

BIOC102: BIOCHEMISTRY AND HUMAN HEALTH
COURSE OUTLINE SPRING 2020

INSTRUCTOR

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LOCATION

Engineering Computer Science 123
Tues, Wed, Fri: 8:30-9:20

OFFICE HOURS

TBA

COURSE OBJECTIVES

This course will introduce students to the basic components and processes underlying human life. We will discuss how diseases arise when these processes are disturbed, and how drugs work to combat disease. Additionally, students will be introduced to scientific method, experimental design and critical examination of scientific results. By the end of the course, students will have sufficient knowledge to understand and analyze health science publications from the mainstream media

TEXTBOOK:

Since the course material is compiled from diverse sources, including current stories in the news, there is no course textbook. Links to select source material (papers) will be provided on-line in the CourseSpaces site, and will serve as an additional resource. You will need your UVic NetLink ID and password to access this information.

LECTURE NOTES:

Notes will generally be made available on the CourseSpaces site prior to lectures. Notes are arranged by topic, and a single topic may span multiple lectures. **Lecture notes are not complete**, and students will be responsible for all materials covered in the lectures.

i>CLICKERS

i>clickers will be used during lectures, starting the second week of class. Students are expected to have a registered i>clicker with them at every lecture. I>clickers are an electronic polling system that uses clickers, or “remotes”. Students submit responses to multiple-choice questions, and a base station captures the responses. Students can acquire i>clickers from the UVic Bookstore. i>clickers can be activated and updated through the student services section in My page.

More information can be found at this link:

<https://www.uvic.ca/systems/services/learningteaching/iclicker/index.php>

COURSE CONTENT

<u>Topic</u>	<u>Description</u>
1. Introduction	What is biochemistry?
2. Biomolecules	Overview of the major building blocks within cells, their interactions via chemical bonds, and the influence of water.
3. Scientific Method	How scientists approach a problem, and some of the common mistakes made in scientific research.
4. Metabolism	How humans break down molecules to acquire energy and build new molecules; introduction to diseases associated with metabolism.
5. Microbiology and Pathogenesis	Overview of types of micro-organisms and select examples of their roles in health and disease.
6. Cell Biology	Important features and behaviours of cells; stem cells and therapeutic applications.
7. Gene Regulation	Introduction to gene expression and its regulation, including epigenetics; genetic mutations underlying select diseases; genome editing.
8. Cancer Biology	Overview of cellular defects leading to cancer and current treatments.
9. Immunology and disease	Introduction to major players of the immune system; select associated disorders; vaccines and immunotherapy

ASSESSMENT OF STUDENT PERFORMANCE

(1) Techniques to be used:

Grading of group projects, i>clicker participation, multiple choice and short answer questions on exams based on material presented in the course, and assignment of a numerical mark to each question. Exams are based on material covered in lectures (slides, board, discussions) and information posted on CourseSpaces.

(2) Evaluation and weighting:

• Midterm 1	(Jan.29)	25%
• Midterm 2	(March 4)	25%
• Group Projects (x 2)	(TBA)	10% (5% each)
• i>clicker participation		4%*
• Final exam	(Set by Registrar)	36%

**i>clicker score: based on % of questions answered in class:*

-4%:	≥80%
-3%:	70-79%
-2%:	60-69%
-1%:	50-59%
-0%:	<50%

No deferrals granted for missing group projects or class for iClicker participation

(3) 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:

- Midterm 1, Midterm 2, Final Exam, and at least one group project

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.

•Students are responsible for ensuring that they are properly registered in the course.

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. 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.
5. 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.
6. Multiple choice scan sheets for machine scoring (bubble sheets) are considered the authentic exam answer paper and will be retained by the department for 1 year.
7. Professors may refuse to review/remark exams not written in indelible 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.
8. Examination papers that have pages removed, or are mutilated will not be marked.
9. The instructor reserves the right to use plagiarism detection software or other platforms to assess the integrity of student work.
10. Supplemental exams or assignments will not be offered to students wishing to upgrade their final mark.

Centre for Accessible Learning

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 in order to assess your specific needs.

<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 me regarding the course and my 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. I will remind you nearer the time but please be thinking about this important activity.