

## Department of Biology Course Outline

### SC/BIOL 2021 3.0 Cell Biology

Winter 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)

### Course Description

A study of cell biology and aspects of related biochemistry. Topics include membranes, the endomembrane system, the cytoskeleton, cellular motility, the extracellular matrix, intercellular communication and intracellular regulation. Three lecture hours. Part of the lecture hours will be live (synchronous) and part will be asynchronous.

#### Technology Requirements:

You **must have access to reliable high-speed internet connection (wi-fi) and a computer** in order to take this course.

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.

### Prerequisites

Prerequisite: One of the following: (1) SC/BIOL 2020 4.00, (2) SC/BCHM 2020 4.00, (3) SC/BIOL 2020 3.00, (4) SC/BCHM 2020 3.00, (5) SC/BIOL 1010 6.00 and SC/CHEM 2050 4.00, (6) SC/BIOL 1000 3.00 and SC/BIOL 1001 3.00 and SC/CHEM 2050 4.00.

This course cannot be taken at the same time as BIOL2020.

### Course Instructors and Contact Information

Section M: Course Instructor: Professor Michael Cardinal-Aucoin

Email Contact: BIOL2021@yorku.ca

Office Hours: Will be posted on the eClass course website

Section N: Course Instructor: Professor Michael Gadsden

Email Contact: mgadsden@yorku.ca

Office Hours: Will be posted on the eClass course website

*\*Please see policy on email etiquette below in course policy section before sending an email*

### Schedule

#### Lectures

Section M: Tuesdays and Thursdays 10:00 - 11:30 Online\*

Section N: Tuesdays and Thursdays 17:30-19:00 Online\*

Lecture will be Live (synchronous) and asynchronous. All will be recorded

## Evaluation

Midterm Test 1*:	20%	multiple choice & written answer
Midterm Test 2*:	25%	multiple choice & written answer
Final exam:	40%	multiple choice & written answer
Assignments***	15%	

\*There will be no make-up midterms. Students who miss the midterm will have the value of the missed midterm added to the final exam.

\*\* Normally students will receive a point for each iClicker question (if used) they answer whether it is correct or not. Exceptions: students who do not seriously answer short answer questions (eg give unrelated responses or idk) will receive zero for that question; some in-class case studies may require correct responses to earn points. The iClicker grade will be calculated out of 80% of the total number of iclicker questions asked. Thus you can miss 20% of the questions and still receive full grades for iClickers. This is to account for an occasional missed class (e.g., due to illness or other reasons) or for a forgotten/malfunctioning electronic device, etc. Please note: iclicker questions are only for students in class during lecture.

\*\*\*There will be several short assignments over the course. Most assignments will be completed online via eClass. Some may also be completed during class time. Additional information will be provided in the first lecture.

## Learning Outcomes

Upon successful completion of BIOL 2021, students will be able to demonstrate an understanding of

- the internal organization of the cell
- major cellular functions at the molecular level
- aspects of the interactions between cells in multicellular organisms.

## Resources

### Textbook

- Alberts *et al.* (2015) *Molecular Biology of the Cell*, 6th ed., Garland Publishing.
- This textbook is on reserve in the Steacie library under "BIOL 2021" and can be purchased or rented from the York Bookstore

### iClicker Personal response system – via your own mobile device or computer (May be used- decision pending)

- This is a free application which is required to participate in in-class questions.
- Details regarding how to create an account will be posted on the Lecture Moodle course website.

**Course Moodle Site:** <https://eclass.yorku.ca/eclass/course/view.php?id=8623> Section N

<https://eclass.yorku.ca/eclass/course/view.php?id=8620> Section M

## Course Content

Chapters correspond to Alberts, 6th ed. (2015). Lectures may cover only selected topics from each chapter. Midterm/Exam questions will relate to the topics covered during lecture and will not cover material in the chapters that was not mentioned during lectures.

### ***Tentative*** Lecture Schedule *(May change depending on pace of lectures)*

Date (week of)	Lecture #	Topic	Chapter
Jan. 11	1, 2	Introduction, Visualizing Cells	9
Jan. 18	3, 4	Membrane Structure	10
Jan 25 and Feb.1	5,6,7	Transport of Small Molecules	11
Feb. 1 and Feb 8	8,9	Compartments, Protein Sorting	12
<b>Sunday Feb 7th</b>	<b>Midterm 1</b>		
Feb. 8 and Feb 22	10, 11, 12	Intracellular Membrane Traffic	13
<b>Feb 15 - 19</b>		<b>Reading Week</b>	
March 1	13, 14	Cell Signaling	15
March 8	15, 16	Cell Signaling	15
<b>Sunday Mar 7th</b>	<b>Midterm 2</b>		
Mar 15	17, 18	Cytoskeleton	16
Mar 22	19, 20	Cell Cycle	17
Mar 29	21, 22	Cell Death; Junctions & Adhesion	18
			19
April 5th	23, 24	Cancer	20
April 14 - 28		Final Exam period	

## Copyright Information

**Copyright Note:** All material associated with this course is the intellectual property of the instructor and/or protected under Canadian copyright law. All material, including lecture slides or personal recordings, activities, tests and assignments are to be used for personal study purposes only. Unauthorized distribution can lead to a violation under Copyright law.

## Important Dates

Midterm Test 1\*: Sunday Feb 7, 2021 (alternate date is Feb 21\*\*)   
 Midterm Test 2\*: Sunday March 7, 2021 (alternate date is March 14\*\*)   
 Final exam: Scheduled by Registrar's Office

\*\* NOTE – Alternate Dates are to be used if the online test platform (eClass) goes down and the test cannot be accessed by the class. This does not cover individual internet connectivity issues.

**Last Day to drop the course without receiving a grade: March 12, 2021**

**Last Day to withdraw from the course and receive "W" on transcript: April 12, 2020**

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/>

NOTE: 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/>

\*test dates will be confirmed in January

## Course Policies

### E-mail Policies

We will try to respond to email within 48 hours, but it may not always be possible. You may also post questions on the Moodle Student Forum, as a classmate may know the answer.

Subject Line: Please place the subject of the message in the subject line.

Email Body: Please include your name and student number.

Please maintain formal structure with emails, beginning with “Dear ...” and ending with your name and student number.

### Grading

- Grades will be posted in Moodle grade book as they become available.
- There are no “extra credit” assignments. Grades are not bell-curved.

### Policy for a Missed Midterm Exam

There are **no** makeup midterms; if you miss a midterm (you're absent on that day), the weighting will automatically be transferred to the final exam, which is cumulative.

### Policy for Missed Assignments

The deadline for each assignment is 5 days after it is made available. However each assignment will remain open for at least two days after the deadline, providing everyone with an automatic extension if it's needed. Assignments not completed by the end of the extension period will receive a grade of zero.

### Policy for a Missed Final Exam

- If you miss the final exam you must request deferred standing. Information, instructions and forms for requesting deferred standing are found at:  
<http://myacademicrecord.students.yorku.ca/deferred-standing>
- You must complete a Deferred Standing Agreement Form and provide supporting documentation (for illness this includes an Attending Physicians Statement  
<http://myacademicrecord.students.yorku.ca/pdf/attending-physicians-statement.pdf> and submit it to the undergraduate office, [biology@yorku.ca](mailto:biology@yorku.ca).
- In most cases students will be required to petition for deferred standing.
- The format of the deferred final exam may be essay, short answer, multiple choice, or a mix of these options.

## 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 BIOL2021, 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 a Professor.

## University Policies

### Academic Honesty and Integrity

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 – <https://spark.library.yorku.ca/academic-integrity-what-is-academic-integrity/>

### Online Environment:

#### 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.

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#### **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.***

### Access/Disability

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 disability 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:

Counselling & Disability Services - <http://cds.info.yorku.ca/>

Counselling & Disability Services at Glendon - <http://www.glendon.yorku.ca/counselling/>

York Accessibility Hub - <http://accessibilityhub.info.yorku.ca/>

### **Ethics Review Process**

York students are subject to the York University *Policy for the Ethics Review Process for Research Involving Human Participants*. In particular, students proposing to undertake research involving human participants (e.g., interviewing the director of a company or government agency, having students complete a questionnaire, etc.) are required to submit an *Application for Ethical Approval of Research Involving Human Participants* at least one month before you plan to begin the research. If you are in doubt as to whether this requirement applies to you, contact your Course Director immediately.

### **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 **within the first three weeks of class**. 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 periods (December and April/May), students must complete an Examination Accommodation Form, which can be obtained from Student Client Services, Student Services Centre or online at

<https://secure.students.yorku.ca/pdf/religious-accommodation-agreement-final-examinations.pdf>

### **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 virtual 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-and-or-harassing-behaviour-in-academic-situations-senate-policy/>

## **Temporary Additions for the Winter 2021 Term**

1. This course may require the use of online proctoring for examinations. The instructor may use an online proctoring service to deliver the exam(s), which would be administered through the Learning Management System (e.g. Moodle, Canvas, ProctorTrack, etc.). Students are required to have access to minimum technology requirements to complete examinations. If an online proctoring service is used, students will need to become familiar with it at least five days before exam(s). For technology requirements, Frequently Asked Questions (FAQs) and details about the online proctoring service visit – [link to be added]. Students are required to share any IT accommodation needs with the instructor as soon as they are able.

2. Several platforms will be used in this course (e.g., eClass, Canvas, Zoom, etc.) through which students will interact with the course materials, the course director / TA, as well as with one another. Please review the syllabus to determine how the class meets (in whole or in part), and how office hours and presentations will be conducted.

Students shall note the following:

- Zoom is hosted on servers in the U.S. This includes recordings done through Zoom.
- If you have privacy concerns about your data, provide only your first name or a nickname when you join a session.
- The system is configured in a way that all participants are automatically notified when a session is being recorded. In other words, a session cannot be recorded without you knowing about it.

Technology requirements and FAQs for Moodle can be found here - <http://www.yorku.ca/moodle/students/faq/index.html>