



BIOB11H3S - Molecular Aspects of Cellular and Genetic Processes

Winter 2021

Instructor: Daman Bawa

E-mail: daman.bawa@utoronto.ca

Teaching Assistant: Jonathan Burnie, Shal Chaudhary, Jerrica Jamison, Manisha Kabi

Course Coordinator: Jennifer Campbell

Office Hours: Tuesdays 11 AM – 12:30 PM

Office hours will be through Bb Collaborate or by appointment through Microsoft Teams.

Please be prepared and consult lecture materials. Appointments outside these hours can be arranged by e-mail. If the hours need to be changed or if there are technical hurdles during the semester, you will be notified by an announcement

Lecture: Pre-recorded lectures will be posted on Tuesdays.

Pre-requisites: BIOB10H3

Exclusions: BIOB10Y, BIO230H, BIO250Y

The best way to reach me outside the office hours is by e-mail. **Please use your UTORONTO e-mail account** and include your course code in the subject. Emails sent from non-university accounts will not be answered. I generally answer emails by the end of the day on weekdays only. **I will not answer emails on the weekend.**

Course Textbook: **Molecular Biology of The Cell (6th Edition) by Alberts, Johnson et.al.** If you have an older edition, it can be used, however, you are responsible for matching the figures and material presented in lectures to your particular edition. This is the same textbook as BIOB10H3. The publishers also have on-line resources for their texts that you may find useful.

Online Course Resources: The following information / resources will be available on Quercus through your UTORid login:

- The course syllabus that includes course description, schedule and other details.
- Contact information for the instructor, TAs and the course coordinator
- Important announcements regarding all aspects of the course will be posted under the ‘Announcement’ section of the course and it is students’ responsibility to check them regularly.
- Lecture material any supplemental material related to the lectures

Email Policies: The email policies for the course are as follows:

- Please only use your UToronto email address for correspondence. Emails received from other sources will not be answered.
- Include your course code in the email subject line
- Your name and student number must be included in the email
- TA should not be contacted regarding grades or details of course material unless specified otherwise in the lectures.
- **You should only contact the course coordinator regarding:**
 - **Course prerequisites or exclusions**
 - **Exam conflicts**
 - **Missing / missed exams**
 - **Marks verification for the exams**

Please do not contact the course coordinator for lecture related materials.

- I will try to reply to the emails as soon as I can (except weekends); however, if the question cannot be answered via email, I will ask the student to attend my office hours.

Lectures: **Lecture files will be posted online on Tuesdays. Instead of posting two separate files for the week, I will post one file for the whole week.** There is a lot of material covered in this course; therefore, it is imperative that you review and keep up with the course material in order to do well. Reviewing the chapter summaries and answering the questions will greatly help you understand the material as well.

Tutorials: Tutorials are scheduled on Thursdays from 5-7 PM. Tutorial time is shared with the other B-level courses (BIOB38, BIOB51 and BIOB90). For the most part, we will not be using these tutorial times on a regular basis but we may use this time to hold office hours / review session before the exams. In such a case, I will post an announcement on Quercus.

Evaluations:

Midterm:

- The exam will be a combination of multiple choice, fill-in-the-blanks and short answers. Students who miss the midterm must provide valid documentation and inform me and the course coordinator by e-mail before the exam or **within 48 hours** of the exam. **Students will only be allowed to write the makeup midterm upon receipt of valid documentation.** Midterm exam will be based on the material covered before the exam. I will provide you with exact details once the date is finalized.

Final Exam:

- The final exam will also be a combination of multiple choice, fill-in-the-blanks and short answers** and will be held during the final exam period. Students who miss the final exam must petition the Registrar for permission to write a makeup exam. This is not determined by the instructor. The Registrar will schedule a makeup exam that will be held at a later date. **Final exam** will be cumulative, with an emphasis on the second half of the course. However, concepts and ideas covered in ALL lectures (Lecture 1 – 12) will be tested.

Assignments:

- In addition to the midterm and final exams, there are **two short assignments** for the course. Assignment 1 is a concept map based on the lecture material and Assignment 2 will be a short 1-page write up. I will provide you with more detail on Quercus.

Since BIOB11 is a participating course for BIOB90 (Integrative Research Poster Project), the grade breakdown with and without BIOB90 will be slightly different as given below:

For students enrolled in BIOB90 (Integrative Research Poster Project):

- | | | |
|--|-----|-----------------------------|
| • Midterm exam: | 35% | Date: TBA |
| • Final exam: | 45% | Date: TBA |
| • Assignment 1 – Concept map: | 4% | Due date: February 12, 2021 |
| • Assignment 2 – 1-page writeup: | 6% | Due date: March 19, 2021 |
| • Integrative research poster project: | 10% | |

For students not enrolled in BIOB90:

- | | | |
|----------------------------------|-----|-----------------------------|
| • Midterm exam: | 40% | Date: TBA |
| • Final exam: | 50% | Date: TBA |
| • Assignment 1 – Concept map: | 4% | Due date: February 12, 2021 |
| • Assignment 2 – 1-page writeup: | 6% | Due date: March 19, 2021 |

Accessibility:

If you have a disability/health consideration that may require accommodations, please feel free to contact me and/or the *AccessAbility* Services Office. All the enquiries will be kept confidential and we will work together to make sure that you can achieve your learning goals in this course. The UTSC *AccessAbility* Services staff (located in S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or ability@utsc.utoronto.ca.

Academic Integrity / plagiarism:

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, 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 behaviors that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

In papers and assignments: 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: Using or possessing unauthorized aids. Looking at someone else's answers during an exam or test. Misrepresenting your identity.

In academic work: Falsifying institutional documents or grades. Falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behavior or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (refer to: <http://www.utoronto.ca/academicintegrity/resourcesforstudents.html>).

Use of Turnitin:

“Normally, students will be required to submit their course assignments to Turnitin for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their assignments 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”.

We will use Turnitin for your exam answers to detect any plagiarism.

Taking or sharing a picture or screenshot of any part of the exam, discussing the questions / answers with other students and use of any unauthorized aids (e.g., a google search) while the exam is in progress is considered plagiarism / academic dishonesty and it will be investigated following the procedures outlined in the Code of Behaviour on Academic Matters.

Tentative Lecture Schedule

The following material will be discussed in the lectures and is listed as topic numbers. Some topics will be covered over more than one or two lectures. Due to the nature of the course, the concepts from different topics will overlap and the lectures may contain information from multiple chapters in the textbook. For the most part, we will be using material from **Chapters 1, 4, 5, 6, 7, 8, 15, 17, 18, 20**. Relevant sections in each chapter will be indicated on the lecture slides.

Topic 1	The genome: chromosomes, genes, DNA, stability, heredity, transposable elements
Topic 2	Transcription (RNA synthesis) prokaryotic versus Eukaryotic; RNA polymerases; rRNA processing
Topic 3	RNA processing in eukaryotes; capping, polyA tail, introns (RNA splicing), ribozymes
Topic 4	Translation (protein synthesis); Gene expression: post-translational modification; Prokaryotic versus Eukaryotic gene expression
Topic 5	Control of Gene expression: Prokaryotic (inducible/repressible) and eukaryotic (transcription factors), role of the nucleus
Topic 6	DNA replication and DNA repair
Topic 7	Cell cycle: role of cyclins, role of microtubules
Topic 8	Cancer; tumor suppressors, proto-oncogenes
Topic 9	Signal transduction: kinases, G-proteins, surface receptors

**** If I talk about it in the lectures it is testable material ****