

CELL BIOLOGY

Biology 2230WDE

COURSE OUTLINE WINTER 2021

Instructor

Dr. Heidi Schraft
Biology, CB4015
Phone: 343-8351
Email: please contact me through the **email link in the D2L course page**.

Office hours

Tuesday 17:30 – 19:00, recorded lecture, live drop-in Zoom office hours
To book an appointment at another time, please [click here](#).

Teaching Assistants

Xuantong Chen (Tong)
Email: xchen24@lakeheadu.ca

Nadia Sufdar Ali
Email: nsufdar@lakeheadu.ca

Lectures and Tutorial

Lectures:

Tuesday 17:30 – 19:00, recorded lecture, live drop-in Zoom office hours

Thursday 17:30 – 19:00, Live Zoom

Tutorial:

Monday 14:30 – 15:30, Live Zoom

Textbook

Textbook: Molecular Cell Biology by Lodish et al, eighth edition (hardcopy or ebook, available in the bookstore)

There will be required reading from the book. I strongly recommend that you have a book available to you throughout the semester.

Learning Objectives

- Recognize, name, draw, and describe important structures of animal and plant cells.
- Describe, explain, discuss, and compare important functions and processes of animal and plant cells.
- Describe and explain experimental approaches used to discover and explore the structures and functions of cells.
- Explore opportunities for advanced studies in cell and molecular biology through Lakehead's 3rd and 4th-year courses.

- Demonstrate an understanding of the principles of scientific inquiry.
- Demonstrate the ability to think critically and employ critical thinking skills.
- Read and interpret graphs and data.
- Demonstrate the quantitative skills needed to succeed in Biology.
- Demonstrate the ability to make connections between concepts across Biology.
- Demonstrate the ability to find peer-reviewed publications, understand their structure and extract the information needed to expand knowledge on a specific topic in cell biology.
- Communicate effectively in writing.

Please refer to the lecture schedule on the last page for topics covered and to the study guides posted in Desire2Learn (D2L) for each topic's Learning Objectives.

DESIRE2LEARN – D2L

You will have access to a course page through Desire2Learn (D2L) where you'll find course updates, recorded video lectures, the links to the live Zoom meetings, lecture slides, assignments, links to selected web-sites, etc.

To log into your course website:

1. Go to <https://mycourselink.lakeheadu.ca/d2l/home>
2. Enter your Login/ID (your Lakehead University e-mail username) and your Password/PIN number.
3. Click on the course title to enter the course.

If you encounter any difficulties logging into the course site, please contact:

mycourselink@lakeheadu.ca

Performance Evaluation

| Activity | Weight |
|--------------------------|---------------|
| Weekly Assignment / Quiz | 15% |
| Literature Assignment | 15% |
| Mid-term tests | 40% (2 x 20%) |
| Final exam | 30% |
| Total | 100% |

Missed Exams, Late Assignments and Extensions

As this is a very large class, I have limited capacity to accommodate missed exams, late assignments or extensions.

- There will be no extensions on any weekly Assignments / Quizzes.
- I will also not give extensions for the Literature Assignment. I will accept late assignments, but for each day after the due date, 5% will be deducted from the assignment grade.
- If you **miss a mid-term test**, you may only write a make-up test if you **inform me before the test** and **provide acceptable supporting documentation within 48h of the missed test**. If required, there will be one date for a make-up test and no make-up test can be written after the test results have been returned to the class. This also applies to students registered with SAS.
- If you miss the final exam, you need to follow the protocol required by Enrolment Services. You can find it in the Calendar: [University Regulations](#) (scroll to Section IV Examinations)

However, if you do run into **time constraints or other difficulties during the semester**, I encourage you to contact me (please use the D2L email for this), and I will work with you to find a solution.

Accommodation for Disabilities

Lakehead University is committed to achieving full accessibility for persons with disabilities. Disabilities include physical disability, learning disability, mental disorder etc.

Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you think you may need accommodations, you are strongly encouraged to contact Student Accessibility Services (SAS) and register as early as possible. For more information, please visit: <http://studentaccessibility.lakeheadu.ca>

Academic Integrity

A breach of Academic Integrity is a serious offence. The principle of Academic Integrity, particularly of doing one's own work, documenting properly (including use of quotation marks, appropriate paraphrasing and referencing/citation), collaborating appropriately, and avoiding misrepresentation, is a core principle in university study. Students should view the Student Code of Conduct – Academic Integrity – for a full description of academic offences, procedures when Academic Integrity breaches are suspected and sanctions for breaches of Academic Integrity.

This course will have a zero-tolerance for academic dishonesty and plagiarism. For further information, please refer to the [Student Code of Conduct Policies](#) and the Lakehead University [Calendar](#) (Section IX).

To help all students in the class understand application of Academic Integrity to course work, everyone will be required to complete the [Academic Integrity Matters \(AIM\) course](#) and submit the Certificate of Completion.

I will not grade any of your work unless you have completed the AIM course.

Notice regarding Copyright

All students accessing materials of BIOL-2230 WA must agree to the following Copyright Compliance:

I understand and agree that all instructional, reference, and administrative materials to which I am given access in this course (the "course materials"), whether they consist of text, still or kinetic images, or sound, whether they are in digital or hard copy formats, and in whatever media they are offered, are protected in their entirety by copyright, and that to comply with this copyright and the law

(1) I may access and download the course materials only for my own personal and non-commercial use for this course; and

(2) "I am not permitted to download, copy, or store (in any medium) any text, image, or sound component of the course materials for any other purpose whatsoever, or to forward or share, transmit, broadcast, show, post or play in public, adapt, or change in any way any text, image, or sound component of the course materials, except as expressly authorized, and only to the extent authorized, in writing, by the course instructor."

I further understand and agree that, if I infringe the copyright of the course materials in any way, I may be prosecuted under the Lakehead University Student Code of Conduct – Academic Integrity, which requires students to act ethically and with integrity in academic matters and to demonstrate behaviours that support the University's academic values.

Notice for Recording Lectures and Class Activities

In BIOL-2230-WA instruction in the classroom will be recorded for confidential access by students registered in the course but who are unable to attend class due to the pandemic or other necessity. To the greatest extent possible only the image and voice of the instructor will be recorded for this purpose but, due to class interaction, the images and voices of students present in the classroom may be incidentally recorded and, thus, be available for access by course students in remote locations. These recordings, however, are strictly confidential and may be used only by the instructor and students registered in the course and only for purposes related to the course. They may otherwise not be used or disclosed. Students in the classroom who are concerned about being recorded in this fashion may request the instructor to exclude them from the recording to the greatest degree possible on the understanding that total exclusion cannot be guaranteed. The recordings are made under the authority of sections 3 and 14 of The Lakehead University Act, 1965. Questions about the collection of the images and sounds in the recordings may be directed to the Chair of Biology (Dr. A. Mallik, email amallik@lakeheadu.ca), telephone 807-343-8927).

Lecture Schedule - BIOL 2230 Winter 2021

| Week | Day | Date | Topic | Important Dates |
|------|-----------------|-------------|--|--|
| 1 | Mon – Zoom Tut | Jan 11 | Intro to the course | |
| | Tue – Video Lec | Jan 12 | Chapters 1, 2.1, 2.2 | |
| | Thu – Zoom Lec | Jan 14 | Overview of Cell Biology, Chemistry of the Cell | |
| 2 | Mon - Zoom Tut | Jan 18 | Chapter 2.3, 2.4 | |
| | Tue – Video Lec | Jan 19 | Chemical Reactions and Biochemical Energetics | |
| | Thu – Zoom Lec | Jan 21 | | <i>Jan. 15: Last day to add</i> |
| 3 | Mon - Zoom Tut | Jan 25 | Chapter 3.1 to 3.4: | |
| | Tue – Video Lec | Jan 26 | Proteins and Enzymes | |
| | Thu – Zoom Lec | Jan 28 | | |
| 4 | Mon - Zoom Tut | Feb 1 | Chapters 3.5 and 4 | |
| | Tue – Video Lec | Feb 2 | Methods in Cell Biology | |
| | Thu – Zoom Lec | Feb 4 | | |
| 5 | Mon - Zoom Tut | Feb 8 | Chapter 7.1 and 7.2 | |
| | Tue – Video Lec | Feb 9 | Biomembranes | |
| | Thu – Zoom Lec | Feb 11 | | Test #1 - Chapters 1 to 4 |
| | | Feb 15 - 19 | STUDY WEEK | |
| 6 | Mon - Zoom Tut | Feb 22 | Chapter 11.1 to 11.6 | |
| | Tue – Video Lec | Feb 23 | Transport across Membranes | |
| | Thu – Zoom Lec | Feb 25 | | |
| 7 | Mon - Zoom Tut | Mar 1 | Chapter 12: | |
| | Tue – Video Lec | Mar 2 | Cellular Energetics | |
| | Thu – Zoom Lec | Mar 4 | | |
| 8 | Mon - Zoom Tut | Mar 8 | Chapter 12: | |
| | Tue – Video Lec | Mar 9 | Cellular Energetics | March 13: Literature Assignment Due |
| | Thu – Zoom Lec | Mar 11 | | <i>March 12: Last day to drop</i> |
| 9 | Mon - Zoom Tut | Mar 15 | Chapter 13.1 to 13.3 | |
| | Tue – Video Lec | Mar 16 | Moving Proteins | |
| | Thu – Zoom Lec | Mar 18 | | Test # 2 - Chapters 7, 11 & 12 |
| 10 | Mon - Zoom Tut | Mar 22 | Chapter 14.2 to 14.6: | |
| | Tue – Video Lec | Mar 23 | Vesicular Traffic, Secretion, and Endocytosis | |
| | Thu – Zoom Lec | Mar 25 | | |
| 11 | Mon - Zoom Tut | Mar 29 | Chapter 17.1 to 17.5 & 18.1 to 18.4: | |
| | Tue – Video Lec | Mar 30 | Microfilaments, Microtubules, and Intermediate Filaments | |
| | Thu – Zoom Lec | Apr 1 | | |
| 12 | Mon – No class | Apr 5 | Easter Monday | |
| | Tue – Video Lec | Apr 6 | Chapter 20.1 to 20.4 | |
| | Thu – Zoom Lec | Apr 8 | Integrating Cells into Tissues | |
| | Mon – Zoom Tut | Apr 12 | Review | |