

CELL BIOLOGY

Biology 2230 WA

COURSE OUTLINE WINTER 2023

Instructor

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

Office hours

Tue and Thu: 3 pm – 4 pm
To book an appointment at another time, please [click here](#).

My office is in the Centennial Building, room CB 4015

Teaching Assistants

Nick Bel
Email: nbel@lakeheadu.ca

Sarah Lutes
Email: sjlutes@lakeheadu.ca

Lectures and Tutorial

Lectures:

Mon and Wed 4:00 pm – 5:30 pm, ATAC 2001

Tutorial:

Thu 11:30 am – 12:30 pm, ATAC 1003

Textbook

Textbook: Molecular Cell Biology by Lodish et al, 9th edition. Published by Macmillan Learning.

The 8th edition is oK as well.

Hardcopy available in the bookstore. Alternatively, you can purchase/rent an eBook (with or without Achieve) through Macmillan Learning: <https://store.macmillanlearning.com/ca/product/Molecular-Cell-Biology/p/1319208525>

Or through Vital Source: <https://www.vitalsource.com/en-ca/products/loose-leaf-version-for-molecular-cell-biology-harvey-lodish-arnold-berk-v9781319365028>

The hardcopy of the 8th edition is available on reserve in the library.

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

Achieve is not required for this course.

For those students that opt to purchase the eBook with Achieve, I have created a site where you can access MC questions to check your understanding of the assigned readings. The course name is:

BIOL 2230 WA: Cell Biology Winter 2023, course ID: mhjgr

Link to access: <https://achieve.macmillanlearning.com/courses/mhjgr>

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.

Lecture Schedule

Week	Date	Lecture Topic	Literature Assignment	Important Dates
1	Jan. 9 - 15	Intro to the course Chapters 1.1, 1.2, 1.3, 1.4, 2.1, 2.2 Overview of Cell Biology, Chemistry of the Cell	Learn the Basics <ul style="list-style-type: none"> Introduction to the Literature Assignment Sign up with a partner or solo 	
2	Jan. 16 - 22	Chapter 2.3, 2.4 Chemical Reactions and Biochemical Energetics		<i>Jan. 20: Last day to add</i>
3	Jan 23 - 29	Chapter 3.1 to 3.4: Proteins and Enzymes	Get a grasp <ul style="list-style-type: none"> Print/download the assigned paper Work on Task 1 	
4	Jan 30 - Feb. 5	Chapters 3.5 and 4 Methods in Cell Biology		
5	Feb. 6 - 12	Chapter 10.1 and 10.2 Biomembranes	Dig the Figure Work on Tasks 2, 3, and 4	Mon, Feb. 6: Test #1 Chapters 1 to 4
6	Feb. 13 - 19	Chapter 11.1 to 11.6 Transport across Membranes		
	Feb. 20 - 26	STUDY WEEK		
7	Feb. 27 – Mar. 5	Chapter 12: Sections 12.1, 12.2, 12.3, 12.4, 12.5 Cellular Energetics	Put it together Work on Tasks 5 and 6 Monday, March 13: Assignment Due	
8	Mar. 6 - 12	Chapter 12: Sections 12.6, 12.7, 12.8 Cellular Energetics		<i>Monday, March 13: Literature Assignment Due</i> <i>March 10: Last day to drop</i>
9	Mar. 13 - 19	Chapter 13.1 to 13.3 Moving Proteins		Wed, March 15: Test #2 Chapters 10, 11 & 12
10	Mar. 20 - 26	Chapter 14.2 to 14.6: Vesicular Traffic, Secretion, and Endocytosis		
11	Mar. 27 – Apr. 2	Chapter 17.1, 17.2, 17.5 & 18.1, 18.2, 18.4, 18.8: Microfilaments, Microtubules, and Intermediate Filaments		
12	Apr. 3 - 9	Chapter 20.1 to 20.4 Integrating Cells into Tissues		

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 Quiz Due every Sunday at midnight	7.5%
Class Participation Each class: iClicker (occasionally D2L)	7.5%
Literature Assignment Completed individually or with a partner Due Monday March 13, 2023	15%
Mid-term tests Test #1: Feb. 6, 2023 Test #2: March 15, 2023	40% (2 x 20%)
Final exam During exam period	30%
Total	100%

Please note that all tests and the final exam will be in person.

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 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.

Health and Mental Health

As a university student, you may sometimes experience mental health concerns or stressful events that interfere with your academic performance and negatively impact your daily activities.

All of us can benefit from support during times of struggle. If you or anyone you know experiences academic stress, difficult life events or feelings of anxiety or depression, Student Health and Wellness is here to help. Their services are free for Lakehead Students and appointments are available. You can learn more about confidential mental health services available on and off campus at lakeheadu.ca/shw.

Remember that getting help is a smart and courageous thing to do- for yourself, for those you care about, and for those who care about you. Asking for support sooner rather than later is almost always helpful.

It is also possible that you get sick or are faced with circumstances that do not allow you to attend lecture(s) and/or tests or to submit assignments on time. If this happens to you, I expect that you contact me as soon as possible with an explanation of the situation. I will then work with you to help you catch up with lecture content and deadline(s).

iClicker

I will be using iClicker to make our class time more engaging. This will help me understand what you know, give everyone a chance to participate, and increase how much you learn in class. This will also provide you with feedback on how well you are comprehending course concepts, help you master challenging concepts, and allow you to review material after class.

Participating in my iClicker sessions will be counted towards the participation component of your final grade. It will be worth 7.5% of your final grade. You will earn 1 point for each correct question you answer and 0.5 points for each incorrect answer. Likely, 3 - 5 questions will be asked in a 1.5 hour lecture period.

You are required to bring a device to participate in the iClicker sessions during class. I will be allowing participation with the iClicker student app on a smartphone, tablet or laptop. It is your responsibility to set up your iClicker account in a timely fashion and register in my iClicker course. It is also your responsibility to regularly check your iClicker records for any discrepancies and bring them to my attention within 48 hours.

In order to participate in my iClicker activities and ensure that your grades are properly reflected in the grade book, please follow the steps listed at the end of this syllabus.

Accommodation for Disabilities

Lakehead University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities and/or medical conditions to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a disability and 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 contact [Student Accessibility Services](#) (SC0003, 343-8047 or sas@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 are strongly advised to familiarize themselves with the Student Code of Conduct - Academic Integrity ("[The Code](#)") - and, in particular, **sections 26 and 83 through 85**.

Non-compliance with the Code will NOT be tolerated in this course and the Code will be adhered to in terms of disciplinary action. The Code provides a full description of academic offences, procedures when Academic Integrity breaches are suspected and sanctions for breaches of Academic Integrity.

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

Students should be aware that all instructional, reference, and administrative materials prepared for this course are protected in their entirety by copyright. Students are expected to comply with this copyright by only accessing and using the course materials for personal educational use related to the course, and that the materials cannot be shared in any way, without the written authorization of the course instructor. If this copyright is infringed in any way, students 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 behaviors that support the University's academic values.

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.

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

(b) I am not permitted to download, copy, store (in any medium), 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 for any other purpose whatsoever 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 may 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).

iClicker – Steps for Registration

I will be using iClicker to make our class time more engaging. This will help me understand what you know, give everyone a chance to participate, and increase how much you learn in class. This will also provide you with feedback on how well you are comprehending course concepts, help you master challenging concepts, and allow you to review material after class.

Participating in my iClicker sessions will be counted towards your final grade.

The mark for iClicker will be worth 7.5% of your final grade. You will earn 1 point for each correct question you answer, and 0.5 points if you submit an incorrect response. Likely, 3-5 questions will be asked in a 1.5 hour lecture period. I will also ask iClicker questions in the 1 hour tutorials.

For the iClicker grade calculation, the two iClicker sessions with the lowest grade will be dropped.

You are required to bring a device to participate in my iClicker sessions during class. I will be allowing participation **only with the iClicker student app on a smartphone, tablet or laptop**. It is your responsibility to set up your iClicker account in a timely fashion and follow the steps below to properly register in my iClicker course. It is also your responsibility to regularly check your iClicker records for any discrepancies and bring them to my attention within 48 hours.

In order to participate in my iClicker activities and ensure that your grades are properly reflected in the gradebook, follow the steps below:

1. Go to join.iclicker.com
 - Enter the code to join this course: **4BQAJ**
 - You can also go directly to: <https://join.iclicker.com/4BQAJ>
2. Sign in if you already have an iClicker account, or [create a new account](#).
 - **If you already have an account:** DO NOT create a new one. You can only receive credit from one account.
 - **If you are creating a new account:** Make sure you enter your name and email exactly as they appear in your **Lakehead University student account and Lakehead University email account.**
3. You should be dropped directly into this course, **BIOL 2230 - Cell Biology**.
 - If you don't see this course in your account, use the + sign to search for my course:
 - In the "Find Your Institution" field, enter **Lakehead University**
 - In the "Find Your Course" field, enter **BIOL 2230 - Cell Biology**
 - Select "Add This Course" and it will be added to the main Courses screen of your iClicker account.

4. Purchase an iClicker subscription or access code to participate in class.

- Upon signing up with iClicker, you will have a two-week free-trial period for using the app to participate in class activities. **Before the free trial ends**, you need to [purchase an iClicker subscription or obtain an access code](#) to continue participating in class with iClicker on your mobile device, tablet, or laptop. To [redeem an access code](#), you must visit the **Subscriptions** section of [the iClicker student web app](#) (**NOT** the mobile app). iClicker will let you know when your free trial is ending. If your free trial ends without completing this step, you will be unable to participate in class activities until you purchase a subscription or enter an access code.

5. Set up the device you'll use to participate in my class sessions.

- You can download the iClicker student mobile app via the App Store or Google Play, or you can use the iClicker web app by signing in as a student at [iclicker.com](#).
- Connect to our classroom's Wi-Fi:

The wireless network you should use in our classroom is the **Lakehead University Wifi**. Alternatively, you can use the **TBayTel Wifi**.



6. Now the fun part! Participate in my class activities.

- When it's time for class, make sure you have selected my course from the main screen of your iClicker account.
 - When I start a session, select the **Join** button that appears on your screen, then answer each question I ask in iClicker.
 - For short answer, numeric, and target questions, make sure you select **Send**.

7. Keep track of your attendance, review your work, and study after class in iClicker.

- You can review your attendance record in iClicker, making it easy for you to manage your course attendance.
- You can review your grades, performance, and participation in iClicker.
- You can bookmark the questions I asked during class to turn them into flashcards or practice tests in the [Study Tools section of iClicker](#).

Academic Integrity Information

iClicker activities fall under the provisions of our campus academic integrity policy. Students must not engage in academic dishonesty while participating in iClicker activities. This includes but is not limited to:

- Checking in while not physically in class
- Having another student check you into class
- Answering polling questions while not physically in class
- Looking at other students' devices while answering live questions
- Using more than one iClicker remote or account at a time

Any student found to be in violation of these rules will lose their iClicker points for the entire term and may be reported to the Lakehead University Office of Student Conduct.

Need help with the iClicker student app?

- If you are having trouble with your iClicker access code, check out this [guide to access code errors](#).
- If you are having issues connecting to the iClicker student app, check out these [iClicker Connectivity Tips](#).
- If you are having issues seeing your iClicker points, check out this [troubleshooting guide](#).
- Find answers to other questions and contact the iClicker Tech Support Team by visiting iclicker.com/support at any time.