

BIOCHEMISTRY 300A
COURSE OUTLINE Term 2023 Fall

Instructors:

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Territorial acknowledgement - We acknowledge and respect the lək Ɂʷəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and WɁSÁNEĆ peoples whose historical relationships with the land continue to this day

Inclusivity statement - We consider our classroom and office hours to be a place where you will be treated with respect, and we welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability- and other visible and non-visible differences. All members of this class are expected to a respectful, welcoming and inclusive environment for every other member of the class. We will gladly honour your request to address you by an alternate name or gender pronoun. Please advise us of this early in the semester, if applicable to you, so that we may make appropriate changes to our records.

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, approach the Centre for Accessible Learning (CAL) as soon as possible (<https://www.uvic.ca/services/cal/>.) in order to assess your specific needs.

Lecture Place and Time: ECS123 In person, TWF 11:30 am – 12:20 pm

Learning Outcomes: BIOC 300A is an introductory course covering the basic structural and functional characteristics of proteins, carbohydrates and lipids. By studying how the building blocks of these biological macromolecules are assembled into large polymers, students will gain an in-depth understanding of how structure relates to function in the biological world. Students will expected to apply their knowledge of the structure-function relationship to investigate various biological processes including how enzymes function and the corresponding mechanisms of inhibition.

Textbook: Biochemistry by Berg, Tymoczko, Gatto Jr. and Stryer, 9th edition

Office hours DB: online via Zoom (link on Brightspace) on Mondays from 10:30am – 12:00pm and on Thursdays from 2pm – 3:30pm. Outside of these times I can be reached via email.

Office hours JEB: in person 30 minutes following lecture, Monday 1-2 via Zoom

Student assessments, apart from the final exam, will be on Brightspace. Students will have the indicated duration to write the assessment once begun on Brightspace.

Textbook: Biochemistry by Berg, Tymoczko, Gatto, and Stryer, 9th edition

Lecture Content: Each lecture will conform approximately to the organization used in the text. Additional material and examples may be added by the lecturer and will be posted on Brightspace. Readings from the text for each lecture have been assigned and should be read prior to the lecture. Information designed to guide students with the readings is available on Brightspace.

Sept 6th	Introduction to Biochemistry 300A Bonds and buffers, Chapter 1 Protein composition and structure, Chapter 2 Protein characterization, Chapter 3
Sept 22th	Midterm assignment 1 over Brightspace (20%) Exploring Evolution and bioinformatics Chapter 6 Hemoglobin - a model protein, Chapter 7 Enzymes - basic concepts and kinetics, Chapter 8
Oct 13th	Midterm assignment 2 over Brightspace (20%) Drug development, Chapter 28 Enzyme catalytic strategies, Chapter 9 Enzyme regulatory strategies, Chapter 10 Carbohydrates, Chapter 11
Nov 7th	Midterm assignment 3 over Brightspace (20%) Lipids and cell membranes, Chapter 12 Membrane channels and pumps, Chapter 13
Nov 24th	Midterm assignment 4 over Brightspace (20%)

Assessments and Grading Scheme:

Midterms (60%) (the sum of your 3 best midterms will equal your midterm mark)

- Sept 22nd** – **Midterm 1 (20%)**- Exam to be written online on Brightspace. Students may use the textbook and notes.
- Oct 13th** – **Midterm 2 (20%)**- Exam to be written online on Brightspace. Students may use the textbook and notes.
- Nov 7th** – **Midterm 3 (20%)**- Exam to be written in class at the standard time, but will be carried out online on Brightspace. Students may use the textbook and notes.
- Nov 24th** – **Midterm 4 (20%)**- Exam to be written online on Brightspace. Students may use the textbook and notes.

Final (40%) This is a cumulative exam.

Midterms will be administered through Brightspace, please inform the instructor if you need to arrange for a loaner laptop to be provided during the exam. You will have 24 hrs from when the exam is available with exams opening and closing at 7am. **There are no deferrals.** Students are not allowed to work in groups or use materials external to the course including internet resources. Students doing so will be in breach of the university's academic integrity policy. Your midterm grade will be the sum of your three best marks. If you only write two midterms, the third midterm grade will be scored as zero. Here is a sample calculation:

Midterm 1 grade = 70%
Midterm 2 (did not write) = 0%
Midterm 3 grade = 60%
Midterm 4 (did not write) = 0%

Overall midterm grade average = $(70\% + 0 + 60\%)/3 = 43.3\%$

Techniques to be used in assessing performance in the course:

Grading of multiple choice, short answer and longer form exam questions.

UVic Grading Scheme

A⁺	90 - 100	B⁺	77 - 79	C⁺	65 - 69	F	< 50
A	85 - 89	B	73 - 76	C	60 - 64	N **	< 50
A⁻	80 - 84	B⁻	70 - 72	D	50 - 59		

**** N grades**

Students who have completed the following elements will be considered to have completed the course and will be assigned a final grade:

- *students must complete at least two midterms and the final exam*

Failure to complete one or more of these elements 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 0. 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 during live class sessions unless being used for the purpose of connecting and engaging with the class.
3. No recordings of live lectures are permitted without permission of the instructor. However, many courses will be recorded by the instructor for accessibility for students unable to attend. If you do not wish to be recorded, contact your instructor to determine if alternative arrangements can be made. Attendance and engagement in the classroom are integral parts of the learning process and cannot be substituted with recordings. It is at the instructor’s sole discretion whether they provide a recording or give permission to students to record a lecture. There is no obligation to do so nor is there any expectations about the quality of the recordings. Nor should students assume a lecture will be recorded as instructors may withdraw access to recordings or permission to record. It is the responsibility of students who miss lectures to catch up on the material through extra readings, and obtaining notes from fellow students. Students who miss several lectures due to illness should contact their instructors to discuss options.

4. Students and instructors are expected to assess their health daily and avoid campus if they are ill.
5. Course materials, such as notes, problem sheets, quizzes, examinations, example sheets, or review sheets, may not be redistributed without the explicit written permission of the instructor.
6. Students are expected to be available for all exams.
7. 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 an examination are considered to be in violation of the University of Victoria policy on academic integrity (see current University Calendar). Students must abide by UVic academic regulations and observe standards of scholarly integrity (no plagiarism or cheating). Online exams must be taken individually and not with a friend, classmate, or group, nor can you access notes, course materials, the internet, or other resources without the permission of the instructor. You are prohibited from sharing any information about the exam with others. Use of unauthorized electronic devices and accessing the internet and class material during exams is prohibited unless permission is granted by the instructor. Instructors may use Browser Lockdown Software to block access during classes and exams.
8. **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 or 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.
9. Requests for review/remark of a midterm exam must be made within one week of the exam being returned.
10. The instructor reserves the right to use plagiarism detection software or other platforms to assess the integrity of student work.
11. Supplemental exams or assignments will not be offered to students wishing to upgrade their final mark.
12. Anonymous participation in online classes is not permitted without permission of the instructor.

Important note about COVID-related stress

The current pandemic is placing added stressors- financial, mental, and physical- on everyone. Your wellbeing is of foremost importance. If you are experiencing difficulties coping, the University has resources to help. Please reach out to Counselling Services, the Centre for Academic Communication, or Learning Assistance Program for assistance.

Centre for Accessible Learning

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<https://www.uvic.ca/services/cal/index.php>

Course Experience Survey (CES)

We value your feedback on this course. Towards the end of term you will have the opportunity to complete a confidential course experience survey (CES) regarding your learning experience. The survey is vital to providing feedback to us regarding the course and our teaching, as well as to help the department improve the overall program for students in the future. When it is time for you to complete the survey, you will receive an email inviting you to do so. If you do not receive an email invitation, you can go directly to your [CES dashboard](#). You will need to use your UVic NetLink ID to access the survey, which can be done on your laptop, tablet or mobile device. We will remind you nearer the time but please be thinking about this important activity.