Department of Biology Course Outline

SC/BIOL 1000 3.0 Biology I - Cells, Molecular Biology and Genetics
FALL 2021
All components of this course are online
There are no in-person interactions or activities on campus
This course is presented in Toronto time (Eastern Time Zone)

Technology Requirements:

You **must have access to reliable high-speed internet connection (wi-fi) and a computer** in order to take this course. Please note that retaining a wired connection (*i.e* ethrnet cable) is highly recommended especially for assessment purposes (even if wi-fi is generally stable).

The following are also required:

- Access to audio (including microphone) and a web cam. Some aspects of the course will involve video conferencing software (*e.g.* Zoom). Exams and other assessments may be conducted with the aid of an online proctoring service such as Proctortrack.
- Reliable access to eClass and ability to stream videos from eClass.
- Ability to support software for **Labs.** Labs will use SimUText software. It does not work on some devices, including mobile devices and potentially Chromebooks. Please refer to https://simutext.zendesk.com/hc/en-us/categories/200170134-Check-Your-Tech- for details. **If you cannot run SimUText software you cannot complete the course.**
  - If you have a Chromebook please contact the SimUText support team (below) to determine whether your system supports SimUText.
  - Questions regarding SimUText system requirements should be directed to the support team at https://simutext.zendesk.com.
  - Purchase of the code to access the SimUText labs may be made through the York Bookstore or directly through the company at the time of registration. If purchased through the company, exchange rate will apply and credit card is required for purchase.
- Optional: ability to use Mastering Biology software. Mastering Biology is a learning resource associated with the course textbook, that will be available for students to use as a study resource. Its use will aid learning but not be part of your final grade. System requirements are found at https://www.pearsonmylabandmastering.com/northamerica/masteringbiology/system-requirements/index.html

Course Description

An introduction to major unifying concepts and fundamental principles of biology, including evolution and cell theory. Topics include cells, biological energetics, metabolism, cell division and genetics. The laboratory and lecture components must be passed independently to pass the course. Three lecture hours per week; three laboratory hours in alternate weeks. One term. Three credits.

Prerequisites

OAC Biology or 12U Biology or SC/BIOL 1500 3.00; OAC Chemistry or 12U Chemistry or SC/CHEM 1500 4.00. Course credit exclusions: SC/BIOL 1010 6.00; SC/BIOL 1410 6.00.

Course Instructors and Contact Information

Lecture A instructor: Julie Clark
Lecture B instructor: Lisa Robertson
Lecture C instructor: Yi Sheng
Lecture D instructor: Jade Atallah
Lecture E instructor: Chris Jang

To contact any of the above instructors, please email b1000lec@york.ca and include you lecture section (*e.g.* Lecture B) in the subject line.

Course Director: Julie Clark b1000lec@yorku.ca
Lab Director: Nicole Nivillac b1000lab@yorku.ca

TA contact information will be available on the Lab eClass site

We will try to respond to email within two working days, but this is not always possible, so please be patient. Questions and answers that we deem of interest to the entire class will be posted (without identifiers) on the appropriate discussion board or sent via course announcements if urgent.

Please remember to exercise email etiquette and professional correspondence.

- **Always use your @my.yorku.ca email address** - email from other sources may be filtered out and not reach the intended recipient.
- **Subject Line** - Include course code and brief indication of topic. *E.g*. "BIOL 1000 Lecture B question about Calvin cycle"
- Include your **name** and **student number** at the end of each email. We need it to identify you to retrieve the right information and maintain confidentiality.
- Please use full sentences, proper grammar, no text or message or social media lingo. Please begin your message appropriately: "Dear Professor XXXX"; not "Hey Miss" or "Hey Prof"

Please do not use the eClass (formerly Moodle) Messenger for contact. This system is not used for this course and messages will not be answered.

Course Schedule & Format - All Online

This course will be delivered remotely (entirely online). **There are no in-person or on-campus activities.**

Laboratories will not occur at the times indicated through the enrolment system, but instead will be extended over an indicated period of time and have components due throughout that time as independent exercises. It is essential that you follow the time-lines presented on the Lab eClass site. A weekly synchronous office hour will be held during the scheduled lab time.

Lecture material will be delivered both asynchronously (posted on the eClass website) and synchronously (by video conferencing software during posted lecture times).
Please see your Lecture eClass site for details. *Note: Synchronous sessions may not be recorded.*

Midterm tests will be held on Sunday October 3, Sunday October 31, and Sunday November 21, starting at 2:00pm and are generally an hour in length. Please plan accordingly. There are no make ups. See below for details. **

It is essential that you keep up with the work and do not fall behind. We suggest you develop a personal schedule that permits you to complete all aspects of the course within the recommended time-lines and/or deadlines.

- Refer to the Lecture and Lab eClass sites daily.
- This course runs on Toronto time (Eastern Time Zone). Accomodations for other time zones are not possible.

Resources – Required Texts and Materials

Required Textbook

- "Third Canadian Edition. Biological Science" Freeman *et al*, Pearson Publishers.
  This textbook is also used for BIOL 1001.
  - The hardcopy and e-text versions are available through the York Bookstore (order online).
  - All formats available through the bookstore include Mastering Biology
  - Text Readings are indicated in the "Lecture Schedule" document posted on the Lecture eClass site
- Additional readings may be assigned during the course and will be posted on the eClass website.

Access to SimUText for labs

- There is no physical hard-copy lab manual. Instead, you must purchase a code for accessing the SimUText software and relevant lab exercises.
  - This code is purchased from the York Bookstore or directly through the SimBio company at the time of SimUText registration. Exchange rates will apply at the time of purchase. Credit card is required for purchase.
  - SimUText registration instructions will be available on the Lab eClass site.
- Other lab materials will be available through the Lab eClass site.

Course eClass Sites

http://eClass.yorku.ca

This course has a Lecture eClass site and a Lab eClass Site. Visit both daily.

Lecture eClass Site:
"SC/BIOL1000 - Biology I - Cells, Molecular Biology and Genetics (Fall 2021-2022)"
Laboratory eClass Site:
"SC/BIOL1000 A, B, C, D – Biology I – Cells, Molecular Biology and Genetics (Fall 2021-2022)(Lab)"

Evaluation

This course consists of a:

1. **Lecture component**
2. **Laboratory component**
3. **Activities component**

The Lecture Component and the Laboratory Component must each be passed independently to pass the course. This means that you must earn a minimum of 50% in the Lecture Component and a minimum of 50% in the Laboratory Component to pass the course. A failure in either component will result in a failure in the course. The Activities component is separate from both the lecture and laboratory components

Lecture Component (70%):

Test 1:	15%	Online on **Sunday October 3, 2021. Start 2:00pm**
Test 2:	15%	Online on **Sunday October 31, 2021. Start 2:00pm**
Test 3:	15%	Online on **Sunday November 21, 2021. Start 2:00pm**
Final Exam:	25%	Online. **Scheduled during Exam period (December 9-23, 2021).** *Students must write at least two tests to be eligible to write the final exam. See "Course Policies" section below.*

Please also see the "Course Policies" section below for important information regarding the calculation of the lecture grade, and what to do in the case of a missed test.

Details of tests and final exam will be announced closer to the date of the assessment.

***Note**: Students may need to support written test answers orally through a video conference (e.g. Zoom) meeting with the instructor.*

Laboratory Component (20%):
All labs and associated components/activities are online.
See Laboratory eClass site for Laboratory-related material and grade weighting.

Labs are mandatory, even if repeating the course. Lab activities will typically occur throughout an indicated period of time (see the Lab eClass site) and not at the posted laboratory times. A weekly synchronous office hour will be held during the scheduled lab time.

Activities Component (10%):
The Activities Component is not part of the lecture or laboratory component.
Activities are varied and designed to support your learning. If used properly, they can be a huge help to keep you on track and up to date with lectures and readings, help you understand the lecture material, identify what you do not understand, and improve your learning. We use evidence-based teaching strategies, which means you do activities that research has shown are effective for improving and supporting your learning.

Each activity will earn points towards the activity grade. The sum of the activity points will be used to calculate the activity grade.

You should plan to complete all activities long before the posted deadline, as we cannot provide make-ups or extensions. Please note that there is already extra time built into the activity deadlines.

If you leave everything until the night before and then encounter a problem and are unable to complete it, you will receive a zero. However, we realize that life happens and you may miss something due to unforeseen events or technological issues. Therefore, the lowest 10% of your activity points (including zeroes) will be dropped from your Activity Grade to help address these issues.

Please also see the Course Policies section below.

Mastering Biology
Non-mandatory quizzes will be provided through Mastering Biology. They are designed to give you additional practise, help you assess your understanding of the material, and act as a study and learning aid, but they will not be part of your final grade. Additional information about Mastering Biology is found on the course website.

Final course grades may be adjusted to conform to Program or Faculty grades distribution profiles.

Copyright Protection of Course Material

All material associated with this course is the intellectual property of the instructor and/or protected under Canadian Copyright Law.

All material associated with this course, including lecture recordings, activities, quizzes and laboratories, are to be used for personal study purposes only. **Unauthorized distribution in any form can lead to a violation under Canadian Copyright Law and/or Academic Misconduct charges under York University Senate Policy**. Unauthorized distribution includes sharing and/or uploading of material anywhere and with anyone.

Penalties under Academic Misconduct can include failure in the course, a transcript notation and/or suspension. Please see the “University Policies” section below for further information.

Netiquette and Electronic Communication

We want you to get the most out of this course, and that will involve regular electronic communication. We also want everyone to have a positive and supportive experience, so we ask for your help in making this course a positive and safe space for everyone:

- Please use respectful and professional correspondence for all aspects of this course, including email, discussion forums, chat sessions, video sessions and any other online means of communication.
- Remember that tone can be misinterpreted through written means as we do not have physical

cues to help guide us. Avoid using all capitals (which can represent yelling) and multiple exclamation marks (which can also represent yelling).
- Use proper sentences and grammar so your ideas are clearly conveyed.
- Consider this an opportunity to practise professional correspondence which you will use throughout your career.

Posts to discussion forums that are not on topic, not relevant to BIOL 1000, or that contain personal insults/ attacks/ intimidation/ profanity will be deleted. Please remember that as per the York University Code of Student Rights and Responsibilities, students have "The responsibility to consider and respect the perspectives and ideas of others, even when the student does not agree with their perspectives or ideas."

If you notice any inappropriate threads in the Discussion forums please email b1000lec@yorku.ca.

Important Dates

Test 1:	**Sunday October 3, 2021. Start 2:00pm**
Test 2:	**Sunday October 31, 2021. Start 2:00pm**
Test 3:	**Sunday November 21, 2021. Start 2:00pm**
Final Exam:	**Scheduled during Exam period (Dec. 9-23, 2021).**

See the **Lecture eClass site** for additional deadlines
See the **Lab eClass site** for lab-related deadlines.

Last Day to drop the course without receiving a grade: November 12, 2021
Last Day to withdraw from the course and receive "W" on transcript: December 7, 2021
NOTE: for additional information on withdrawing from a course refer to http://secretariat-policies.info.yorku.ca/policies/withdrawn-from-course-w-policy-and-guidelines/ For additional important dates such as holidays, refer to the "Important Dates" section of the Registrar's Website at http://registrar.yorku.ca/enrol/dates/

If you are Registered with Student Acessibility Services: please email your letter to b1000lec@yorku.ca by Wednesday September 22, 2021.

If you have a Religious Conflict: please email b1000lec@yorku.ca by Wednesday September 22, 2021. Indicate the day(s) of conflict and the course activity.

Course Learning Outcomes

By the end of this course you should be able to do the following:

- Apply and reflect on effective learning strategies.
- Apply the policies of academic integrity to course work completed both independently and with peers.

Lecture Specific:
- Relate the structure of major components of the cell to their function in cells (for example membrane, organelles, macromolecules).
- Explain how cells make, store and use energy.
- Describe (or compare/contrast) the molecular processes and regulation of gene expression.
- Explain how genetic information is passed and changed from one generation of cells to the next.
- Apply the principles of inheritance to Mendelian genetics problems.
- Solve problems and/or case studies using knowledge of core concepts.

Virtual Lab Specific
- Complete virtual biological experiments, including design, data analysis and reporting.

Course Content

This course introduces you to biological terminology and major concepts that underlie this field. The scope of material is broad, and we encourage you to consider common threads and themes that extend across the various topics. Biology, Environmental Biology and Biochemistry majors will develop a foundation for further study in biology and related areas; all students will develop familiarity with the field and gain skills that can be applied in other courses and settings. This course is intended to help develop

the scientific literacy and critical thinking skills required of citizens in modern society.

In addition to learning about biology, this course has been designed to help you actively engage with the material, reflect on your experience as a learner, and develop effective learning strategies. Regular structured, intentional activities will help you stay on track, and we encourage you to follow the 5-stage study cycle and apply evidence-based learning strategies that will be useful to you in any learning context.

Lecture Topics will include

- Learning Strategies
- Introduction to Evolution
- Molecules of Life
- Bacteria, Archaea and Eukaryotic Cell Structure and Function
- Membrane: Structure & Function, Transport and Signalling
- Energy and Enzymes
- Respiration and Photosynthesis
- Cell Continuity: Mitosis and Meiosis
- DNA Structure and Replication, Gene Expression
- Introduction to Biotechnology
- Genetics

Course Policies

Lecture Component - Grading

The lowest Test grade (including a zero for a missed test) will be automatically replaced by the Final Exam grade only if this results in a higher grade.

- Tests are cumulative. The final Exam is cumulative.
- It is highly recommended that you plan to complete all three tests to ensure the highest grade possible.

Policies for a Missed Test(s)

This course has no make up opportunities for a missed test.

- If you miss one test, the grade for the missed test will be automatically the final exam grade (see policy under Lecture Component-Grading above). No notification or documentation required.
- **You must write at least two tests to be eligible to write the final exam.**
- If you access or view a test in any way it will be considered completed. The grade of the test (even if you do not complete any part of it and the grade is zero) will apply to your final grade.

Policy for a Missed Final Exam

- If you miss the final examination you must petition for deferred standing. The decision to grant deferred standing will be made by the appropriate petitions committee and not the instructor. See https://myacademicrecord.students.yorku.ca/academic-petitions for information on petitioning for deferred standing.
- If you are approved to write a deferred exam, the final exam may be online or in-person at a date to be determined. The format of the deferred final exam may be oral, essay, short answer, multiple choice, or a mix of these options.
- *Please Note: If you access the final exam in anyway it will be considered completed and the grade of the exam (even if you do not complete any part of it and the grade is zero) will apply to your final grade.*

Policy for Missed Activities

Quizzes cannot be re-opened after they close. Activity deadlines cannot be extended, so there is already extra time built into the activity deadlines.

You should plan to complete all activities long before the posted deadline. If you leave everything until the night before and then encounter a problem and are unable to complete it, we cannot extend the deadline. However, we realize that life happens and you may miss something due to unforeseen events or technological issues. Therefore, the lowest 10% of your activity points (including zeroes) will

be dropped from your Activity Grade to help address these issues.

Policy for Missed Labs
Lab exercises and quizzes cannot be re-opened after they close. This means that make up labs are not possible, so please do your lab work well ahead of deadlines and plan accordingly to ensure you complete lab components before the deadlines. Follow the time-lines on the Lab eClass site.
Missed lab work earns a zero.
See Lab Policies on the Lab eClass site.

Test/Exam Feedback
While instructors do their best to provide grades to students in a timely manner, there are a number of different factors that may delay the process – especially in these uncertain times. Please be patient.

Please note that personal/individual test feedback is not possible. General feedback will instead be provided to the class.

Reappraisal Requests
If you believe that a course evaluation component (*e.g.* laboratory report) was graded incorrectly, you may request a grade reappraisal for the work.

For reappraisal of lecture material you must submit a written rationale for a reappraisal request that is based on academic grounds* to b1000lec@yorku.ca within one week of the material being made available to you. If it is determined that you have provided sufficient academic grounds, the material will be regraded by an instructor.
Note: Regrading can result in the grade being raised, confirmed or lowered.

For reappraisal of laboratory material
Please refer to "General Information and Laboratory Policies" document of the Lab eClass site.
Note: Regrading can result in the grade being raised, confirmed or lowered.

**Academic grounds means you make an academic argument for why your answer is correct – statements such as "this grade does not reflect my knowledge" or "I really studied hard and I deserve a better grade" are not academic grounds.*

We appreciate that grades are important to you and all of your classmates. In order to be fair and consistent with regard to the entire class, individual grades are not negotiable. We cannot provide "extra credit" assignments. Marks for assignments and tests are not "rounded" or "bell-curved". Contact the Course Director about grades **only** if there is a clear error in your grade (calculation, clerical, etc.) within one week of the grade being made available to you at b1000lec@yorku.ca.

University Policies

Academic Honesty and Integrity – No Cheating Rule
York students are required to maintain the highest standards of academic honesty and they are subject to the Senate Policy on Academic Honesty (http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/). The Policy affirms the responsibility of faculty members to foster acceptable standards of academic conduct and of the student to abide by such standards.

There is also an academic integrity website with comprehensive information about academic honesty and how to find resources at York to help improve students' research and writing skills, and cope with University life. Students are expected to review the materials on the Academic Integrity website at - http://www.yorku.ca/academicintegrity/

***Important* - A note from the Faculty of Science Committee on Examinations and Academic Standards:**
Numerous students in Faculty of Science courses have been charged with academic misconduct when materials they uploaded to third party repository sites (*e.g.* Course Hero, One Class, etc.) were taken and used by unknown students in later offerings of the course. The Faculty's Committee on Examinations and Academic Standards (CEAS) found in these cases that the burden of proof in a

charge of aiding and abetting had been met.
Accordingly, to avoid this risk, students are urged not to upload their work to these sites. Whenever a student submits work obtained through a third party site (e.g. Course Hero, One Class etc.), the submitting student will be charged with plagiarism and the uploading student will be charged with aiding and abetting.

Note also that exams, tests, and other assignments are the copyrighted works of the professor assigning them, whether copyright is overtly claimed or not (*i.e.* whether the © is used or not). Scanning these documents constitutes copying, which is a breach of Canadian Copyright law, and the breach is aggravated when scans are shared or uploaded to third party repository sites.

Penalties associated with charges of Academic Misconduct can include zero on the assignment, letter grade reduction, failure in the course, notation on the transcript, suspension.
Please Do Not Cheat, it is not worth it, and ultimately hurts your learning.

Student Acessibility

York University is committed to principles of respect, inclusion and equality of all persons with disabilities across campus. The University provides services for students with disabilities (including physical, medical, learning and psychiatric disabilities) needing accommodation related to teaching and evaluation methods/materials. These services are made available to students in all Faculties and programs at York University.

Students in need of these services are asked to register with Student Acessibility Services as early as possible to ensure that appropriate academic accommodation can be provided with advance notice. You are encouraged to schedule a time early in the term to meet with each professor to discuss your accommodation needs. Please note that registering with disabilities services and discussing your needs with your professors is necessary to avoid any impediment to receiving the necessary academic accommodations to meet your needs.
Additional information is available at the following websites:
Student Accessibility Services - https://accessibility.students.yorku.ca/
York Accessibility Hub - http://accessibilityhub.info.yorku.ca/

- **Students Registered with Student Acessibility Services:** please email your letter to b1000lec@yorku.ca by Wednesday September 22, 2021

Religious Observance Accommodation

York University is committed to respecting the religious beliefs and practices of all members of the community, and making accommodations for observances of special significance to adherents. Should any of the dates specified in this syllabus for an in-class test or examination pose such a conflict for you, contact the Course Director by Wednesday September 22, 2021. Similarly, should an assignment to be completed in a lab, practicum placement, workshop, etc., scheduled later in the term pose such a conflict, contact the Course director immediately. Please note that to arrange an alternative date or time for an examination scheduled in the formal examination period, students must complete and submit an Examination Accommodation Form at least 3 weeks before the exam period begins. The form can be obtained from Student Client Services, Student Services Centre or online at https://registrar.yorku.ca/pdf/exam-accommodation.pdf

- **Students with Religious Conflict**: email b1000lec@yorku.ca by Wednesday September 22, 2021. Indicate the day(s) of conflict and the course activity.

Student Conduct in Academic Situations

Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom and other academic settings, and the responsibility of the student to cooperate in that endeavour. Further, the instructor is the best person to decide, in the first instance, whether such an atmosphere is present in the class. The policy and procedures governing disruptive and/or harassing behaviour by students in academic situations is available at - http://secretariat-policies.info.yorku.ca/policies/disruptive-andor-harassing-behaviour-in-academic-situations-senate-policy/