



COURSE OUTLINE

1. Instructor Information

Course Website:	http://online.camosun.ca/ (D2L)
Instructor:	(William) Don MacRae
Office Hours:	Wed (12:30-1:30 & 3:00-4:00); Thursday (12:30-1:30)
Location:	F346A
Phone:	250-370-3437
Email:	dmacrae@camosun.bc.ca

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

Reference

- Class notes will available on D2L
- A wide variety of references are available on the internet
- For students who wish to use a textbook, new copies of Campbell: Biology. Reece, J.B. et al., Pearson, 2014 are available in the bookstore. Used copies of Campbell: Biology or most other textbooks written for the 1st year majors biology course are suitable and are available for purchase over the internet for under \$20

Biology 126 Laboratory Manual

4. Course Content and Schedule

Lecture W, F - 1:30PM - 2:50 PM, Fisher Bldg, Room 200
 Laboratory Section 02A: F - 9:30AM - 12:20PM, Fisher Bldg, Room 224
 Section 02B: Th - 2:30PM - 5:20PM, Fisher Bldg, Room 224

Wk	Date	Lecture Topics	Lab	Lab Topics
1	Jan 5-9	1. Macromolecules	-	Introduction
2	Jan 12-16	1. Macromolecules	1	Concentration, Absorbance and the Standard Curve
3	Jan 19-23	2. Membrane Structure and Function	2	Tyrosinase Enzyme Activity
4	Jan 26-30	3. Metabolism	3	Cellular respiration
5	Feb 2-6	4. Cellular respiration	4	Fermentation Versus Cellular Respiration
6	Feb 9	<i>Family Day</i>		No Labs
	Feb 10-11	5. Photosynthesis		
	Feb 12-13	<i>Reading break</i>		
7	Feb 16-20	5. Photosynthesis	5	Photosynthesis and Lab eval 1
8	Feb 23-27	6. Mitosis and meiosis	6	Diffusion and Osmosis
9	Mar 2-6	7. Mendelian genetics	7	Mitosis and Meiosis
10	Mar 9-13	8. DNA replication and protein synthesis	8	Fruit Fly Pigment Analysis
11	Mar 16-20	9. Plant growth	8/9	Fruit Fly Pigment Analysis Forensic DNA electrophoresis
12	Mar 23-27	10. Endocrine and nervous control	9	Forensic DNA electrophoresis
13	Mar 30-Apr 2	10. Endocrine and nervous control		No Labs
	April 3	<i>Good Friday</i>		
14	Apr 6	<i>Easter Monday</i>		Lab eval 2
	Apr 7-10	10. Endocrine and nervous control		
	April 13-21	Final Evaluation (during Exam period)		

5. Basis of Student Assessment (Weighting)

Lab Assignments	10%
Lab evaluation 1	10%
Lab evaluation 2	10%
Lecture assignments and evaluations	40%
Final Evaluation	30%

6. Grading System

Percentage	Grade	Description	GPE
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	Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite.	1
0-49	F	Minimum level has not been achieved.	0

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 E-1.5 at camosun.ca 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, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. (For these courses a final grade will be assigned to either the 3 rd course attempt or at the point of course completion.)
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.

7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

LEARNING SUPPORT AND SERVICES FOR STUDENTS

A variety of services are available to assist you in your learning.
Check at Student Services, or the College web site at
camosun.ca.

There is a Student Conduct Policy that supports a safe and respectful learning environment and appropriate academic practices
The policy is available in each School Administration Office, at Student Services,
and the College web site in the Policy Section.