online Assessments**

### Statement regarding use of Turnitin

In BIO A02 Winter 2020, we will be using Turnitin.com (via Quercus) for the submission of the Formal Lab Report. You should be aware of the following policy for the use of Turnitin at the University of Toronto:

"Normally, students will be required to submit their course essays to Turnitin.com for a 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".

## Course Content

### A. Lecture Topics (*tentative*)

<b>Module 1: Plant Form and Function</b>	<ul style="list-style-type: none"> <li>• Tree of Life – Plants</li> <li>• Plant Cells and Tissues</li> <li>• Reproduction and Development in Flowering Plants</li> <li>• Transport in Plants</li> <li>• Plant Nutrition and Soils</li> </ul>
<b>Module 2: Animal Form and Function</b>	<ul style="list-style-type: none"> <li>• animal physiology and anatomy</li> <li>• nervous system</li> <li>• endocrine system</li> <li>• skeletal muscles</li> <li>• hearts and circulatory systems</li> <li>• respiratory systems</li> <li>• cardiorespiratory control</li> <li>• thermoregulation</li> <li>• osmoregulation</li> <li>• digestive system</li> </ul>
<b>Module 3: Ecology</b>	<ul style="list-style-type: none"> <li>• Animal Behaviour</li> <li>• Population Ecology</li> <li>• Community Ecology</li> <li>• Ecosystem Ecology</li> <li>• Biomes</li> <li>• Global Ecology</li> <li>• The Anthropocene</li> </ul>

### LECTURE SCHEDULE

	<b>DATE</b>	<b>TIME</b>	<b>LOCATION</b>
<b>LEC01</b>	Tuesday	11 – 12	IC 130
	Thursday	11 – 12	IC 130
	Friday	10 – 11	AC 223
<b>LEC02</b>	Tuesday	1 – 2	AC 223
	Thursday	1 – 2	AC 223
	Friday	11 – 12	AC 223
<b>LEC60</b>	Online lecture		

### Facilitated Study Groups (FSGs)

BIO A02 is supported by an independently-run facilitated study group. These weekly study sessions are open to all BIO A02 students. Attendance is voluntary. If you have questions, visit the FSG website at:

<http://ctl.utsc.utoronto.ca/home/fsg>

**Please note:** All materials used in FSG sessions (handouts, questions etc.) are created by the FSG moderators and not by the course instructors. Please ensure that you contact the FSG moderators about any questions related to these materials. Please also note that while the questions used in the FSG sessions are very useful to promote your understanding of course concepts, they may **NOT** be in the same format that will be used for the term tests in BIOA02.

**B. Lab Topics**

- Lab 1:** Flower Morphology and Plant Sexual Systems / Investigating the Effects of Nutrients on Plant Growth: Set-up for Formal Lab Report
- Lab 2:** Plant Vegetative Morphology / Investigating the Effects of Nutrients on Plant Growth: Analyzing data for Formal Lab Report
- Lab 3:** Behavioural Responses in Terrestrial Isopods
- Lab 4:** Physiological Responses to Temperature using *Daphnia* spp.
- Lab 5:** Population Sampling Methods / Set-up for aquatic plant bioassay (Lab 6)
- Lab 6:** Population Growth Experiment using an aquatic plant bioassay

**LAB PRACTICAL SCHEDULE**

<b>Week</b>	<b>Lab #</b>	<b>Practical</b>	<b>Dates (2020)</b>
1	1	Odd numbered practicals (eg. P0001, P0003, P0005....)	January 6 - 9
2	1	Even numbered practicals (eg. P0002, P0004, P0006....)	January 13 - 16
1	2	Odd numbered practicals	January 20 - 23
2	2	Even numbered practicals	January 27 - 30
1	3	Odd numbered practicals	February 3 - 6
2	3	Even numbered practicals	February 10 - 13
<b>READING WEEK → NO CLASSES</b>			February 15 – 22
1	4	Odd numbered practicals	February 24 - 27
2	4	Even numbered practicals	March 2 - 5
1	5	Odd numbered practicals	March 9 - 12
2	5	Even numbered practicals	March 16 - 19
1	6	Odd numbered practicals	March 23 - 26
2	6	Even numbered practicals	March 30 – April 2

<b>PRACTICAL</b>	<b>Week</b>	<b>Day</b>	<b>Time</b>	<b>Lab</b>
P0001	1	Tuesday	9am to 12pm	SW 237
P0002	2	Tuesday	9am to 12pm	SW 237
P0003	1	Tuesday	9am to 12pm	SW 240
P0004	2	Tuesday	9am to 12pm	SW 240
P0006	2	Tuesday	9am to 12pm	SW 242
P0007	1	Tuesday	12pm to 3pm	SW 237
P0008	2	Tuesday	12pm to 3pm	SW 237
P0009	1	Tuesday	12pm to 3pm	SW 240
P0010	2	Tuesday	12pm to 3pm	SW 240
P0011	1	Tuesday	12pm to 3pm	SW 242
P0012	2	Tuesday	12pm to 3pm	SW 242
P0013	1	Tuesday	3pm to 6pm	SW 237
P0014	2	Tuesday	3pm to 6pm	SW 237
P0015	1	Tuesday	3pm to 6pm	SW 240
P0016	2	Tuesday	3pm to 6pm	SW 240
P0017	1	Wednesday	10am to 1pm	SW 237
P0018	2	Wednesday	10am to 1pm	SW 237
P0023	1	Wednesday	1pm to 4pm	SW 237
P0024	2	Wednesday	1pm to 4pm	SW 237
P0025	1	Wednesday	1pm to 4pm	SW 240
P0026	2	Wednesday	1pm to 4pm	SW 240
P0027	1	Wednesday	1pm to 4pm	SW 242
P0028	2	Wednesday	1pm to 4pm	SW 242
P0029	1	Thursday	9am to 12pm	SW 237
P0030	2	Thursday	9am to 12pm	SW 237
P0031	1	Thursday	9am to 12pm	SW 240
P0032	2	Thursday	9am to 12pm	SW 240
P0033	1	Thursday	12pm to 3pm	SW 237
P0034	2	Thursday	12pm to 3pm	SW 237
P0035	1	Thursday	12pm to 3pm	SW 240
P0036	2	Thursday	12pm to 3pm	SW 240
P0037	1	Thursday	3pm to 6pm	SW 237
P0038	2	Thursday	3pm to 6pm	SW 237
P0041	1	Monday	1pm to 4pm	SW 237
P0043	1	Monday	1pm to 4pm	SW 240

## 2020 Winter Semester - Important Dates

Monday, January 6	Classes begin in S courses and resume in Y courses.
Sunday, January 19	Last day to add S courses.
Monday, February 17	<ul style="list-style-type: none"> <li>• Last day to confirm intention to graduate at the 2020 Spring Convocation.</li> <li>• Last day to drop Y courses without academic penalty and have them removed from the transcript.</li> <li>• Family Day holiday → University closed.</li> </ul>
Saturday, February 15 – Friday, February 21	Reading Week → No classes or midterms held.
Monday, February 24	Classes resume in S and Y courses.
Sunday, March 22	Last day to drop S courses without academic penalty and have them removed from the transcript.
Friday, April 3	<ul style="list-style-type: none"> <li>• Last day to add or remove the CR/NCR mode of assessment for an S section course. (Note: For details go to <a href="http://www.uts.utoronto.ca/registrar">www.uts.utoronto.ca/registrar</a>)</li> <li>• Last day to drop UTSC S and Y courses on eService and have them remain on the transcript with a grade of LWD indicating withdrawal without academic penalty. After this date grades are recorded on transcripts whether course work is completed or not (with a '0' assigned for Incomplete work) and they are calculated into GPAs. (Note: See <a href="http://www.uts.utoronto.ca/registrar">www.uts.utoronto.ca/registrar</a> for LWD dates for courses on other campuses.)</li> <li>• Last day of classes and last day for submission of term assignments in S and Y courses.</li> </ul>
Saturday, April 4 – Tuesday, April 7	Study Break
Wednesday, April 8 – Saturday, April 25	Final examinations in S and Y courses.
Friday, April 10	Good Friday – University Closed



## Course Regulations

### Lectures

To get maximum benefit from the lectures in this course, students are advised to:

- **read the relevant sections in your textbook before the lecture** (see lecture schedule). Do not take extensive notes or memorize the material at this stage – just read and become familiar with the terms and concepts to be covered
- **download posted lecture material** from Quercus before each lecture
- **actively engage while attending/watching lectures**
- **during lectures, take your own notes** with the aim of understanding the main 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** during scheduled office hours or by appointment if having difficulties understanding material covered in lectures

### Attendance in Labs

Attendance in the labs is required to get credit for that lab and any associated work. You must arrive on time! The lab door will close at 20 minutes after the hour. If you arrive late and the door is closed, you will have missed the introductory information and will not be permitted to participate in the lab. If you are late or miss your lab entirely, **you may discuss your situation with the Course Coordinator, Karolyn Keir.**

***There will be no make-up labs in BIOA02.***

Provided you have valid documentation, you may miss **one** lab practical without academic penalty during the course of the term. For subsequent missed labs, you will be assigned a grade of zero for all associated work.

Students who attend lab practicals that they are not registered in will be asked to leave the lab immediately and will be assigned a grade of zero for all associated work. You must attend the practical that you are registered in!

You will not receive credit for online quizzes, nor be allowed to submit lab reports for labs that you have not attended. Late formal lab reports will have a late penalty automatically applied (10% of the mark per day including weekends); work will not be accepted if more than 5 days late. Times and dates to hand in late material will be posted on Quercus.

## Procedure for missed labs and 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.

### A. For missed labs and lab assignments/FLRs:

**\*\*\*You must contact the Course Coordinator by email *before* the end of your scheduled lab to be eligible for accommodation. Please include a scanned copy of your self-declaration form with this email or indicate when you plan to submit this form. Once you are well enough to return to your academic duties, you must drop off the hard copy of this form by your next lab to the Course Coordinator. Please remember that you are only allowed to miss one lab practical with valid documentation during the course of the term. \*\*\***

If you are ill during the term, and this illness influences your ability to attend your lab or meet a deadline for submission of a term assignment, 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 is 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:

- A. Similar to the submission of a medical form, YOU ARE RESPONSIBLE for contacting the Course Coordinator to make arrangements for an accommodation for your absence.
- B. You may use the Self-Declaration of Student Illness form ONLY for lab absences or 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.
- C. You may use the Self-Declaration of Student Illness form up to two 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. However, you may only be exempt from one lab.
- D. 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.

**B. 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 to the Course Coordinator. Form can be found here:

<https://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.

**If you cannot attend Friday evening or Saturday midterm tests for religious reasons, please notify the Course Coordinator in writing by e-mail within one week of the announced midterm test date; an alternative time will be presented if approved by the Instructor.**

**C. For missed tests during the final exam period/final exams:**

**Students must contact the Registrar's office ([www.utsc.utoronto.ca/registrar/deferred-exams](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 Summer 2020 Exam Period. Please note that the format of the DFE may differ from the original while covering the same content.**

## Important UTSC Policies

UTSC is dedicated to fostering an academic community in which the learning and scholarship of every member may flourish, with vigilant protection for individual human rights and a resolute commitment to the principles of equal opportunity, equity and justice.

### 1) Information on Academic Integrity

Academic integrity is essential to the pursuit of learning and scholarship in a University, and to ensure that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters outlines behavior that constitutes academic dishonesty and the process for addressing such offenses (see <http://www.governingcouncil.utoronto.ca/policies/resourcesforstudents.html>).

### 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 instructor in BIO A02 and/or the AccessAbility Services Office (Room SW302) as soon as possible. Please note that all inquiries are confidential. You can contact AccessAbility Services at 416-287-7560, by e-mailing [ability@utsc.utoronto.ca](mailto:ability@utsc.utoronto.ca) or visiting their website ([www.utsc.utoronto.ca/ability](http://www.utsc.utoronto.ca/ability)).

### 3) Information on Religious Observances

It is policy at UTSC to provide special consideration for recognized holy days which may be observed by our students. Though not all holy days require students to be absent from school, accommodations may still be necessary in some cases. 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. Failure to do so may result in special consideration not being granted (documentation may be required).

### 4) Procedures Regarding Final Marks

The final mark in BIO A02 is based on term work; the evaluation breakdown is given on page 5. After the final exam, 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:

<https://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).  
changed. (See Academic Handbook)**