



**CAMOSUN COLLEGE**  
**School of Arts & Science**  
**Department of Biology**

**BIOL-126-D02A/B**  
**Physiological Basis of Life**  
**FALL 2020**

## **COURSE OUTLINE**

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The course description is online @ <http://camosun.ca/learn/calendar/current/web/biol.html>

Ω Please note: This outline will not be kept indefinitely. It is recommended students keep this outline for their records, especially to assist in transfer credit to post-secondary institutions.

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### **1. Instructor Information**

(a) Instructor	Dominic Bergeron, PhD
(b) Office hours	Fridays 10:00 – 12:00 , 1:30 – 3:30 and by appointment
(c) Location	Online
(d) Phone	Alternative: _____
(e) E-mail	<a href="mailto:Bergerond@camosun.ca">Bergerond@camosun.ca</a>
(f) Website	<a href="https://www.youtube.com/user/MachineBiological">https://www.youtube.com/user/MachineBiological</a>

### **2. Intended Learning Outcomes**

Upon completion of this course the 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.

### 3. Required Materials

- (a) Brooker – Principles of Biology (3<sup>rd</sup> ed) – McGrawHill CONNECT (Online version required)  
Get access code at: <https://connect.mheducation.com/class/d-bergeron-fall-2020-5>  
(Course code BIOL 126)

### 4. Course Content and Schedule

Note: The following is a **tentative** schedule of course topics and events. Course topics may be added or deleted as time permits. Any changes to this schedule will be announced in class and posted on D2L.

	Topic	Lab (simulations)
1 Sept 8 - 11	Introduction	-
2 Sept 14 - 18	Unit 1: Characteristics of Life	Molecules
3 Sept 21 - 25	Unit 2: Metabolism	Enzymes
4 Sept 28 – Oct 2	Unit 3: Cellular Respiration	Respiration
5 Oct 5 - 9	Unit 4: Photosynthesis → Midterm #1 (Starts Friday, Oct 2 <sup>nd</sup> )	Photosynthesis
6 Oct 12 - 16	Unit 5: Membrane Structure & Function	Diffusion & Osmosis
7 Oct 19 - 23	Unit 6: Cellular Communication	
8 Oct 26 - 30	Unit 7: Cell Cycle (Mitosis & Meiosis)	Cell cycle, Mitosis & Meiosis microscopy
9 Nov 2 - 6	Unit 8: Genetic Inheritance → Midterm #2 (Starts Friday, Oct 30 <sup>th</sup> )	Genetics
10 Nov – 9 – 13	Unit 9: DNA Replication <b>*NOTE: Nov 11 – No Class (Remembrance Day)</b>	PCR simulation
11 Nov – 16 - 20	Unit 10: From Gene to Protein	Protein synthesis
12 Nov 23 - 27	Unit 11: Endocrine System	Endocrine system sim
13 Nov 30 – Dec 4	Unit 12: Nervous System	Nervous system sim
14 Dec 7 - 11	TBA → Lab exam (Starts Friday, Dec 11 <sup>th</sup> )	
Exam week	→ Final Exam (As scheduled by Camosun)	

### 5. Basis of Student Assessment (Weighting)

Midterm 1:	15%
Midterm 2:	15%
Lab exam:	15%
Final exam:	30%
Assignments:	15% (McGrawHill Connect)
Lab quizzes	10%

### 6. Grading System

- Standard Grading System (GPA)
- Competency Based Grading System

## 7. Recommended Materials to Assist Students to Succeed Throughout the Course

Please make sure to visit D2L on a very regular basis to stay on top of content and to get latest information about this class.

Course expectations – Or how to be successful in this class

- i. Attend ALL virtual Collaborate sessions (Lectures / Tutorials and Labs – If you can't make it, make sure to watch the recorded session
- ii. I always provide more than enough time for each required evaluation. You have to write every exam / quiz /assignment within these boundaries. Accommodations will be provided if necessary. These accommodations have to be discussed AHEAD of time, not after it's too late. In addition, students are expected to submit their required assignments on time via D2L or *McGraw Hill Connect* depending on the assignment. Please note that late submissions will receive a 10% penalty for every 24 hours they are past due.
- iii. Make sure to review the following document on academic honesty (and the consequences of academic dishonesty): <http://camosun.ca/learn/school/arts-science/images/Arts%20and%20Science%20Academic%20Honesty%20Guidelines.pdf>



### Immediate, Urgent, or Emergency Support

If you or someone you know requires immediate, urgent, or emergency support (e.g. illness, injury, thoughts of suicide, sexual assault, etc.), **SEEK HELP**. Resource contacts @ <http://camosun.ca/about/mental-health/emergency.html> or <http://camosun.ca/services/sexual-violence/get-support.html#urgent>

### College Services

Camosun offers a variety of health and academic support services, including counselling, dental, disability resource centre, help centre, learning skills, sexual violence support & education, library, and writing centre. For more information on each of these services, visit the **STUDENT SERVICES** link on the College website at <http://camosun.ca/>

### College Policies

Camosun strives to provide clear, transparent, and easily accessible policies that exemplify the college's commitment to life-changing learning. It is the student's responsibility to become familiar with the content of College policies. Policies are available on the College website at <http://camosun.ca/about/policies/>. Education and academic policies include, but are not limited to, Academic Progress, Admission, Course Withdrawals, Standards for Awarding Credentials, Involuntary Health and Safety Leave of Absence, Prior Learning Assessment, Medical/Compassionate Withdrawal, Sexual Violence and Misconduct, Student Ancillary Fees, Student Appeals, Student Conduct, and Student Penalties and Fines.

## A. GRADING SYSTEMS <http://camosun.ca/about/policies/index.html>

The following two grading systems are used at Camosun College:

### 1. Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D		1
0-49	F	Minimum level has not been achieved.	0

### 2. Competency Based Grading System (Non GPA)

This grading system is based on satisfactory acquisition of defined skills or successful completion of the course learning outcomes

Grade	Description
COM	The student has met the goals, criteria, or competencies established for this course, practicum or field placement.
DST	The student has met and exceeded, above and beyond expectation, the goals, criteria, or competencies established for this course, practicum or field placement.
NC	The student has not met the goals, criteria or competencies established for this course, practicum or field placement.

## B. Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy at <http://camosun.ca/about/policies/index.html> for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	<i>Incomplete:</i> A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	<i>In progress:</i> A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.
CW	<i>Compulsory Withdrawal:</i> A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.