

BIOLOGY 150B – Modern Biology

Spring 2024

Department of Biology, University of Victoria

A. Basic Course Information

Course Description

An introduction to biological science, emphasizing cellular and physiological processes. Topics include molecules of life, cell biology, bioenergetics, plant physiology and animal physiology.

Meetings

- A01 (CRN 20287) – Tuesday, Wednesday and Friday, 9:30 – 10:20 AM, Engineering and Computer Science 123.
- A02 (CRN 20288) – Tuesday, Wednesday and Friday, 1:30 – 2:20 PM, Bob Wright B150

Instructor

Dr. Greg Beaulieu

Office: 006 Petch

Email: gregoryb@uvic.ca. If you send an email, please put "Biology 150B" in the message line.

Phone: 721-7140

Office hours: Wednesdays, 2:30 – 4:00 PM, or by appointment, or drop by

Prerequisites and exclusions

- Biology 150B has no prereqs. Biology 150A and 150B can be taken in either order.
- Biology 150B cannot be taken by a student who already has credit in Biology 190A, 190B, 184 or 186. Biology 150B cannot be taken concurrently with Biology 186.
- Biology 150B can serve as a prereq for Biology 184 and 186.

Textbook

We will be using an open source text, *Biology, 2/e*, by Clark et al., available from OpenStax. This was the same text that was used in Biology 150A last fall. There is nothing to buy at the bookstore.

The text can be found here: <https://openstax.org/details/books/biology-2e>. It can be downloaded for free and accessed electronically using a laptop, desktop, tablet, or smartphone.

If you want a printed version, you can purchase one through Amazon.ca. The paperback book (2 volumes) cost \$76.43 (CDN) before Christmas. The illustrations are in B&W. The hardcover book cost \$130.38 (CDN) and has colour illustrations. It should take about a week to be delivered.

If you have access to another university-level general biology text that is reasonably recent (published in the last ten years), you are free to use that.

The text is optional in this course, in the sense that I will not test anything that the text mentions but that I do not. However, I strongly recommend you acquire this text (or another text) and read it. It will help you understand the course better than the lectures alone.

Questions and Problems

At the end of each chapter of lecture notes, I will give you some multiple choice back-of-the-chapter questions from the text for you to do. I will also give you some study questions of my own that will require written answers.

These question sets are not assignments for grading; they are only for your own understanding of the course. To make the best use of them, I recommend you attempt them first, then look up the answer. Don't just read the question and then flip right away to the answer.

I will of course be available for any help you might need on these question sets.

Learning Objectives

This course is concerned more with functional biology than Biology 150A was.

By the end of the course, you should have an understanding of the material and energetic bases of life, from the level of molecules and cells all the way to the entire organism, both plant and animal.

Although this is not a lab course, I hope you will also have an understanding of how functional questions are addressed in biology experimentally.

Course Website

Biology 150B has a Brightspace website. There you will find lecture notes, audio recordings of the lectures, notices, marks and links. You should look on the website before each class and bring the lecture notes posted there. The lecture notes I post are skeletal notes only, and you should expand upon them during class with your own notes, questions, comments and clarifications.

Please be aware that the lecture notes are for personal use only and must not be published, distributed, sold or posted anywhere else.

Class Conduct

We ask you to be mindful of where you are, and to treat the people around you with respect and courtesy. Talking in class, texting, and surfing are all irksome to students sitting nearby and to the instructor. Please restrict your activities in class to course-related things. Focusing on the lecture will help you to be successful in this course and in all your other courses.

Make friends

Get to know someone in the class, if you don't already. You can arrange to get expanded notes in case you miss a class, and you can lend that person your notes when needed.

B. Evaluation

Midterms and final exam

Midterm 1 (Saturday, February 10)	25%
Midterm 2 (Friday, March 15)	25% (not cumulative)
Final Exam (April final exam period)	50% (cumulative)

Midterm 1 is part of a pilot project the university has undertaken to revamp how midterm exams are conducted. The university has scheduled us for Saturday, February 10, at 9:00 AM, in the CARSA fieldhouse. It will be a multiple choice exam of approximately 30 questions, and will take 45 minutes. **Please clear this day and time of other responsibilities and activities.**

Midterm 2 will be a more conventional exam. It will be held in class on Friday, March 15, in your regular classroom. It will also be approximately 30 multiple choice questions and will take 45 minutes. It will be non-cumulative – it will not test material that was tested on Midterm 1.

The final exam will be multiple choice, and will have approximately 70 questions. It will test material from the entire course, but the emphasis will be on material covered in class since Midterm 2.

Writing at least one of the midterms and the final exam (either at the regular time or deferred) are course requirements. If you do not meet both these requirements, your course grade will be N.

Policies for Midterms, Final Exam, and Grading

No electronic devices will be permitted during the midterms and final exam.

During the midterms and the final exam, invigilators cannot answer any clarification questions about the exam. However, if you believe a question is bad (no correct answer, more than one equally correct answer), please bring your concerns to the attention of an invigilator as soon as possible after the exam.

If you must miss a midterm for a valid reason (illness, accident, family affliction, or competition as a UVic athlete), you must notify the course coordinator (Dr. Beaulieu, gregoryb@uvic.ca) as soon as possible. The university is not requiring doctor's notes at the present time, if you miss a midterm due to illness. However, I will need to see a note if you miss a midterm for any other reason.

You must write at least one midterm. If you miss both midterms for valid reasons, a deferred midterm writing will be arranged. See next section.

In order to pass this course, you must write the final exam and at least one of the midterms, and your course grade must be 50% or better. You do not have to pass the final exam to pass the course.

Travel plans are not a valid reason for missing a midterm or the final exam. Please do not make plans to leave Victoria in April without being sure that your final exams in all your courses will be over.

This term, the final exam period ends for all faculties on Friday, April 26; the last exam will be in the evening of that day. Your last exam might be on this date, or it might be sooner – you won't know until the final exam schedule is posted in February.

Deferred exams

The final exam can be missed and deferred for the same reasons listed above for missing a midterm (illness, accident, personal or family affliction, participation in an important cultural, community or sporting event).

- If you expect to miss the final exam in April, please notify me as soon as possible, either by phone, email or in person, and tell me the reason. You will not need a note if it is a medical issue, but you will need a note for any other reason.
- To make your deferred status official in the eyes of the university, you must fill out a Request for Academic Concession (RAC) form, available from Undergraduate Admissions and Records in the University Center or online. The link below gives information on types of concessions and accommodations available to UVic students. For a link to the RAC form, scroll down to where it says “Able to complete the coursework . . .” and click on “After the end of term”.
<https://www.uvic.ca/registrar/students/appeals/acad-concession/index.php>
- A writing of the deferred final exam will be offered to you on Friday, May 3, 2024, 10:00 AM – 1:00 PM, in Engineering and Computer Science 116.
- If you cannot make the above May writing, your deferred final exam will be written in the last three days of July, at a time determined by the Exams office. They will notify you of the details.

If you miss both midterms, you will have to write a deferred midterm, because writing at least one midterm is an essential component of the course. It will also be held on Friday, May 3, in Engineering and Computer Science 116.

Grading Policy

In determining your final grade for the course, my spreadsheet will round your course score to the nearest whole percent. That is the official course grade that will be submitted for you.

This is the University's policy on converting percent grades to letter grades:

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

If you score less than 50% on the course, your grade will be an F.

There are two required course components: writing at least one midterm, and writing the final exam. If you have not fulfilled both of these required components by the end of the term, the

grade submitted for you will be an N. This grade will change when you write the deferred midterm or final.

- If you do not write either midterm (at the regular time or deferred), your course grade will be N.
- If you do not write the final exam (at the regular time or deferred), your course grade will be N.

I cannot change your grade, except if you write a deferred exam or if I have made an error in determining your grade. There is no extra work that you can do to raise your grade. *Please do not ask me to raise your grade because you need or want a higher one.*

C. Important Dates

On the UVic website you will find a fuller list of important dates, but the ones listed below are the ones that will matter to students in this course and to students wishing to add the course.

Monday, January 8	First day of classes for the Winter session, second term
Tuesday, January 9	First day of class for Biology 150B
Sunday, January 21	Last day for 100% reduction in fees for standard courses
Wednesday, January 24	Last day for adding courses that begin in the second term
Wednesday, January 31	Last day for paying second term fees without penalty
Saturday, February 10	Midterm 1, held in the CARSA fieldhouse at 9:00-9:45 AM; all multiple choice; 45 minutes; 25% of course grade
Sunday, February 11	Last day for 50% reduction in tuition fees for standard courses
Monday, February 19 – Friday, February 23	Reading Break; no classes
Thursday, February 29	Last day for withdrawing from full year and second term courses without penalty of failure
Friday, March 15	Midterm 2, held during regular class time in your regular room; all multiple choice; 45 minutes; 25% of course grade
Friday, March 29	Good Friday; university closed
Monday, April 1	Easter Monday; university closed
Friday, April 5	Last day of class for Biology 150B
Monday, April 8	Last day of classes for the Winter session, second term
Thursday, April 11	First day of final examinations period
Friday, April 26	Last day of final examinations period

D. Lecture Topics

The text readings for each topic will be given at the beginning of each chapter of lecture notes.

Biomolecules
Cells
Membranes and transport
Bioenergetics and enzymes
Cellular respiration
Photosynthesis
DNA replication and gene expression
Plant structure and growth
How plants work
Introduction to animal physiology
Thermal physiology
Circulation
Composition and function of blood
Defense systems
Nerve cells
Sensory and motor systems

E. Resources and Policies

Club life

UVic has an active student club scene. Check out your choices; you might want to get involved. The friendships you make in class or outside of class will enrich your university experience, and can last long after your UVic career is over.

Diversity

This course welcomes all students, regardless of income level, political and social views, religion, age, nationality, ethnicity, gender and sexual orientation.

Part of the value of a university education comes from interacting with students with different backgrounds, opinions and world views. Curiosity, civility, and respect are the important guiding principles of these interactions.

Special Resources

Take care of yourself. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress.

Counselling Services - *Counselling Services can help you make the most of your university experience. They offer free professional, confidential, inclusive support to currently registered UVic students.* <https://www.uvic.ca/services/counselling/>

Health Services - *University Health Services (UHS) provides a full service primary health clinic for students, and coordinates healthy student and campus initiatives.* <http://www.uvic.ca/services/health/>

Centre for Accessible Learning - *The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.*

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

Public Health Policies

All staff and students are expected to abide by the guidelines provided by the University of Victoria (<https://www.uvic.ca/covid19/>).

Academic Integrity

The University of Victoria and the Department of Biology take academic integrity (including plagiarism) as a serious matter. Please read this:

https://www.uvic.ca/calendar/undergrad/index.php#/policy/Sk_0xsM_V

Official UVic Territory Acknowledgment

“We acknowledge and respect the ləkʷəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and WSÁNEĆ peoples whose historical relationships with the land continue to this day.”