

Instructor: Jessica Allingham (jallingh@lakeheadu.ca)

Office: FB 2017

Office Hours: M 10:00 am, T 2:00 pm, Th 1:00 pm; if these times do not work for you email to set an appointment. Meetings can be held virtually or in person.

Lectures: T, Th 8:30-10:00 am (RB2047)

Labs: M 11:30-2:30, W 11:30-2:30, W 2:30-5:30, Th 2:30-5:30 (CB 2050) and virtual lab

Lab Coordinator: Christina Richard (CB 2028A, crichar3@lakeheadu.ca)

Lab Safety: All students must take WHMIS and adhere to Department's safety rules and LU's academic integrity rules. Students must take the WHMIS, Lab Safety and Academic Integrity questionnaires through D2L. There are 3 modules on the same Chemistry Safety course. These modules must be **completed before October 4th, 2021**.

Course Materials: The course materials will be uploaded to D2L prior to discussion in lecture.

Textbook: Biochemistry, 9th edition by Berg/Stryer/Tymoczko/Gatto, W.H. Freeman and Company, New York, 2019. ISBN-10: 1-319-03681-3; ISBN-13: 978-1-319-03681-2. Both digital and hard copies of the textbook are available at the Bookstore.

Mark Distribution:

- Midterm 1: 15%
- Midterm 2: 15%
- Final Exam: 20%
- Lab Reports: 25%
- Quizzes: 15% (4 x 3.75%)
- Assignment: 10%

Exams: All exams will be conducted online to accommodate the hybrid (online and in-person) model of this course. All learners will be given the same exam in the same fashion to ensure equality and impartiality for students taking the course in different ways. Therefore, if you are taking the course in-person, you are not required to be physically present at the University on midterm and exam dates. I will be available during the exam times via zoom or email to answer any questions learners may have. The midterm exams are not cumulative. The final exam will contain material from the entire year; however, it will more heavily focus on themes presented during the last four lectures.

Missed Exams: Any exam missed for compassionate or medical reasons must be justified with proper documentation. Missed exams will be replaced with another form of examination.

Due Dates: Grading activities carry due dates posted on the Course Schedule (below) and on D2L. It is your responsibility to meet these deadlines.

Late Assignments: Late assignments will automatically receive a mark of 0. Extension of a deadline may be considered at the instructor's discretion if requested prior to the deadline.

Academic Integrity: A breach in academic integrity is a serious offence. The principle of Academic Integrity, particularly of doing one's own work, documenting properly, appropriate referencing, collaborating appropriately and avoiding misrepresentation, is a core principle in university study. You 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.

Accommodations: Lakehead University is committed to achieving full accessibility for persons with disabilities. If you require academic accommodations, please contact [Student Accessibility Services \(SAS\)](#) and register as early as possible. For more information go to: <http://studentaccessibility.lakeheadu.ca>.

Student Support:

Your health and wellbeing are important to your success here at Lakehead University. If you require any help in maintaining your physical or mental health, please reach out to [Student Health Services](#) at 807-343-8361 or email health@lakeheadu.ca. For more information visit: <https://www.lakeheadu.ca/students/wellness-recreation/student-health-and-wellness/health-services/thunder-bay>.

There are many other resources available to support students. These include, but are not limited to:

- [Student Success Center](#)
- [Library](#)
- [Lakehead International](#)
- [Indigenous Initiatives](#)

Tentative Schedule of Classes

Week	Date	Tuesday	Date	Thursday	Labs	What is Due?
1	09/07/21	Chapter 1 – housekeeping, intro to biochem.	09/09/21	Chapter 4 – nucleic acids	Labs start on week 2.	
2	09/14/21	Chapter 4 – DNA replication, transcription and translation.	09/16/21	Chapter 5: Genomes and Genome Sequencing.	Lab 1: Introduction to pipetting	Quiz 1
3	09/21/21	Chapter 2: Protein Composition and Structure.	09/23/21	Chapter 3: Proteins (assays and purification)	Lab 2: Intro to DNA methodology	Lab 1 Due
4	09/28/21	Chapter 3: Proteins (physical characterization)	09/30/21	Chapter 3: Uses of pure protein and protein detection methods.	Lab 3 Week 1: Purification of chicken egg white	Complete Lab Safety on D2L Quiz 2
5	10/05/21	REVIEW	10/07/21	MIDTERM 1	Lab 3 Week 2: Purification of chicken egg white	Lab 2 Due
6	10/12/21	STUDY BREAK	10/14/21	STUDY BREAK	STUDY BREAK	
7	10/19/21	Chapter 6: Analysis and comparisons of nucleotide and amino acid sequences.	10/21/21	Chapter 15: Introduction to Metabolism	Lab 3 Week 3: Purification of chicken egg white	Lab 3: Preliminary Data #1 Due
8	10/26/21	Chapter 11: Carbohydrates and glycoproteins.	10/28/21	Chapter 12: Lipids	Lab 3 Week 4: Purification of chicken egg white	Lab 3: Preliminary Data #2 Due
9	11/02/21	Chapter 12: Cell membranes	11/04/21	Chapter 12: Membrane Proteins	Lab 4: Comparison of Carbohydrate concentration in beverages.	DROP DATE: 11/05 Quiz 3
10	11/09/21	Chapter 13: Transport across membranes.	11/11/21	Chapter 16: Glycolysis and Gluconeogenesis.	Lab 5: Lipids – Biological properties of lipids and membranes	Lab 3 Due (Formal Lab Report)
11	11/16/21	MIDTERM 2	11/18/21	Chapter 17: TCA Cycle		Lab 4 Due
12	11/23/21	Chapter 18: Oxidative Phosphorylation	11/25/21	Chapter 26: Biosynthesis of nucleotides and phospholipids.		Lab 5 Due Quiz 4
13	11/30/21	Chapter 26: Biosynthesis of cholesterol and steroids.	12/02/21	REVIEW		Assignment
14	12/07/21	STUDY BREAK	12/09/21	EXAM PERIOD		
15	12/14/21	EXAM PERIOD	12/16/21	EXAM PERIOD		