

Introduction to Cellular and Molecular Biology (Biology 1050FA 2023)

***Biology 1050FA is an in-person course (both lectures and labs) for students on the Thunder Bay Campus only. Students on the Orillia Campus and the Barrie Campus should register for the Biology 1050FAO and 1050FAB, respectively.**

Lecture: Mon & Wed 11:30am – 1:00pm (Room AT1003)
Course instructor: Kam Tin Leung, CB4024
Phone: 343-8010 (Ext. 8265)
E-mail: ktleung@lakeheadu.ca
Office hours: Monday, 2:00 – 3:00 pm (OR appointment)
Lab: Room CB3013 or CB3015 (Labs Start in the 2nd week of the semester)
Lab instructor: Susanne Walford (CB3014A)
Phone: 343-8010 (Ext. 8593)
E-mail: [via MyCourseLink Biology 1050L](#)

This course gives an overview of the chemical & molecular compositions, structures and functions of cells. Specific topics on protein structure and function, cell metabolism (cellular respiration and photosynthesis), DNA and the flow of genetic information, cell division and general aspects of biotechnology will be discussed. In-person labs are a mandatory part of this course. Students will learn the basic laboratory skills in cellular and molecular biology.

Textbook	Biology: How Life Works 4 th Edition. Part 1: From Cells to Organisms. By James Morris et al. 2023. Publisher: Macmillan Learning. Part 1 of the book is available in the LU bookstore. You can choose either the e-book or e-book+loose leaf book.
Lab Manual	Exploring Biology in the Laboratory, 3 rd edition. By M.P. Pendarvis and J.L. Crawley. Publisher: Morton Top Hat (2022). Customized for Lakehead University. The relevant chapters are available in the LU bookstore.
1 st Class	Sept. 6 (Wednesday)
1 st Lab	Sept. 11 (F3 & F4), Sept. 12 (F1, F2, F5)
Lab information	MyCourseLink Biology 1050L F1/F2/F3/F4/F5
Final date to register	Sept. 18 (Monday)
Final date to withdraw	Nov. 3 (Friday)
Last Class	Dec. 4 (Monday)
Assignments: 4 Assignments (8% total)	Due on: Sept. 24, Oct. 22, Nov. 12 and Nov. 26
1st midterm exam (14%)	Sept. 27 (Wednesday)
- Closed book exam 1h 20min (AT1003)	
2 nd midterm exam (14%)	Oct. 30 (Monday)
- Closed book exam 1h 20min (AT1003)	
Final exam (24%)	Date - To be arranged.
- Closed book exam 3h (Room – To be arranged)	
Laboratory section (40%):	See lab syllabus on MyCourseLink Biology 1050L for details.
Course total:	100%

Lecture schedule for Introduction to Cell and Molecular Biology (Biol. 1050)

- The schedule may be subject to change depending on the progress of the course.

Date	Topic
Sept. 6 (Wed)	Foundations of Life
Sept. 11 (Mon) Sept. 13 (Wed)	Molecules of Life Molecules of Life
Sept. 18 (Mon) Sept. 20 (Wed)	Cell structure, Membranes and Homeostasis Cell structure, Membranes and Homeostasis
Sept. 25 (Mon) Sept. 27 (Wed)	DNA and Information Flow (Gene Expression) 1st Mid-term exam
Oct. 2 (Mon) Oct. 4 (Wed)	DNA and Information Flow (Gene Expression) Protein Structure and Function
Oct. 9-13	Study Week
Oct. 16 (Mon) Oct. 18 (Wed)	Protein Structure and Function Metabolism and Cellular Respiration
Oct. 23 (Mon) Oct. 25 (Wed)	Metabolism and Cellular Respiration Metabolism and Cellular Respiration
Oct. 30 (Mon) Nov. 1 (Wed)	2nd Mid-term exam Metabolism and Cellular Respiration
Nov. 6 (Mon) Nov. 8 (Wed)	Photosynthesis Photosynthesis
Nov. 13 (Mon) Nov. 15 (Wed)	DNA Replication DNA Replication
Nov. 20 (Mon) Nov. 22 (Wed)	Genetic Mutation Cell Division (Mitosis and Meiosis)
Nov. 27 (Mon) Nov. 29 (Wed)	Cell Division (Mitosis and Meiosis) Biotechnology
Dec. 4 (Mon)	Biotechnology

Missing Exams and Late Assignments

As this is a very large class, there is limited capacity to accommodate missed exams and assignment extensions.

- I will also not give extensions for the assignments. I will accept late assignments, but for each day after the due date, 10% will be deducted from the assignment grade.
- If you **miss a mid-term exam**, you may only write a make-up test if you **inform me before the exam** and **provide acceptable supporting documentation within 48h of the missed exam**. If required, there will be one date for a make-up exam.
- 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).

Please don't hesitate to contact me (in person or by email) if you have any questions.

Health and Mental Health

If you or anyone you know experience 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. Please don't hesitate to contact me if you have any difficulties related to the course.

Accommodation to 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.

Any use of GenAI systems to produce assignments for this course is not permitted. All work submitted for evaluation in this course must be the student's original work. The submission of any work containing AI generated content will be considered a violation of academic integrity ("Use of Unauthorized Materials").

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.