

## Department of Biology Course Outline

SC/BIOL 2021 3.00 Cell Biology  
S2 2019

### 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.

### Prerequisites

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. Course credit exclusions: SC/BIOL 2021 4.00, SC/BCHM 2021 4.00.

**WARNING: Students without pre-requisites will be de-enrolled unless they have advanced standing.**

### Course Instructors and Contact Information

Dr. Motti Anafi  
e-mail: [moanafi@yorku.ca](mailto:moanafi@yorku.ca)

Office hours:  
Email to set up an appointment

### Schedule

Course Schedule and Location: Tuesdays and Thursdays 8:30-11:30am in LAS A

### Evaluation

Mid-Term Exam 1           30%  
Date: July 9, 2019  
Time: 8:30am  
Location: LAS A  
Duration: 60 minutes

Mid-Term Exam 2           20%  
Date: July 23, 2019  
Time: 8:30am  
Location: LAS A  
Duration: 60 minutes

Final Exam                   50%  
Date and location: will be published by the registrar office.  
Duration: 150 minutes

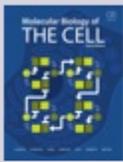
Contribution to the Wiki up to 2 points (bonus)

## Important Dates

### SUMMER 2019 SESSIONAL DATES

	SU	S1	S2
Course start date	April 29	April 29	June 17
Last date to add a course without permission of instructor	May 12	May 3	June 21
Last date to add a course with permission of instructor	May 27	May 10	June 28
Last date to drop course without receiving a grade	June 28	May 27	July 15
Reading Week	June 11-14	N/A	N/A
Study days	July 30	June 11	July 30
Course end date	July 29	June 10	July 29
Examinations	July 31- Aug. 9	June 12-14	July 31- Aug. 9

## Resources



### Molecular Biology of the Cell, Sixth Edition

6th Edition

Bruce Alberts;  
Alexander Johnson;  
Julian Lewis; David Morgan;  
Martin Raff; Keith Roberts;  
Peter Walt

Alberts et al. Molecular Biology of the Cell, 6th ed.

### **Additional required readings for the chapters on Cell Signaling and Cancer:**

- 1) Blume-Jensen P. and Hunter T. (2001) Oncogenic kinase signalling. Nature 411, 355-65. (<http://www.nature.com/nature/journal/v411/n6835/full/411355a0.html>)

### **My recommendations how to use the textbook:**

- 1) Before class, go over the figures and their legends in the relevant chapter to be covered
- 2) Attend the class. Take notes (very important)
- 3) After class, go over the entire chapter. Concentrate on topics covered in class.

## 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, and aspects of the interactions between cells in multicellular organisms.

## Course Content

Topic	Textbook Chapter
Membrane structure and function	10
Transport of small molecules	11
Intracellular compartments and protein sorting	12, 14, 6, 3
Intracellular membrane traffic	13
The cytoskeleton	16
Junctions & adhesion	19
The cell cycle	17
Apoptosis	18
Cell Signaling	15
cancer	20

## Experiential Education and E-Learning

The Course MOODLE web site

To access Moodle, please follow the instructions below.

1. Go to: <http://moodle.yorku.ca>
2. Log in with your Passport York account.

Here you will find

- An updated course outline
- The course wiki
- Forum
- Announcements
- Grades

Please note that the course director's announcements on the Moodle and in-class updates take precedence over any other information in the course MOODLE web site.

If you have technical Moodle-related questions, please direct them to UIT Client Services at 416-736-2100 x55800 or email [helpdesk@yorku.ca](mailto:helpdesk@yorku.ca).

## Other Information

Tips on studying for this course:

- For the exams, you must know and understand the material presented in the lectures and in the required reading mentioned above.
- The textbook can help students consolidate and expand their understanding of the material. However, much of the textbook will not be covered in class. On the exams I will **concentrate** on topics covered IN CLASS and their applications. But reading the required material is likely to be very helpful.
- Students need to **attend all lectures** in order to do well in the course. The discussions in class are critical for the understanding of the material. The center of the course is the lectures. ALL in-class material (including verbal and extra information written on the blackboard) is testable material in the midterm and final exams. It is your responsibility to attend lectures as my multimedia presentations will not be provided outside the classrooms. Do not rely on the Wiki: take your own notes.
- The material presented in the lectures and other components of the course such as tests and exam have been developed from a large variety of resources, including websites, textbook supplements and the material mentioned above.
- In general, it is best that a student who was unable to attend a lecture borrow the relevant notes from a classmate. You may also wish to check the course Moodle website for additional relevant material. Here, you can find an updated course outline. In addition, you can use the course wiki. Furthermore, you have my permission to use an audio tape-recorder in class (or to arrange with a classmate to do it for you).
- I will usually be available before/after each lecture to address individual questions. If you need to speak with me out of class, please send me an email to set an appointment.
- Students are allowed to AUDIO record lectures using their own recording devices.

## Course Policies

### Tests and Exams

Attendance for all exams is mandatory. Exams missed on the ground of medical circumstances must be supported by a formal Attending Physician's Statement, which can be downloaded from the registrar's office web site, or a statement by a psychologist or counsellor. The documentation must be dated on the same day as the exam or earlier, or it will not be accepted. The Course Director must be notified by email within 24 hours in the case of a missed test or exam. Appropriate documentation must be submitted to the Course Director within one week after the test or exam. **No opportunities to make up missed mid-term exams will be offered. However, after acceptable justification for a missed exam has been received, the percentage value of the missed mid-term will be added to the final exam.** If the final exam is missed, the student must petition the Registrar for permission to write the final exam. Deferred exams are similar to the original exam in terms of material covered and level of difficulty, However, the format is not likely to be identical to the original exam. Accordingly, all approved deferred exams will be consisting of short-answer questions (no multiple-choice).

### Rules for viewing term tests:

The exams of BIOL2021 are evaluation tools, not a teaching tool.

If you are interested to view your exam and to compare it against the key, you must to send an e-mail to the course TA (TBA) **by two week after the day the grades were posted** on the Moodle. Every session will be up to 20 minutes for viewing the test and to compare it against the detailed key. During test viewing sessions the regular examination rules will apply. If after you viewed your exam against the key, you feel that you deserve more marks you can send an e. mail to the course director (Attn: Dr. Motti Anafi, e-mail: moanafi@yorku.ca).

### **Emailing the Course Director**

Your email will be read and answered as soon as possible. However, we will open only e-mails that fulfill the following requirements:

- Your email must be sent from your regular yorku.ca email account (**not from the moodle server**). Do not use non-yorku.ca accounts (such as hotmail or personal gmail). Emails from non-yorku.ca accounts or from the Moodle will likely languish in a spam folder that is checked only intermittently.
- Be sure to include your full name and student number in your email text.
- Your email must include "BIOL2021" in the subject line
- Your email must NOT include an attachment.

### **Copyright Policy at York University (Q & A from YorkU Web site)**

**“1. Question: Can I (the instructor) include copyrighted content in a class presentation without permission of the rights holder?”**

**Answer:** Yes, if you stay within the limits of the Copyright Act. The educational exceptions allow you to:

- “make a copy of a work to be used to project an image of that copy using an overhead projector or similar device”
- “You are not allowed to distribute copies in either paper or electronic form.”

**2. Question: Can I (the instructor) post that same presentation on my Course website?**

**Answer:** “No, the educational exceptions do not allow you to distribute copies in either paper or electronic form.”

**Accordingly, my multimedia presentations will not be provided outside the classrooms.**

## **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 - <http://www.yorku.ca/academicintegrity/>

### **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.

Student's 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/personal.html>  
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 [http://www.registrar.yorku.ca/pdf/exam\\_accommodation.pdf](http://www.registrar.yorku.ca/pdf/exam_accommodation.pdf) (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 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/>