

# BIO A02

## *Life on Earth: Form, Function and Interactions*

### Winter 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

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
Nicole Alber	Lecture – Bio Help TA	<a href="mailto:nikki.alber@utoronto.ca">nikki.alber@utoronto.ca</a> (include <b>biohelp – lecture</b> in the subject)	Please see Blackboard.
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 Blackboard.
	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

### Blackboard Portal

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

**Students must use their UTORid to access the BIO A02 Blackboard page.  
Log on by using the “Blackboard Portal” link under “Quick Links” on the UTSC  
Homepage.**

### 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 course 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 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 addresses for BIO A02 communication!

Remember to always contact the Instructors, Course Coordinator and Teaching Assistants using your U of T issued e-mail address. **E-mails from other e-mail services (@gmail, @yahoo, @hotmail, etc.) will not be answered!**

## Required Course Materials:

\*Please note that this course uses the same materials used in BIO A01. Therefore, if you have just completed BIO A01, you will already have the textbook and access to Launchpad and Reef for this course.

### 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 purchase of a textbook is required for BIO A02.**

The textbook for BIO A02 is:

Morris J, Hartl D, Knoll A, Lue R. Michael M. 2016. **Biology How Life Works (2<sup>nd</sup> ed.)** W.H Freeman & Company: Macmillan Education Imprint. 1096pp.

**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>).

For Technical Support please call: **1-800-936-6899**

**Reef** classroom polling is a cloud-based student response software by iClicker. This will help BIO A02 instructors 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>).

### 2. Lab Manual

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

Keir K., Rush S., Gladilina E., Armstrong C. 2018. *BIO A02 - Life on Earth: Form, Function and Interactions - Lab Manual for Winter 2018*. Toronto, Ontario: University of Toronto Scarborough Printing Services. 189p.

The lab manual is for sale at the UTSC bookstore. Photocopies of old, and now out-of-date, lab manuals are **not acceptable**. Originals from the manual are required to receive credit for your reports.

### 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 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 Blackboard webpage.

<b>Module and Instructor</b>	<b>Approximate schedule for term test</b>
1 – Dr. Stehlik	Early- to mid February 2018
2 – Dr. Reid	Early- to mid March 2018
3 – Dr. Sturge	During UTSC Exam Period in April 2018

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

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

### Labs:

**Six labs X 3% each = 18% of final grade**

**Laboratory Assignment = 5% of final grade**

(This will be handed out in Lab 1 and is due at the beginning of your Lab 2; no late assignments will be accepted)

**Formal Lab Report = 8% of final grade**

(Will be due at the end of February 2018, exact date will be made available in January 2018)

Late penalty of 10% per day including weekends will apply. Your Formal Lab Report will be submitted to Turnitin through the Blackboard Portal; failure to do so or failure to submit a Turnitin readable document will **result in a grade of zero for the FLR.**

**Lecture component of final grade = 69% of final grade**

**Module 1 =>**

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

**20% Term Test #3**

**3% Online Assessments**

**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 2018, we will be using Turnitin.com (via Blackboard) 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; may change over course*)

<p><b>Module 1: Plant Form and Function</b></p>	<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>
<p><b>Module 2: Animal Form and Function</b></p>	<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>
<p><b>Module 3: Ecology</b></p>	<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>

### 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

### Facilitated Study Groups (FSGs)

BIO A02 is supported by FSGs. These weekly study sessions are open to all students of BIO A02. Attendance is voluntary, but students who attend regularly often earn higher grades. If you have any questions, please ask your facilitator, or visit the FSG website: <http://ctl.utsc.utoronto.ca/home/fsg/>

## 2018 Winter Semester - Important Dates

For a list of important dates for this semester, go to:

<http://www.uts.utoronto.ca/registrar/dates-and-deadlines>

**LECTURE SCHEDULE**

	<b>DATE</b>	<b>TIME</b>	<b>LOCATION</b>
<b>LEC01</b>	Tuesday	11 – 12	IC 110
	Thursday	11 – 12	IC 110
	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		

**LAB PRACTICAL SCHEDULE**

<b>Week</b>	<b>Lab #</b>	<b>Practical</b>	<b>Dates (2018)</b>
1	1	Odd numbered practicals (eg. P0001, P0003, P0005....)	Jan 8 <sup>th</sup> – 12 <sup>th</sup>
2	1	Even numbered practicals (eg. P0002, P0004, P0006....)	Jan 15 <sup>th</sup> – 19 <sup>th</sup>
1	2	Odd numbered practicals	Jan 22 <sup>nd</sup> – 26 <sup>th</sup>
2	2	Even numbered practicals	Jan 29 <sup>th</sup> – Feb 2 <sup>nd</sup>
1	3	Odd numbered practicals	Feb 5 <sup>th</sup> – 9 <sup>th</sup>
2	3	Even numbered practicals	Feb 12 <sup>th</sup> – 16 <sup>th</sup>
<b>READING WEEK → NO CLASSES</b>			Feb 19 <sup>th</sup> – 23 <sup>rd</sup>
1	4	Odd numbered practicals	Feb 26 <sup>th</sup> – Mar 2 <sup>nd</sup>
2	4	Even numbered practicals	Mar 5 <sup>th</sup> – 9 <sup>th</sup>
1	5	Odd numbered practicals	Mar 12 <sup>th</sup> – 16 <sup>th</sup>
2	5	Even numbered practicals	Mar 19 <sup>th</sup> – 23 <sup>rd</sup>
1	6	Odd numbered practicals	Mar 26 <sup>th</sup> – 30 <sup>th</sup>
2	6	Even numbered practicals	Apr 2 <sup>nd</sup> – 6 <sup>th</sup>

PRACTICAL	Week	Day	Time	Lab
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
P0005	1	Tuesday	9am to 12pm	SW 242
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
P0019	1	Wednesday	10am to 1pm	SW 240
P0020	2	Wednesday	10am to 1pm	SW 240
P0021	1	Wednesday	10am to 1pm	SW 242
P0022	2	Wednesday	10am to 1pm	SW 242
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
P0039	1	Thursday	3pm to 6pm	SW 240
P0040	2	Thursday	3pm to 6pm	SW 240
P0041	1	Monday	1pm to 4pm	SW 237
P0042	2	Monday	1pm to 4pm	SW 237
P0043	1	Monday	1pm to 4pm	SW 240
P0044	2	Monday	1pm to 4pm	SW 240

## Course Regulations

### Lectures

Instructors in BIO A02 create 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 (see lecture schedule) 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 3-6 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, **discuss your situation with the Course Coordinator, Karolyn Keir**. 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!

Any reports / assignments / FLR allowed to be submitted late must be given to the Course Coordinator and will be assessed the appropriate late penalty (10% of the mark per day including weekends); work will not be accepted more than 5 days late. Times and dates to hand in late material will be posted on Blackboard; assignments will not be accepted on either Saturdays or Sundays.

### Tests / Exams

**Students who miss Term Test #1 or #2 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 Term Test #3, which is scheduled during the Final Exam Period, must contact the Registrar's Office** (<http://www.uts.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 August 2018 Exam Period. Please note that the format of any makeup test may differ from the original while covering the same content.



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 within 1 week of the missed evaluation. The attending physician must complete the Standard University of Toronto Medical Certificate. The standard University of Toronto Medical Certificate is available at:

<http://www.utsc.utoronto.ca/registrar/verification-illness-or-injury>

**The date/time of the original lab/test that was missed must be clearly indicated as well as a clear statement of the medical issue.** For other reasons (death in family, car accident/problems, transportation issues), students must discuss the situation with the Course Coordinator as soon as possible. Students should always get documentation for any situation that causes them to miss any course work.

## Important UTSC Policies

### 1. Information on Academic Integrity

The University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters (<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences in papers and assignments include 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 cheating includes using or possessing unauthorized aids, looking at someone else's answers during an exam or test, misrepresenting your identity, or falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

### 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 Course Coordinator and/or the AccessAbility Services Office as soon as possible. AccessAbility Services staff (located in Rm SW302, Science Wing) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations 416-287-7560 or email [ability@utsc.utoronto.ca](mailto:ability@utsc.utoronto.ca). The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

### 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 term test for Module 3, 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)**