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The official course description can be found in the [Academic Calendar](#). Instructors may or may not adhere to the Extra Information found in the Academic Calendar in terms of the number of lecture/tutorial/lab hours. See below for more information about course delivery mode and time estimates. These time estimates do not include assessments or independent study.

Stable internet connection

Laptop or computer

Working microphone

Working webcam

Owl quizzes/tests/exams

This course will be delivered online. With the hope to transition into in-person lectures after the first few weeks. Initially virtual lectures will be asynchronous (recorded). Tutorials will be synchronous (live) via Zoom. Students may be expected to complete work prior to attending sessions. Timetabled sessions (specifics will be found in Owl) will be used for tutorials. Synchronous office hours will also be available. Below is an overview of the sessions.

Virtual asynchronous lectures	N/A		Weekly	N/A
In-person lectures (hopefully sometime during term)	M/W	Sec 002 11:30 am Sec 001 1:30 pm	Weekly	required
Virtual synchronous "tutorial" meeting	TBD		Weekly*	Not mandatory
Virtual synchronous office hours	TBD		Weekly*	Not mandatory

\*Detailed schedules will be posted in the course Owl website.

All assessments



Students are expected to actively engage online: attending TA "tutorial" sessions; completing teaching activities linked with learning outcomes; interacting in peer forums; and office hours with instructors.

"Classes" begin January 10, 2022 (Lectures will be posted to Owl weekly, or delivered in person). Office hours and "tutorial" help sessions begin week of Jan 10 ("ZOOM" links in Owl site).

Spring Reading Week: Feb 21-25.

Last day to withdraw without academic penalty Mar 14.

Classes end: April 8

### Introduction to Cell Biology

Technical Aspects and Approaches (i.e. Tools of the Trade)

Cell culture, Stem cells, Cancer cells, Imaging in cell biology

Isolation and analysis of cell organelle and molecules

### Protein Synthesis

Organelles and transport; Vesicular Traffic—Protein sorting, Receptor-mediated

Endocytosis

### The Cytoskeleton

Microtubules: Microtubule-organizing centers (MTOCs), dynamics and motor proteins,

Mitotic Apparatus and Mitosis

Intermediate Filaments

Actin and Myosin

Muscle Contraction; Cell Motility

### The Cell Surface

Cell Junctions, Cell Adhesion and Extracellular Matrix

Structure and Composition of Biological Membranes

Membrane Proteins

Membrane Transport

### Cell Signalling & Signal Transduction

Receptor tyrosine kinases (RTKs), G-protein-coupled receptors (GPCRs), Apoptosis, and others

Mitosis & Molecular Regulation of the Cell Cycle

Instructors will be available for weekly live ZOOM office hours (50 mins).

These are scheduled for Mondays at 11:30am and Wednesdays at 1:30pm. (These times WILL change if lectures shift to in-person). ZOOM meeting links are found on the course Owl website.

Depending on demand, these times may shift, or more hours may be added. There are also limited numbers of 10 minute "private" weekly appointments – contact the instructor directly.

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1. Distinguish between various cell types and their characteristics when grown in culture.
  2. Recognize the appropriate forms of microscopy for visualizing cellular structures and proteins and understand various techniques for isolating and analyzing organelles and proteins
  3. Be able to describe the processes involved in the controlled movement of proteins from the inside to outside of the cell and vice versa.
  4. Outline all the steps and regulatory mechanisms involved in ensuring the controlled division of cells
  5. Understand the component and the functions of the three cytoskeletal networks (microfilament, intermediate filaments, microtubules).
  6. Be able to explain how the cytoskeleton plays a role in major cellular processes (migration, adhesion, division, organelle trafficking).
  7. Be able to describe the major components of the plasma membrane and how they impact overall membrane function.
  8. Explain the role of membrane proteins in transport and signalling.
  9. Explain how signals from outside of the cell are transmitted to trigger changes within the cell.

\_\_\_\_\_ (required/strongly recommended): Molecular Cell Biology, 9th Edition, by H. Lodish et al. (W.H. Freeman & Co.) Sections of the textbook relevant to course topics will be specified during lecture.

There are no formal tutorials in Bio2382b. Instead TAs will be available for virtual help sessions, live via Zoom. The schedule for these sessions will be posted on Owl, with additional sessions being added closer to midterm and final exam dates. These help sessions are not a review. TA



If you are unable to meet a course requirement due to illness or other serious circumstances, you must seek approval for the absence as soon as possible. Approval can be granted either through a self-reporting of absence or via the Dean's Office/Academic Counselling unit of your Home Faculty. If you are a Science student, the Academic Counselling Office of the Faculty of Science is located in NCB 280, and can be contacted at [scibmsac@uwo.ca](mailto:scibmsac@uwo.ca). Their website is <https://www.uwDC qAv0912i2 12 Tfyes>,

Students should also note that individual \_\_\_\_\_, whether in support of an application for consideration on medical grounds, or for other reasons.

For the policy on Academic Consideration for Student Absences – Undergraduate Students in First Entry Programs, see:

[https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/accommodation\\_illness.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf)

and for the Student Medical Certificate (SMC), see:

[http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/medicalform.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf).

When a course requirement conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request accommodation for their absence in writing at least two weeks prior to the holiday to the course instructor and/or the Academic Counselling office of their Faculty of Registration. Please consult University's list of recognized religious holidays (updated annually) at

<https://multiculturalcalendar.com/ecal/index.php?s=c-univwo>.

If you have transferred more than 30% of the assessments to the final exam such that its weight is more than 70%, you will have to write an additional exam/evaluation of a format that most suits the instructors, covering the material not assessed. This assessment could be a 3-hour essay examination, where the student is required to write a coherent, grammatically correct essay on topics from missed assessments in the 3 hours at a particular time after the makeup final and in a particular place at the university. Missing this examination/evaluation could result in failure of the course or an incomplete in the course. If given an incomplete the student will make up all the missing components the next time the course is offered.

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a [Scholastic Offence](#).

The website for Registrarial Services is <http://www.registrar.uwo.ca>.

In accordance with policy, <http://www.uwo.ca/its/identity/activatenonstudent.html>, the centrally administered e-





Learning-skills counsellors at the Student Development Centre (<http://www.sdc.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Students who are in emotional/mental distress should refer to Mental Health@Western ([http://www.health.uwo.ca/mental\\_health](http://www.health.uwo.ca/mental_health)) for a list of options about how to obtain help.

Additional student-run support services are offered by the USC, <http://westernusc.ca/services>.

The following links provide additional information about support services at Western University. [Academic Counselling \(Science and Basic Medical Sciences\)](#) [Appeal Procedures](#)  
[Registrarial Services](#) [Student Development Services](#)  
[Student Health Services](#)

We acknowledge that Western University is located on the traditional territories of the Anishinaabek (Ah-nish-in-a-bek), Haudenosaunee (Ho-den-no-show-nee), L naapéewak (Len-ahpay-wuk) and Chonnonton (Chun-ongk-ton) Nations, on lands connected with the London Township and Sombra Treaties of 1796 and the Dish with One Spoon Covenant Wampum. This land continues to be home to diverse Indigenous Peoples (First Nations, Métis and Inuit) whom we recognize as contemporary stewards of the land and vital contributors of our society. More information about Indigenous Services (<https://indigenous.uwo.ca/>) and this Land Acknowledgement (<https://communications.uwo.ca/comms/land-acknowledgement/>) are available.

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