

BIOL 225 A01 (CRN 31188)
Principles of Cell Biology
Summer 2024

Instructors:

Dr. Doug Briant (he/him)

e-mail: dbriant@uvic.ca

Office Hours: hybrid zoom and in person (Petch 182), Monday and Thursday
2:30 – 3:30. Outside of these times I can be reached via email.

Kim Curry

Senior Lab Instructor and Laboratory Coordinator

email: see contact information below (under Laboratory Information)

Territorial Acknowledgement:

We acknowledge and respect the Indigenous peoples on whose traditional territory the university stands and the Songhees, Esquimalt and WSÁNE 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.

Lecture time and location:

Mon., Tues., Thurs., 12:30 – 2:20, Cornett Building B107

Course Delivery: the course will be delivered face-to-face.

Universal Design:

To maximize accessibility, elements of Universal Design will be applied to this course. Both midterm exams are designed to be completed in 60 minutes, but all learners will be given 90 minutes to complete. The final exam is designed to be completed in 70 minutes, but all learners will be given 105 minutes (1 hour, 45 minutes) to complete. All exams will be held in David Strong Building C103. This format will provide a distraction-reduced environment and 1.5x extended time for all learners. You may choose to wear ear plugs or other non-electronic forms of noise reduction. Learners with accommodations that are not met with by this delivery will make exam arrangements with the Centre for Accessible Learning (CAL).

Brightspace site: a Brightspace site will be maintained for this course. Some, but not all, lecture notes will be made available. It contains the following sections:

General Information Including Zoom links: course outline, course timeline, discussion forum, contact information and other course administration material. You will also find the Zoom link for office hours.

Lecture notes: here you will find the pdf notes to use during lectures

Lecture Recordings: audio recordings will be available for most lectures.

Textbook Chapter Problems: practice problems from the textbook publisher.

Practice Quizzes and Exam Information: Practice problems will be available here, as well as other material related to the exams including “cheat sheet” templates.

Required Materials

Textbook: Becker's World of the Cell, Tenth Edition, Hardin and Lodolce. *Pearson*, Boston, 2022.

Topics:

topic	chapters
1 INTRODUCTION - introduction to cell biology	1, 4
2 BIOMOLECULES - cell chemistry and biomolecules	2, 3, 7, 8
3 ORGANELLES - cells and organelles	4,10,11
4 MEMBRANE SYSTEMS	12
5 CELL SIGNALLING	22, 23
6 CYTOSKELETON	13, 14, 15
7 CAN/F4 12 Tf1 0 079[(:)]TJET@.00000912 0 612 122.06 2	

Learning Objectives

Topic 1a Discovery of Cell, a history

LEARNING OBJECTIVES: early experiments surrounding the discovery of cells are introduced. Students will learn about the basic properties of cells.

Topic 1b Basic properties and strategies of cells

LEARNING OBJECTIVES: the issues surrounding visualization of cells, which are generally smaller than the naked eye can observe, will be introduced. Students will be taught about various microscopic techniques and they will be able to apply this knowledge t

Course Schedule

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

- ***the final exam and the laboratory component must be completed to receive***

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

Laboratory Information:

Laboratory Materials: these can be found on the laboratory Brightspace site

Note: Laboratory sessions start Thursday, May 16.

Intended Lab Learning Outcomes

We have carefully selected lab activities for two purposes: 1) to provide a hands-on opportunity for you to grasp cell biology theories through practice, and 2) to provide opportunities to successively expand on your newly obtained laboratory skills.

Following a lab experiment, special lecture, and interactive lab workshop, you will be able to write a scientific report. You will correctly distinguish the components of precise and clear scientific communication through writing.

Upon completion of the lab course, it is expected that you will be proficient at the timely use of several lab techniques and equipment.

Lab techniques – cell culturing, cell plating, enzyme assays, standard curves, protein electrophoresis, fluorescence microscopy sample prep, isolation of cellular components

Lab equipment – such as micropipettes, centrifuges, light and fluorescent microscopes, spectrophotometers, hemocytometers

General Lab Information

Welcome to Cell Biology labs at the University of Victoria. This is the laboratory component of Biology 225 and is a requirement in completing the course. Each of the exercises outlined in the lab are to be completed at weekly intervals (bi-weekly in the summer) and are meant to introduce you to the laboratory protocols and techniques common

COURSE INFORMATION AND POLICIES

1. The Department of Biology 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

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