

Course Outline

Instructor	Dr. Wely Floriano Office: CB4029; Phone: 766-7215; Email wely.floriano@lakeheadu.ca
Office Hours	MW 1:30pm-4:30pm; T and Thu 9am-11am; by appointment
Prerequisite	Organic II
Lectures	MW 11:30am-1:00pm Location: RB-2047
Labs	M W 02:30PM-05:30PM, F 11:30AM-02:30PM Location: CB2050 / 2051
Lab Coordinator	Christina Richard (CB 2028A, 343-8765, 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. They are 3 modules on the same Chemistry Safety course. After taking the WHMIS quiz student must upload certificate to D2L.

Course Materials

- Syllabus, lecture notes, and other course materials are posted on Desire2Learn (D2L).
- Lecture notes will be posted on Desire2Learn in advance. They are intended as guides. The corresponding chapters in the textbooks must be studied for exams.
- Lecture topics are subject to change and schedules are approximate.
- Lab Manual: The lab manual is available for free download on Desire2Learn (D2L). Lab starts on the second week. For a complete description of the labs and the dates when laboratory reports are due, please see your laboratory manual. Word document templates and other guiding materials for the preparation of your lab reports are also available on D2L.

Textbook

- *Biochemistry*, 8th edition by Berg /Stryer/Tymoczko/Gatto, W.H. Freeman and Company, New York, 2015. ISBN-10: 1-319-03681-3; ISBN-13: 978-1-319-03681-2

Mark Distribution

- Course participation 9% (including quizzes)
- Midterm Exams 22% + 22%
- Final Exam 22%
- Lab Reports 25%

Exams

- Midterm exams include everything up to the lecture prior to the exam, unless otherwise noted.
- A mark of **at least 50% is required on each midterm**.
- Final exam is comprehensive. Instructor will provide a list of excluded lectures after the second midterm.
- No phones, tablets, or other gadgets are allowed at the desk or with the student during the exams.
- Backpacks, bags, folders and other containers should be placed at the front of the classroom.
- Leave at least one seat empty between you and the next student.
- If you absolutely have to go to bathroom in the middle of the exam, leave all your belongings in the classroom.
- If you miss an exam for medical or compassionate reasons, you will be asked to present appropriate documentation in order to schedule a make-up exam. Make-up exams may be scheduled **during or immediately after the finals week**.
- Please check the tentative schedule of class for exam dates. **Inform the instructor as soon as possible of any conflicts.**

Quizzes

- Online. Opens Thursday at 4pm and closes Monday at 4pm. See tentative schedule.

Accommodations Lakehead University is committed to achieving full accessibility for persons with disabilities. 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>.

Tentative schedule of classes

Date	Mon	Date	Wed	Week	
9/2		9/4	Review of biochemical concepts, macromolecule classes, amino acids (chp 1)	1	Labs start on week 2 LR = full lab report LQ&A = lab Q&A report
9/9	Nucleic acids (chp 4)	9/11	DNA replication, transcription and translation (chp 4)	2 Quiz 1	Lab 1: Introduction to automatic pipettors and proper pipetting technique.
9/16 Final date to register 9/16	Genomes and Genome sequencing (chp 5)	9/18	Protein composition and structure (chp 2)	3 LQ&A 1	Lab 2: Lipids – Biological properties of lipids and membranes.
9/23	Proteins: assay and purification (chp 3)	9/24	Proteins: physical characterization (chp 3)	4 LQ&A 2	Lab 3: Introduction to recombinant DNA methodology.
9/30	Uses of pure protein and Protein detection methods (chp 3)	10/2	Analysis and comparison of nucleotide and amino acid sequences (chp 6)	5 Quiz 2	Lab 4: Purification of chicken egg white lysozyme: Ion-exchange chromatography and lysozyme quantification
10/7	EXAM I	10/9	Introduction to metabolism (chp 15)	6 LQ&A 3	Lab 4: Purification of chicken egg white lysozyme: Protein content determination by the Bradford method
10/14	FALL STUDY BREAK	10/16	FALL STUDY BREAK	7	FALL STUDY BREAK
10/21	Carbohydrates and glycoproteins (chp 11)	10/23	Lipids (chp 12)	8 LQ&A 4A	Lab 4: Purification of chicken egg white lysozyme: SDS-PAGE gel preparation
10/28	Cell membranes (chp 12)	10/30	Membrane proteins	9 LQ&A 4B	Lab 4: Purification of chicken egg white lysozyme: SDS-PAGE of chicken egg white and purified lysozyme
11/4	Transport across membranes (chp 13)	11/6 DROP DATE 11/8	Glycolysis and Gluconeogenesis (chp 16)	10 Quiz 3	Lab 5: Comparison of carbohydrate content in beverages
11/11	TCA cycle (chp 17)	11/13	Oxidative phosphorylation (chp 18)	11 LR4	
11/18	EXAM II	11/20	Pentose phosphate pathway (chp 20)	12 LQ&A 5	
11/25	Biosynthesis of phospholipds and TAGs (chp 22, 26)	11/27	Biosynthesis of cholesterol Transport of cholesterol and TAGs (chp 26)	13 Quiz 4	
12/2	REVIEW FOR FINAL EXAM	12/4	Fall Term Study Period	14	EXAMINATIONS PERIOD
12/9	EXAMINATIONS PERIOD	12/11	EXAMINATIONS PERIOD	15	EXAMINATIONS PERIOD