

BIO A01H3 Y

Life on Earth: Unifying Principles

Summer 2018 - COURSE SYLLABUS

Objectives and Outcomes

The primary goal of BIO A01 is to provide students with the strong foundation needed to become a successful biologist. During the term you will learn:

1. the major principles of cellular organization and metabolic processes, the principles of gene action and inheritance; and the fundamentals of evolution, speciation and population genetics;
2. the essential skills to become an active learner of science;
3. some laboratory techniques that are required to pursue your chosen field of science;
4. some approaches for finding and reading relevant biology research articles;
5. 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

There are several key people you should get to know in this course:

Name	Title	How to contact ¹	Office and Office Hours ²
Dr. Karen Williams	Instructor	E-mail: biolife@utsc.utoronto.ca (include Williams in subject)	PO104 - RM110 Hours: TU 3pm after class or by appointment
Karolyn Keir	Lab/Course Coordinator for BIO A01 - contact regarding late enrollment, missed tests or labs, marks management and general advising as related to the course	E-mail: biolife@utsc.utoronto.ca (include Keir and A01 in subject) ³	SW238 Hours: TH 2-3pm or by appointment
Nicole Alber	Lecture/Lab – BIO Help TA	nikki.alber@utoronto.ca (include Biohelp in subject)	Please see Quercus.
	Laboratory TA	TBA in your first lab	

¹All e-mails must be sent from your University – issued e-mail account (@mail.utoronto.ca)

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 (Mon – Fri, 9am – 5pm)

Summer 2018 – Important Dates and Schedules

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

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

LECTURE SCHEDULE

	DATE	TIME	LOCATION
LEC01	Tuesday	12 – 3PM	SW 319

LAB PRACTICALS AND SCHEDULE

	DATE	TIME	LOCATION
PRA 0001	Tuesday	9 – 12PM	SW 240
PRA 0002		9 – 12PM	
PRA 0003		3 – 6PM	
PRA 0004		3 – 6PM	

Week	Lab #	Practical	Dates (2018)
1	1	Odd numbered practicals (ie. P0001, P0003)	May 8 th
2	1	Even numbered practicals (ie. P0002)	May 15 th
1	2	Odd numbered practicals	May 22 nd
2	2	Even numbered practicals	May 29 th
1	3	Odd numbered practicals	June 5 th
2	3	Even numbered practicals	June 12 th
READING WEEK → NO CLASSES			June 19 th
1	4	Odd numbered practicals	June 26 th
2	4	Even numbered practicals	July 3 rd
1	5	Odd numbered practicals	July 10 th
2	5	Even numbered practicals	July 17 th

Course Evaluation & Organization

The final grade in BIO A01 will be determined as follows:

Lab Exercises	5 labs	15% (3% each lab)	0.5% for pre-lab quiz 2.5% for each lab report
	Lab Assignment	3%	Will be handed out in Lab 5 and is due at a date to be announced
	Formal Lab Report (FLR)¹	7%	Will be due in June; exact date will be announced in lab and on Quercus
Lecture Material	Midterm: June 26th, 2018	27%	Will occur during lecture;
	Quests	5%	Online pop quizzes; more information provided in first lecture
	LaunchPad	3%	Learning Curves
	Final Exam	40%	Will be scheduled during Final Exam period

¹ A late penalty of 10% per day including weekends will apply. Your FLR will be submitted to Turnitin through Quercus; failure to do so or failure to submit a Turnitin readable document will **result in a grade of zero**.

In BIO A01 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 a review of textual similarity and detection of possible plagiarism. In doing so, students allow their reports to be included as source documents in the Turnitin.com reference database, where they will be used solely for 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: Cell Biology and Metabolism	- Tree of Life: Prokaryotes - Cells - Respiration and Photosynthesis
Module 2: Gene Action and Inheritance	- DNA: the stuff of heredity - Peas, Pedigrees and Probability - Transcription and Translation - Tree of Life: Viruses & Prions
Module 3: Evolution	- Population biology - Microevolution - Tree of Life: Classification and Phylogeny - Evo – Devo - Tree of Life: Protists

B. Lab Topics

Lab 1: Effect of CO₂ availability on photosynthesis - Collection of data for FLR

Lab 2: DNA extraction and preparation of DNA samples for PCR

Lab 3: Gel electrophoresis of PCR products and data analysis

Lab 4: Introduction to Microscopy

Lab 5: Introduction to Phylogenetic Analysis

Communicating information within BIO A01

Quercus

The main source of information for BIO A01 is the course webpage provided on Quercus (replacing Blackboard). Information such as contact information and office hours, lecture notes, assignment instructions, test dates and location and other useful resources will be posted on Quercus throughout the semester. Announcements and the video-taped lectures will be posted on Quercus. Quest pop quizzes will be delivered on Quercus. Exam marks will also be posted to the Quercus course webpage.

Each lab practical section also has its own Quercus webpage; TAs will post information related to their lab practicals and course assignments on this webpage. Please check BIO A01 frequently and use it as a source of information before contacting the Instructor, Course Coordinator or your TA.

Use your UTORid to log on to the BIO A01 Quercus webpage.

Use the following link to access Quercus:

<https://q.utoronto.ca/>

E-mail

To help course personnel stay organized and answer your e-mails more quickly and effectively, one central e-mail address serves BIO A01. To communicate with your Instructor and the Course Coordinator, please e-mail:

biolife@utsc.utoronto.ca

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

Remember to always contact the Instructor, Course Coordinator and your TA using your U of T issued e-mail address. E-mails from other addresses (@gmail, @hotmail, @yahoo, etc.) will not be answered.

Course Materials

1) Textbook and Launchpad

The complete textbook package can be purchased at the UTSC Bookstore (located above Tim Horton's in the Bladen Wing). The textbook for BIO A01 is:

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

LaunchPad is an additional, online supplement to help you master the material presented in BIO A01. With this digital resource (which accompanies the Morris 2nd edition textbook), you will have access to some exciting learning resources such as animations, videos, quizzes and simulations that can help your understanding and knowledge. You can access LaunchPad a few different ways:

- Packaged at no extra cost with the loose-leaf text (approx. \$129.99) or hard-cover text (approx. \$172.99) 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**

2) Lab Manual

The lab manual is a separate e-publication that is required for all labs. It is titled:

Keir K, Gladilina E, Armstrong C. 2018. *BIO A01 – Life on Earth: Unifying Principles – Lab Manual for Summer 2018*. Toronto, Ontario.

The lab manual can only be obtained from the Quercus webpage in the folder labelled 'BIO A01 Lab Manual Summer 2018'. **The lab manual is not for sale at the UTSC Bookstore.** Photocopies of old, now out-of-date manuals are NOT ACCEPTABLE.

3) 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).

Course Regulations

Attendance at Lectures

Your instructor in BIO A01 creates their lectures so as to cover a great amount of material within the allotted time. In order to get maximum benefit from the lectures in this course, students are advised to:

- **read the relevant sections in your textbook before the lecture.** 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
- **attend lecture and take 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 and/or BIO-Lecture Help TA** during scheduled office hours or by appointment if you're having difficulties understanding the concepts covered in lectures

Attendance in Labs

Attendance in the labs is required to get credit for any associated work. **All labs 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.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.

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>

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

The University treats cases of plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters outlines behaviour that constitutes academic dishonesty and the processes for addressing such offences (see <http://www.governingcouncil.lamp4.utoronto.ca/wp-content/uploads/2016/07/p0701-coboam-2015-2016pol.pdf>).

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)**