

# COURSE SYLLABUS



COURSE TITLE: BIOL-126-Physiological Basis of Life

CLASS SECTION: RH05

TERM: 2025W

COURSE CREDITS: 3

DELIVERY METHOD(S): IN-PERSON

## LECTURE INSTRUCTOR DETAILS

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NAME: Jennifer Putland, PhD

EMAIL: [PutlandJ@camosun.ca](mailto:PutlandJ@camosun.ca) Note: email will be monitored/replied to weekdays, 8am-4pm

OFFICE: Fisher Building, Room 248D, Lansdowne Campus

HOURS: Monday 10:15-11:15 am and Thursday 11am-12pm or by appointment (online or in-person).

## LAB INSTRUCTOR DETAILS

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NAME: Brooke Cameron, MSc., BEd.

EMAIL: [cameronb@camosun.ca](mailto:cameronb@camosun.ca) Note: email will be monitored/replied to weekdays, 8am-4pm

OFFICE: Fisher Building, Room 246, Lansdowne Campus

HOURS: Mondays & Tuesdays 3-4:30pm, Thursdays 4-4:30pm or by appointment (online or in-person)

*As your course instructors, we endeavour to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with us. Camosun College is committed to identifying and removing institutional and social barriers that prevent access and impede success.*

## CALENDAR DESCRIPTION

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The structure and functions of macromolecules, storage of information and replication of DNA as well as the role of DNA in protein synthesis and inheritance are described and related to the functions of whole organisms. Transport mechanisms, basic metabolism and hormonal and nervous regulation of function are explored with examples.

## PREREQUISITE(S):

One of:  
C in English 12  
C in Camosun Alternative

Camosun College respectfully acknowledges that our campuses are situated on the territories of the Lək̓ʷəŋən (Songhees and Kosapsum) and WSÁNEĆ peoples. We honour their knowledge and welcome to all students who seek education here.

And one of:

C+ in Anatomy and Physiology 12

C+ in Biology 11

C+ in Camosun Alternative

#### EQUIVALENCIES:

BIOL 226

#### COURSE LEARNING OUTCOMES / OBJECTIVES

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Upon successful completion of this course, a student will be able to:

- Classify and describe the unique structure and function of the four groups of macromolecules and discuss how these relate to their properties within living cells.
- Differentiate among the various transport mechanisms available to mobilize molecules across cell membranes.
- Name and outline the pathways utilized by cellular respiration and photosynthesis and explain the importance of these processes to living organisms.
- Describe the basic steps of DNA replication and indicate its role in cell division and inheritance.
- Demonstrate knowledge of the basic steps of protein synthesis, identifying the roles of DNA, mRNA, tRNA, amino acids and proteins in the processes of transcription and translation.
- Identify and explain the principles and consequences of the cell cycle, including both mitosis and meiosis.
- Examine the basic principles of Mendelian genetics and describe how these relate to other topics encompassed in this course.
- Describe and explain the role of growth regulators in the control of plant growth, development and physiology.
- Describe and explain the diversity of control mechanisms in animal systems, including the role of the endocrine and nervous systems.
- Conduct experiment tests and use analytical techniques in the laboratory to demonstrate a few biological properties of macromolecules, cellular respiration, photosynthesis, DNA technology and plant and animal control systems.

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#### REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

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Lecture notes/PowerPoint slides will be available on D2L, along with additional resources

- Print and bring the notes/slides to each lecture
- Lecture exams are based on slides and any content added during lecture meetings

BIOL 126 Lab Manual is required for all lab sessions

- Available for purchase at Campus Bookstore, or download & print on our D2L website
- Students are expected to pre-read the lab and complete a virtual pre-lab quiz prior to each lab
- Lab exams are based on the lab manual and lab assignments (available on D2L)

Microsoft Word and Excel must be downloaded PRIOR to first lab together

- FREE version of Microsoft 365 is available to students at <https://webservices.camosun.ca/o365-opt-in/>
- Contact IT support if you have issues: <http://camosun.ca/services/its/contact.html>

Lab coats must be worn during the laboratory sessions. Please wear one to our first lab

- Available for purchase in the Campus Bookstore

Campbell Biology, Canadian Edition, 3rd Ed. is a helpful textbook

- Campbell Biology, Canadian Edition, 1st or 2nd Ed. or Campbell Biology, US Edition, 8th, 9th, or 10th Ed. are also suitable. Copies available in Campus Bookstore

## COURSE SCHEDULE, TOPICS, AND ASSOCIATED PREPARATION / ACTIVITY / EVALUATION

The following schedule and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor.

**Lectures:** RH05 Tuesday 1:58 - 3:20 pm Royal Bay, Room 3127  
 Thursday 1:58 - 3:20 pm Royal Bay, Room 3127

**Labs:** RH05 Thursday 6:30-9:20 pm Lansdowne Campus, Fisher 224

WEEK #	DATES	LECTURE TOPICS	LAB TOPICS
1	Feb 4,6	Course Introduction Unit 1: Characteristics of Life, Cells	Lab Introduction
2	Feb 11,13	Unit 2: Metabolism	Lab 1: Standard Curve
3	Feb 18,20	Unit 3: Cellular Respiration	<b><i>Camosun Reading Week: No Lab</i></b>
4	Feb 25,27	Unit 4: Photosynthesis	Lab 2: Enzyme Activity
5	Mar 4,6	Unit 5: Plant Growth Unit 6: Membrane Structure & Function	Lab 3: Cellular Respiration
6	Mar 11,13	Review <b>LECTURE MIDTERM #1 (Units 1-6)</b>	Lab 4: Photosynthesis
<b><i>Spring Break: No Lectures or Labs</i></b>			
7	Apr 1,3	Unit 7: Cellular Communication	<b>LAB EXAM #1</b>
8	Apr 8,10	Unit 8 (Mitosis & Cell Cycle); Unit 9 (Meiosis)	Lab 5: Plant Hormones Part 1 Lab 6: Mitosis and Meiosis
9	Apr 14, 15, 17	Unit 10: Genetics <b>LECTURE MIDTERM #2 (Units 7-9)</b>	Lab 7: Diffusion & Osmosis
10	Apr 22,24	Unit 11 (DNA Replication)	Lab 5: Plant Hormones Part 2 Lab 8: Drosophila Part 1
11	Apr 29, May 1	Unit 12 (Protein Synthesis)	Lab 8: Drosophila Part 2 Lab 9: PCR Part 1
12	May 6, 8	Unit 13 (Endocrine System)	Lab 9: PCR Part 2
13	May 13, 15, 16	Unit 14 (Nervous System)	<b>LAB EXAM #2</b>
14	May 20, 21, 22	Review; <b>FINAL EXAM</b>	<b><i>No Lab</i></b>

Students registered with the Centre for Accessible Learning (CAL) who complete quizzes, tests, and exams with academic accommodations must follow booking procedures and deadlines with CAL - advanced notice is required! Deadlines can be reviewed on the [CAL exams page](https://camosun.ca/services/academic-supports/accessible-learning/academic-accommodations-exams).  
<https://camosun.ca/services/academic-supports/accessible-learning/academic-accommodations-exams>

## EVALUATION OF LEARNING

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DESCRIPTION	WEIGHTING
Lecture Assignments/Quizzes	5%
Pre-lab Quizzes	2%
Lab Assignments	24%
Midterm Exam #1	12%
Midterm Exam #2	12%
Final Lecture Exam	21%
Lab Exam #1	12%
Lab Exam #2	12%
<b>TOTAL</b>	<b>100%</b>

### Lecture Assignments/Quizzes (5%)

Throughout the course there will be in class lecture assignments/quizzes that will engage students with the course content and test their understanding and communication skills.

### Weekly Pre-Lab Quizzes (2%)

Each week, students will need to complete a pre-lab quiz via D2L **prior** to the lab itself to demonstrate that they have read and understood the lab procedures and content. Quizzes will be open-book. No late submissions are accepted. Check the due date in D2L!

### Weekly Lab Assignments (24%)

Weekly group lab assignments will be posted on D2L the week of the lab and are due one week later (i.e. at the start of the next lab). Late submissions will be accepted at a penalty of 10% per day late. Lab assignments must be completed and submitted in lab groups (3-4) and one grade will be provided. If your group submits a lab that is not neat and legible, then the lab assignment may receive reduced marks or be rejected.

### Exams

Lecture exams are based on PowerPoint slides (augmented by lectures, assignments, quizzes), while lab exams are based on Lab Manual and lab assignments (calculators are required for lab exams). All exams are closed-book and the use of phones, smart watches, or other electronic devices during exams is NOT permitted. Travel, holidays, flights, events, and work are not considered to be acceptable reasons for

missing an exam. If an exam is missed it will be at the instructor's discretion whether to administer a make-up exam or adjust the student's grade weighting.

## COURSE GUIDELINES & EXPECTATIONS

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### Lectures

- Lecture attendance is expected for students to do well in this course, and lecture assignments/quizzes are given during lectures. Arriving on-time and with a copy of the lecture notes/slides is crucial for success. *Reviewing the available resources prior to the lecture is highly encouraged.* If a lecture is missed, students must check D2L and the course outline to determine the material to review.

### Labs

- Lab attendance is mandatory (*no more than 3 labs can be missed before a student will be given a failing grade in the course, see School Information below*). A missed lab results in a missed opportunity to submit the associated lab assignment.
- Late arrivals will not be accepted after the safety briefing has begun. Arriving on-time having pre-read the lab manual (and completing pre-lab quiz) is crucial for individual and group success.
- Lab safety is imperative. A lab safety contract must be read and signed by all students. In general, students must wear closed toe shoes and a lab coat, tie long hair back securely, not eat or drink in the lab, and wash hands before leaving the lab.

### Lab Assignments

- Lab assignments (posted on D2L) will be submitted as a group (1 week after the lab) and as such it is important that good communication and collaboration takes place in and out of the lab. If a student did not participate in the lab or the assignment itself, their name should not be on the assignment. Any group conflicts should be brought to the attention of the instructor as soon as possible.

### Study Habits

- This course is content-heavy and students will need to stay on top of the material if they are to do well. Visiting office hours and/or the science help centre (<https://camosun.ca/services/academic-supports/help-centres/science-help-centre>) are highly encouraged, as is the formation of study groups to review material with peers.

## SCHOOL OR DEPARTMENTAL INFORMATION

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### Laboratory Attendance Policy

To pass the course, students are required to meet the minimum in-person lab attendance, participation, and completion requirements. Students who will miss a laboratory session have an obligation to seek out concessions directly from their instructor BEFORE the lab period occurs. If a student misses a total of four (4) labs for any reason, they will be unable to meet the learning outcomes for the course and will receive a failing grade (F) in the entire course, regardless of marks received on graded lab and lecture components. Please note that if you are suffering from a serious medical illness that prevents you from

participating in this course, Camosun College has a Compassionate Medical Withdrawal Policy (<https://camosun.ca/services/forms#medical>)

### Common Challenges

In this science-based course, many students struggle with the amount of content covered. When completing assignments, cheating and plagiarism are often more likely to occur as students lack the confidence to complete their work on their own and seek outside support. The consequences for cheating and plagiarism are outlined by Camosun College policies (see <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf>). Please reach out if you need support BEFORE it becomes an academic integrity issue. We will help you to understand the rules and regulations of the college.

### Generative Artificial Intelligence (Gen AI)

You may use Generative Artificial Intelligence (Gen AI) tools such as ChatGPT, Copilot, Gemini, and similar tools for ungraded learning activities, such as brainstorming or studying. However, please be aware that the material generated by these programs may be inaccurate or incomplete. You may not submit any work generated by a Gen AI tool or program for your graded coursework (assignments, exams, etc.). Use of Gen AI tools to complete graded coursework will be considered academic misconduct. Please note that different instructors will have different policies for using Gen AI tools. If in doubt, check with your instructor before using these tools.

## STUDENT RESPONSIBILITY

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Enrolment at Camosun assumes that the student will become a responsible member of the College community. As such, each student will display a positive work ethic, assist in the preservation of College property, and assume responsibility for their education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting expectations concerning attendance, assignments, deadlines, and appointments.

## SUPPORTS AND SERVICES FOR STUDENTS

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Camosun College offers a number of services to help you succeed in and out of the classroom. For a detailed overview of the supports and services visit [camosun.ca/services](https://camosun.ca/services).

Support Service	Website
Academic Advising	<a href="https://camosun.ca/services/academic-supports/academic-advising">camosun.ca/services/academic-supports/academic-advising</a>
Accessible Learning	<a href="https://camosun.ca/services/academic-supports/accessible-learning">camosun.ca/services/academic-supports/accessible-learning</a>
Counselling	<a href="https://camosun.ca/services/health-and-wellness/counselling-centre">camosun.ca/services/health-and-wellness/counselling-centre</a>
Career Services	<a href="https://camosun.ca/services/co-operative-education-and-career-services">camosun.ca/services/co-operative-education-and-career-services</a>
Financial Aid and Awards	<a href="https://camosun.ca/registration-records/financial-aid-awards">camosun.ca/registration-records/financial-aid-awards</a>

Support Service	Website
Help Centres (Math/English/Science)	<a href="https://camosun.ca/services/academic-supports/help-centres">camosun.ca/services/academic-supports/help-centres</a>
Indigenous Student Support	<a href="https://camosun.ca/programs-courses/iecc/indigenous-student-services">camosun.ca/programs-courses/iecc/indigenous-student-services</a>
International Student Support	<a href="https://camosun.ca/international">camosun.ca/international</a>
Learning Skills	<a href="https://camosun.ca/services/academic-supports/help-centres/writing-centre-learning-skills">camosun.ca/services/academic-supports/help-centres/writing-centre-learning-skills</a>
Library	<a href="https://camosun.ca/services/library">camosun.ca/services/library</a>
Office of Student Support	<a href="https://camosun.ca/services/office-student-support">camosun.ca/services/office-student-support</a>
Ombudsperson	<a href="https://camosun.ca/services/ombudsperson">camosun.ca/services/ombudsperson</a>
Registration	<a href="https://camosun.ca/registration-records/registration">camosun.ca/registration-records/registration</a>
Technology Support	<a href="https://camosun.ca/services/its">camosun.ca/services/its</a>
Writing Centre	<a href="https://camosun.ca/services/academic-supports/help-centres/writing-centre-learning-skills">camosun.ca/services/academic-supports/help-centres/writing-centre-learning-skills</a>

If you have a mental health concern, please contact Counselling to arrange an appointment as soon as possible. Counselling sessions are available at both campuses during business hours. If you need urgent support after-hours, please contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.

## COLLEGE-WIDE POLICIES, PROCEDURES, REQUIREMENTS, AND STANDARDS

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### Academic Integrity

Students are expected to comply with all College policy regarding academic integrity; which is about honest and ethical behaviour in your education journey. The following guide is designed to help you understand your responsibilities:

<https://camosun.libguides.com/academicintegrity/welcome>

Please visit <https://camosun.ca/sites/default/files/2021-05/e-1.13.pdf> for Camosun's Academic Integrity policy and details for addressing and resolving matters of academic misconduct.

### Academic Accommodations for Students with Disabilities

Camosun College is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging appropriate academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a documented disability and think you may need accommodations, you are strongly encouraged to contact the Centre for Accessible Learning (CAL) and register as early as possible. Please visit the CAL website for more information about the process of registering with CAL, including important deadlines: <https://camosun.ca/cal>



### Academic Progress

Please visit <https://camosun.ca/sites/default/files/2023-02/e-1.1.pdf> for further details on how Camosun College monitors students' academic progress and what steps can be taken if a student is at risk of not meeting the College's academic progress standards.

### Course Withdrawals Policy

Please visit <https://camosun.ca/sites/default/files/2021-05/e-2.2.pdf> for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit <https://camosun.ca/registration-records/tuition-fees#deadlines>.

### Grading Policy

Please visit <https://camosun.ca/sites/default/files/2021-05/e-1.5.pdf> for further details about grading.

### Grade Review and Appeals

Please visit <https://camosun.ca/sites/default/files/2021-05/e-1.14.pdf> for policy relating to requests for review and appeal of grades.

### Medical / Compassionate Withdrawals

Students who are incapacitated and unable to complete or succeed in their studies by virtue of serious and demonstrated exceptional circumstances may be eligible for a medical/compassionate withdrawal (see [Medical/Compassionate Withdrawals policy](#)). Please visit <https://camosun.ca/services/forms#medical> to learn more about the process involved in a medical/compassionate withdrawal.

### Sexual Violence

Camosun is committed to creating a campus culture of safety, respect, and consent. Camosun's Office of Student Support is responsible for offering support to students impacted by sexual violence. Regardless of when or where the sexual violence occurred, students can access support at Camosun. The Office of Student Support will make sure students have a safe and private place to talk and will help them understand what supports are available and their options for next steps. The Office of Student Support respects a student's right to choose what is right for them. For more information see Camosun's Sexualized Violence Policy: <https://camosun.ca/sites/default/files/2021-05/e-2.9.pdf> and [camosun.ca/services/sexual-violence-support-and-education](https://camosun.ca/services/sexual-violence-support-and-education).

To contact the Office of Student Support: [oss@camosun.ca](mailto:oss@camosun.ca) or by phone: 250-370-3046 or 250-370-3841

### Student Misconduct (Non-Academic)

Camosun College is committed to building the academic competency of all students, seeks to empower students to become agents of their own learning, and promotes academic belonging for everyone. Camosun also expects that all students to conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Please review Camosun College's Student Misconduct Policy at <https://camosun.ca/sites/default/files/2021-05/e-2.5.pdf> to understand the College's expectations of academic integrity and student behavioural conduct.

### Looking for other policies?

The full suite of College policies and directives can be found here: <https://camosun.ca/about/camosun-college-policies-and-directives>

**Changes to this Syllabus:** Every effort has been made to ensure that information in this syllabus is accurate at the time of publication. The College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the change

