

# CELL BIOLOGY

## Biology 2230WA

### COURSE OUTLINE WINTER 2018

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#### Instructor

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

#### Office hours

Monday, Tuesday, Thursday 10 – 11am  
My office is in Centennial Building, Room CB4015.

#### Teaching Assistant

Nancy Cummings  
Email: ncumming@lakeheadu.ca

#### Lectures and Tutorial

Monday and Wednesday: 5:30 – 7pm, ATAC 2001  
Wednesday: 3:30 – 4:30pm, ATAC 2001

#### Textbook, Required Materials and Resources

**Textbook:** Becker's World of the Cell with Mastering Biology, 9e, by J. Hardin and G. Bertoni (Hardcopy or eBook, available in bookstore)

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

**Mastering Biology is strongly recommended as it will be used for on-line review assignments and quizzes.**

#### **i>Clicker2:**

i>Clicker2 is available in the bookstore. You may be able to buy a used i>clicker from another student. **We will register i>Clickers in class. There is no need to sign up for i>Clicker on-line.**

## 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 3<sup>rd</sup> and 4<sup>th</sup> 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 information needed to expand knowledge on a specific topic in cell biology.
- Communicate effectively in writing.

Please refer to the lecture schedule 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, slides discussed during class, assignments, links to selected web-sites, etc..

To log into your course website:

1. Go to <http://mycourselink.lakeheadu.ca>
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 the Office of Continuing Education and Distributed Learning at 346-7730 or email [cedl@lakeheadu.ca](mailto:cedl@lakeheadu.ca)

## MASTERING BIOLOGY

**Mastering Biology is strongly recommended**, but optional.

If you opt out of Mastering, the percentage of the grade associated with Mastering will be allocated to the three mid-term tests.

To participate with Mastering, you need to register at: [www.masteringbiology.com](http://www.masteringbiology.com)

Use the **Course Code: BIOL2230W2018**

You are required to declare whether or not you will take the course with or without Mastering, see D2L for more information.

## Performance Evaluation

Activity	Weight	
	With Mastering	No Mastering
Class participation (i>Clicker)	5%	5%
Mastering Biology Reviews	10%	0%
Mastering Biology Quizzes	10%	0%
Assignment 1	5%	5%
Assignment 2	10%	10%
Mid-term tests	30% (10% each)	50% (16.66% each)
Final exam	30%	30%
Total	100%	100%

**i>Clicker** will be used regularly to encourage everyone's participation in the class. It is designed to generate student discussions, support your learning of course materials, and help me gauge how well the class understands the lecture material.

**Mastering Biology** is an online tutoring system that will guide you through the solution of multi-step items with on-demand hints and feedback for wrong answers. It includes many types of questions, including multiple-choice, fill-in-the-blank, sorting and calculations.

You will work through items, moving incrementally toward an understanding of each problem and this improves your learning of concepts and problem-solving skills. You can use your book while working on these assignments. I will review class performance on Mastering Biology and adjust lectures to include material that is challenging for many students in the class.

I have designed *Mastering Biology Review Assignments* to encourage you to read the assigned textbook chapters and have an opportunity to check how well you understand the material. Review assignments allow you to practice, which means you have unlimited time to work through the assignment, have up to six attempts on each question, and correct answers will be available to you after the due date. Also after the due date, the assignments will be open for further practice (but scores will not count).

*Mastering Biology Quizzes* are intended to help you prepare for tests. The questions are similar to those in the Review Assignments, but you will have only one attempt per question and maximum one hour to complete the quiz. Correct answers will not be shown. After the due date, quizzes will be available for further practice (scores don't count).

The **two assignments** are based on the on-line tutorial "Reading Primary Literature in Biology". Please refer to D2L for more info, including detailed assignment descriptions and expectations.

**Mid-term tests** will be 45 minutes in length and consist mostly of multiple choice, fill-in-the blank, labelling questions. These will be similar to the questions of Mastering Biology. However, there will be at least one "long answer question" on each test. The dates are listed in the lecture schedule.

**The Final Exam** will be 3 hours. It is cumulative using the same format as the Mid-term tests. The date will be set by Enrolment Services.

## Missed Exams, Late Assignments and Extensions

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

- There will be no extensions on any Mastering Biology Assignments and Quizzes.
- I will also not give extensions on assignments 1 and 2. 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 provide supporting documentation.
- 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)

## 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 Dishonesty and Plagiarism

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

### What is Plagiarism?

Plagiarism is taking the ideas or words of others and passing them off as your own. Plagiarism is a type of intellectual theft.

Plagiarism can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement. Plagiarism can have serious consequences, so it is important that students be aware of what it is, and how to avoid it.

It is also plagiarism, to submit an assessment item that has already been submitted for academic credit elsewhere, or to knowingly permit your work to be copied by another student.

There are very serious penalties for plagiarism, ranging from re-submission, reduction of marks (including to zero), failure of the course, and exclusion from the university.

## Schedule for Lectures

Date	Topic	Assignments Due
Jan-08	Intro to the course Chapters 1 – 3: Overview of Cell Biology, Chemistry and Macromolecules	
Jan-10-Tut		
Jan-10		
Jan-15	Chapter 4: Cells and Organelles	
Jan-17-Tut		
Jan-17		<b>Friday, Jan. 19: Last day to add</b>
Jan-22	Chapter 5: Bioenergetics	Jan. 22: Declare with/without Mastering
Jan-24-Tut		
Jan-24		
Jan-29	Chapter 6: Enzymes	
Jan-31-Tut		Jan. 31: Test #1 - Chapters 1 to 5
Jan 31		
Feb-05	Chapter 7: Membranes	Feb. 5: Assignment 1 DUE
Feb-07-Tut		
Feb-7		
Feb-12	Chapter 8: Transport across Membranes	
Feb-14-Tut		
Feb-14		
<b>STUDY WEEK</b>		
Feb-26	Chapter 9: Glycolysis and Fermentation	
Feb-28-Tut		Feb. 28: Test # 2 - Chapters 6 to 8
Feb-28		
Mar-05	Chapter 10: Aerobic Respiration	March 5: Assignment 2 DUE
Mar-07 Tut		
Mar-7		<b>Friday, March 9: Last day to drop</b>
Mar-12	Chapter 11: Photosynthesis	
Mar-14 Tut		
Mar-14		
Mar-19	Chapter 12: Endomembrane System	
Mar-21 Tut		March 21: Test # 3 - Chapters 9 to 11
Mar-21		
Mar-26	Chapters 13 & 14: Cytoskeletal System & Cellular Movement	
Mar-28 Tut		
Mar-28		
<b>Easter Monday – No class</b>		
Apr-02	Chapter 15: Adhesions, Junctions and Extracellular Structures	
Apr-04 Tut		
Apr-04		
Apr-10	Review	

**Note:** Refer to Mastering Biology for due dates of on-line reviews and quizzes.