

**BIOCHEMISTRY 299**  
**Biochemistry for Non-Majors**  
**Course Outline: Spring 2014**

**Place:** MacLaurin Building Room, A144 (MAC A144)  
**Time:** Tuesday, Wednesday, Friday: 9:30 am-10:20 am

**Textbook:** Biochemistry A Short Course by Tymoczko, Berg, and Stryer (second edition)  
Biochemistry Student Companion Deis, Gerber, Gumpport, and Koeppel

**Web site:** UVic Moodle

**Instructors:**

**Dr. C. Nelson** (course coordinator)

Office: Petch 270b

Office hours\*: W 1:30-3:30 pm (or by appointment)

email: [cjn@uvic.ca](mailto:cjn@uvic.ca)

**Dr. C. Helbing**

Office: Petch 249

Office hours\*: TBA (or by appointment)

email: [chelbing@uvic.ca](mailto:chelbing@uvic.ca)

\* No office hours or appointments will be offered the day before an exam.

**Course Description:** BIOC 299 introduces students to the various areas encompassed by the discipline. BIOC 299 requires a familiarization with organic chemistry and students should review functional group chemistry of organic molecules at the beginning of the course. Students must complete 2<sup>nd</sup> year organic chemistry before taking BIOC 299. Students should also review basic cell biology in preparation for this course.

**iClickers:** iClickers will be used in each class. While scores to iClicker questions are not collected for marks, iClicker participation is worth 5% of your final grade. Details of iClicker use and grading will be provided in class.

**Exams and Marking Policy:** There will be four non-cumulative multiple choice tests (see below). Each test will take place out of class time, and the times and location of the test will be posted on Moodle in the first week of class. The first test (on January 29) will cover lecture material discussed from January 7 to 21 inclusive. The second test (on February 21) will cover material from January 22 to February 7, and the third test (on March 11) will cover material from February 18 to March 5. The fourth test will cover material from March 11 to April 4 and will be written during the final exam period.

A separate 5-question concept quiz will accompany the final exam; it represents the final 5% of the course grade.

Mark breakdown:

Test 1 [Jan 29]	20
Test 2 [Feb 21]	20
Test 3 [Mar 11]	20
Test 4 [TBD]	30
iClickers	5
Concept Quiz	5
<b>TOTAL</b>	<b>100</b>

**Lecture Content:** Each lecture will conform approximately to the organization used in the text with modifications indicated in the course outline. Additional material and examples may be added by the lecturer and will be posted on Moodle. The lecture schedule given below is a close approximation of what will be followed. Readings from the text for each lecture have been assigned and must be read *prior to* the lecture. Students are responsible for the lecture material and reading assignments for the class tests and final examination.

Week	Instructor	Date	Topic	Text
1	Nelson	Jan. 7	Introduction to biomolecules	Ch.1
1	Nelson	8	Aqueous environment and pH	Ch.2
1	Nelson	10	Amino acids	Ch.3
2	Nelson	14	Protein structure	Ch.4
2	Nelson	15	Enzyme action	Ch.6
2	Nelson	17	Enzyme kinetics and regulation	Ch.7
3	Nelson	21	(continued)	
3	Nelson	22	Enzyme mechanisms	Ch.8
3	Nelson	24	(continued)	
4	Nelson	28	Lipids	Ch.11
4	Nelson	29	<b>Test I (20%)</b>	
4	Nelson	31	Biological membranes	Ch.12
5	Nelson	Feb. 4	Signal transduction pathways	Ch.27
5	Nelson	5	(continued)	
5	Nelson	7	Metabolism overview and Bioenergetics	Ch.14/15
		Feb10-14	<b>Reading Break</b>	
6	Nelson	18	Carbohydrates	Ch.10
6	Nelson	19	Glycolysis/Gluconeogenesis	Ch.16/17
6	Nelson	21	<b>Test II (20%)</b>	
7	Helbing	25	Citric acid cycle	Ch.18
7	Helbing	26	(continued)	Ch.19
7	Helbing	28	Oxidative phosphorylation	Ch.20
8	Helbing	Mar. 4	(continued)	Ch.21
8	Helbing	5	Nucleotides and nucleic acids	Ch.33
8	Helbing	7	DNA packaging and genome organization	
9	Helbing	11	<b>Test III (20%)</b>	
9	Helbing	12	DNA replication	Ch.34/41
9	Helbing	14	(continued)	
10	Helbing	18	DNA repair	Ch.35
10	Helbing	19	(continued)	
10	Helbing	21	Transcription in prokaryotes	Ch.36
11	Helbing	25	Transcription in eukaryotes	Ch.37
11	Helbing	26	(continued)	
11	Helbing	28	RNA processing in eukaryotes	Ch.38
12	Helbing	Apr. 1	The genetic code	Ch.39
12	Helbing	2	Protein synthesis	Ch.40
12	Helbing	4	(continued)	
		TBA	<b>Test IV (30%)</b>	

**Conversion of Marks to Final Letter Grades:** Total marks from the midterms and final exam will be calculated, weighted and converted to a percentage and then to a letter grade as follows:

Grades	Grade Point Value	Percentage	Description
A+ A A-	9 8 7	90 – 100 85 – 89 80 – 84	<b>Exceptional, outstanding and excellent</b> performance. Normally achieved by a minority of students. These grades indicate a student who is self-initiating, exceeds expectation and has an insightful grasp of the subject matter.
B+ B B-	6 5 4	77 – 79 73 – 76 70 – 72	<b>Very good, good and solid</b> performance. Normally achieved by the largest number of students. These grades indicate a good grasp of the subject matter or excellent grasp in one area balanced with satisfactory grasp in the other area.
C+ C	3 2	65 – 69 60 – 64	<b>Satisfactory, or minimally satisfactory.</b> These grades indicate a satisfactory performance and knowledge of the subject matter.
D	1	50 – 59	<b>Marginal</b> Performance. A student receiving this grade demonstrated a superficial grasp of the subject matter.
F	0	0-49	<b>Unsatisfactory</b> performance. Wrote final examination and completed course requirements; no supplemental.
N	0	0-49	Did not write examination or complete course requirements by the end of term or session; no supplemental. Failure to complete one or more components of student evaluation will result in a grade of “N” regardless of the cumulative percentage on other elements of the course. An N is a failing grade, and it factors into a student’s GPA as O. The maximum percentage that can accompany an N on a student’s transcript is 49

## **DEPARTMENT INFORMATION AND POLICIES**

1. The Department of Biochemistry and Microbiology upholds and enforces the University's policies on academic integrity. These policies are described in the current University Calendar. All students are advised to read this section.
2. Cell phones, computers, and other electronic devices must be turned off at all times unless being used for a purpose relevant to the class. Students having a cell phone, tablet, or computer on their person during an exam will be assumed to have it for the purpose of cheating.
3. Any recordings of lectures may only be performed with written permission of the instructor, and are for personal use only. The instructor retains copyright to such recordings and all lecture materials provided for the class (electronic and otherwise); these materials must not be shared or reposted on the Internet.
4. Students are expected to be present for the midterm and final exams. Instructors may grant deferrals for midterm examinations for illness, accident, or family affliction, and students must provide appropriate documentation 48 hours after the midterm exam. The Department of Biochemistry and Microbiology considers it a breach of academic integrity for a student taking a deferred examination to discuss the exam with classmates. Similarly, students who reveal the contents of an examination to students taking a deferred examination are considered to be in violation of the University of Victoria policy on academic integrity (see current University Calendar). Deferral of a final exam must be requested with an Academic Concession form and submitted directly to Undergraduate Records. Deferred final exams for fall term courses will be arranged by the instructor. Deferred final exams for spring term courses will be arranged through Undergraduate Records and must be written before the end of the summer term as stipulated in the University Calendar.
5. Scan sheets for multiple choice exams (bubble sheets) will not be made available for review. Therefore, in addition to filling in answers on the scan sheet, students should also circle their answers in ink on their exam.
6. Professors may refuse to review/remark exams not written in ink. In addition, requests for review/remark of a midterm exam must be made within one week of the exam being returned. Students are expected to promptly pick up midterm exams after marking has been completed, either in class or from the instructor.
7. Examination papers that have pages removed, or are mutilated will not be marked.