

COURSE SYLLABUS



COURSE TITLE: BIOL-126: Physiological Basis of Life

CLASS SECTION: 002A/002B

TERM: W2022

COURSE CREDITS: 3

DELIVERY METHOD(S): In Person

Camosun College campuses are located on the traditional territories of the Lək̓ʷəŋən and W̱SÁNEĆ peoples. We acknowledge their welcome and graciousness to the students who seek knowledge here.

Learn more about Camosun's [Territorial Acknowledgement](#).

For COVID-19 information please visit: <https://legacy.camosun.ca/covid19/index.html>

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable explanation in advance, you will be removed from the course and the space offered to the next waitlisted student.

INSTRUCTOR DETAILS

NAME: Ryan Suleman MSc, RMCCM, MRSB

EMAIL: suleman@camosun.bc.ca

OFFICE: F250D

HOURS: In person office hours (F250D): M 10:00AM-12:00PM, W: 11:00-12:00PM, W: 2:30PM-3:20PM

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

CALENDAR DESCRIPTION

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

And one of:

- C+ in Biology 12
- C+ in Camosun Alternative

CO-REQUISITE(S):

Not Applicable

EXCLUSION(S):

Not Applicable

COURSE LEARNING OUTCOMES / OBJECTIVES

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

1. 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.
2. Differentiate among the various transport mechanisms available to mobilize molecules across cell membranes.
3. Name and outline the pathways utilized by cellular respiration and photosynthesis and explain the importance of these processes to living organisms.
4. Describe the basic steps of DNA replication and indicate its role in cell division and inheritance.
5. 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.
6. Identify and explain the principles and consequences of the cell cycle, including both mitosis and meiosis.
7. Examine the basic principles of Mendelian genetics and describe how these relate to other topics encompassed in this course.
8. Describe and explain the role of growth regulators in the control of plant growth, development and physiology.
9. Describe and explain the diversity of control mechanisms in animal systems, including the role of the endocrine and nervous systems.
10. 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.

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

- a) **Lecture PowerPoint slides** will be available on D2L, along with additional resources
 - i. Printing and bringing the slides to each lecture is highly recommended
 - ii. These slides will be the content tested on lecture exams
 - b) **BIOL 126 Lab Manual 2023** is required for all lab sessions
 - i. Available for purchase at Campus Bookstore, or available for download & print on our D2L website
 - ii. Students are expected to pre-read the lab and complete pre-lab questions prior to each lab
 - iii. The lab manual and lab assignments will be the content tested on lab exams
 - c) **Microsoft Word and Excel** must be downloaded **PRIOR to first lab together**
 - i. A FREE version of Microsoft 365 is available to Camosun students:
<https://webservices.camosun.ca/o365-opt-in/>
 - ii. Contact IT support if you have issues: <http://camosun.ca/services/its/contact.html>
- a) **Lab coats** must be worn during the laboratory sessions. Please wear one **to our first lab**
 - i. Available for rental or purchase in the Campus Bookstore
 - b) Campbell Biology, Canadian Edition, 3rd Ed.* is a relevant textbook and is recommended for this course
 - i. *Note: 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.

Lecture: Mon 12:30-2:00 PM F266 & Wed 12:30-2:00 PM F268

Labs: Mon 002A- 3:30PM-6:20 PM F224

Tues 002B 9:30AM-12:30PM F224

Week	Dates	Lecture Topic/Activity	Chapters	Lab Topic/Activity
1	09-Jan	Course Introduction Unit 1: Characteristics of Life (Molecular and Cellular Biology)	1, 4-6	NO LABS FIRST WEEK
	12-Jan			
2	16-Jan	Unit 2: Metabolism	8	Lab Introductions
	19-Jan			
3	23-Jan	Unit 3: Cellular Respiration	9	Lab 1- Standard Curve
	26-Jan			
4	30-Jan	Unit 4: Photosynthesis	10	Lab 2- Enzyme Activity
	02-Feb			
5	06-Feb	Unit 5: Plant Growth Responses	39	Lab 3- Cellular Respiration Lab 4- Photosynthesis Pt 1
	08-Feb	Lecture Exam #1		
6	13-Feb	Unit 6: Membrane Structure & Function	7	Lab 4- Photosynthesis Pt 2 Lab Exam Review
	16-Feb	Unit 7: Cell Communication	11,6	
7	20-24 Feb	<i>No Lectures or Labs: Reading Week</i>		
8	27-Feb	Unit 8: Mitosis	12	Lab Exam #1
	02-Mar	Unit 9: Meiosis	13	
9	06-Mar	Unit 10: Genetics	14,15	Lab 5- Plant Hormones Pt 1 Lab 6- Mitosis and Meiosis
	09-Mar			
10	12-Mar	Lecture Exam #2		Lab 7- Diffusion & Osmosis
	16-Mar	Unit 11: DNA Replication	14, 15	
11	20-Mar	Unit 12: From Gene to Protein	16	Lab 5- Plant Hormones Pt 2 Lab 8: Drosophila Pt 1
	23-Mar			
12	28-Mar	Unit 13: Endocrine System	17	Lab 8- Drosophila Pt 2 Lab 9: PCR Pt 1
	31-Mar			
13	03-Apr	Unit 14: Nervous System	45	Lab 9- PCR Pt 2 Lab Exam Review
	06-Apr			
14	10-Apr	SNAP Presentations	48, 49	LAB EXAM #2
	13-Apr	Final Exam Review		
	April 17-25	Final Exam (20%, Date TBA)		

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

EVALUATION OF LEARNING

DESCRIPTION	WEIGHTING
Midterm 1 (Week of Feb 6th)	10
Midterm 2 (Week of March 13th)	10
Lab Exam 1 (During scheduled lab the week of Feb 14-18)	10
Lab Exam 2 (During scheduled lab the week the week of Apr 11-15th)	10
Lecture Assignments (3-5 Assignments)	5
Pre-Lab	2.5
Lab Assignments	20
In Lab/In Lecture participation	2.5
SNAP Presentations	5
Final Exam (TBA)	20
TOTAL	100%

If you have a concern about a grade you have received for an evaluation, please come and see me as soon as possible. Refer to the [Grade Review and Appeals](http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf) policy for more information.

<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf>

COURSE GUIDELINES & EXPECTATIONS

If you have a concern about a grade you have received for an evaluation, please come and see me as soon as possible. Refer to the Grade Review and Appeals policy for more information.

<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf>

Notes about evaluation methods:

- Lecture Quizzes on D2L are open-book and use of the PowerPoint slides is encouraged. Each quiz allows for 2 attempts, with the average of the two being kept. A missed submission will result in a grade of zero for that quiz. Note: You will only have one attempt at the Chapter 14/15 quiz

Late assignments will be graded but marks equivalent to 10% of the total value of the assignment will be

deducted for each day past the deadline, including weekends. Late assignments will not be accepted once marked assignments have been returned to the class.

- Lab Assignments will be posted online prior to each lab period and will be due at the beginning of the following lab period, unless otherwise specified by the instructor. Lab Assignments are completed in assigned lab groups, with one copy submitted per group. These assignments must be submitted as a typed hard copy, and with the same late penalty as the Lecture Assignments (as described above).

Lecture Midterms take place during regular lecture hours and are NOT cumulative, whereas the Final Exam takes place during the final exam period (as scheduled by the College Registrar) and IS cumulative. These exams are strictly based on lecture content and are all closed-book exams. The use of phones, smart watches, or other electronic devices during exams is NOT permitted and will result in a zero on the exam.

- Lab Exams take place during regular lab hours and are NOT cumulative. These exams are strictly based on lab content and are all closed-book exams. The use of phones, smart watches, or other electronic devices during exams is NOT permitted and will result in a zero on the exam. Please bring a calculator to Lab Exams

SCHOOL OR DEPARTMENTAL INFORMATION

Lecture Attendance

Aside from the first two weeks of classes, attendance will NOT be required for lectures (EXAMS are the only exception to this). However, attending and participating in lectures is strongly recommended to ensure success in this course. If a class is missed, the student is responsible for arranging to obtain information such as notes, handouts, assignments, and announcements.

Laboratory Attendance

Laboratory attendance for this course is mandatory. It is expected that students will read and prepare for each lab BEFORE arrival. Lateness in arriving, failure to attend the lab, or leaving the lab before its scheduled finish time will result in forfeiting credit for that lab, including any written assignments. Exceptions can be made at the instructor's discretion in legitimate cases of emergency (e.g. significant illness); in such cases the instructor must receive advance notification to grant approval for any accommodation.

Written Assignments

All assignments must be submitted according to the instructor's criteria. A professional format is expected, i.e. a neat, legible, clean copy. "Rough" drafts risk rejection and a subsequent late penalty or reduced marks. If the assignment is more than one page, separate pages must be stapled.

Unless otherwise stated, all assignments are due at the beginning of the lab/class on the due date. As described on the previous page, late assignments will be accepted with a penalty of 10% per day, including weekends. Late assignments will not be accepted once marked assignments have been returned to the class.

Plagiarism

You are encouraged to discuss assignments with your classmates, however, individual assignments must be your own individual work – beware of plagiarism.

Plagiarizing is appropriating the work or parts or passages of another's writing (including the ideas or language) and passing them off as the product of one's own mind or manual skill (see <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.1.pdf>).

Except where work is assigned to a group, all written work must be done individually. Plagiarism is a serious offence and is considered to be academic misconduct, and will not be tolerated. A student caught plagiarizing will forfeit all credit for the assignment and a note will be sent to the Dean regarding the student's behaviour.

Missed Exams

All exams must be written at the scheduled times. However, it is understood that emergency circumstances occur (e.g. illness or emergency in the immediate family); for such circumstances accommodation may be offered at the discretion of the instructor, provided the student:

CAMOSUN COLLEGE COURSE SYLLABUS

(a) notifies the instructor in advance of the exam (not after), and
(b) provides acceptable documentation of the circumstance where possible (i.e. medical documentation).
In the event of emergency circumstances, it is at the instructor's discretion whether to administer an oral or written make-up exam.

*** HOLIDAYS, SCHEDULED FLIGHTS, AND WORK ARE NOT CONSIDERED TO BE EMERGENCIES ***

Be sure not to make travel or work plans for the end of semester until the final exam schedule is finalized and posted. Please ask any family members who might make travel plans on your behalf to consult you before booking tickets

STUDENT RESPONSIBILITY

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

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 <http://camosun.ca/students/>.

Academic Advising	http://camosun.ca/advising
Accessible Learning	http://camosun.ca/accessible-learning
Counselling	http://camosun.ca/counselling
Career Services	http://camosun.ca/coop
Financial Aid and Awards	http://camosun.ca/financialaid
Help Centres (Math/English/Science)	http://camosun.ca/help-centres
Indigenous Student Support	http://camosun.ca/indigenous
International Student Support	http://camosun.ca/international/
Learning Skills	http://camosun.ca/learningskills
Library	http://camosun.ca/services/library/
Office of Student Support	http://camosun.ca/oss
Ombudsperson	http://camosun.ca/ombuds

Registration	http://camosun.ca/registration
Technology Support	http://camosun.ca/its
Writing Centre	http://camosun.ca/writing-centre

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

Academic Accommodations for Students with Disabilities

The College is committed to providing appropriate and reasonable academic accommodations to students with disabilities (i.e. physical, depression, learning, etc). If you have a disability, the [Centre for Accessible Learning](#) (CAL) can help you document your needs, and where disability-related barriers to access in your courses exist, create an accommodation plan. By making a plan through CAL, you can ensure you have the appropriate academic accommodations you need without disclosing your diagnosis or condition to course instructors. Please visit the CAL website for contacts and to learn how to get started:

<http://camosun.ca/services/accessible-learning/>

Academic Integrity

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.pdf> for policy regarding academic expectations and details for addressing and resolving matters of academic misconduct.

Academic Progress

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/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 <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.2.pdf> for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit <http://camosun.ca/learn/fees/#deadlines>.

Grading Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf> for further details about grading.

Grade Review and Appeals

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf> for policy relating to requests for review and appeal of grades.

Mandatory Attendance for First Class Meeting of Each Course

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable reason in advance, you will be removed from the course and the space offered to the next waitlisted student. For more information, please see the “Attendance” section under “Registration Policies and Procedures”

(<http://camosun.ca/learn/calendar/current/procedures.html>) and the Grading Policy at <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf>.

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. Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.8.pdf> to learn more about the process involved in a medical/compassionate withdrawal.

Sexual Violence and Misconduct

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 or misconduct 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 and Misconduct Policy: <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.9.pdf> and camosun.ca/sexual-violence. To contact the Office of Student Support: oss@camosun.ca or by phone: 250-370-3046 or 250-3703841

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 <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf> to understand the College’s expectations of academic integrity and student behavioural conduct.

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 changes.