



School of Arts & Science
BIOLOGY DEPARTMENT
BIOL 126 002
Physiological Basis of Life
Winter 2017 (Jan-Apr)

COURSE OUTLINE

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

⚡ Please note: the College electronically stores this outline for five (5) years only.
It is **strongly recommended** you keep a copy of this outline with your academic records.
You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

1. Instructor Information

Instructor:	Sarah Cockburn		
Office Hours:	TBA		
Location:	F352		
Phone:	250-370-3925		
Email:	cockburns@camosun.bc.ca		
Website:	http://online.camosun.ca/ (D2L entry site)		

IMPORTANT NOTE: If my office hours do not match up with your schedule, this should not dissuade you from coming to see me! If you would like to meet to discuss anything pertaining to the course *not* during my scheduled office hours, simply arrange an appointment by e-mail (cockburns@camosun.bc.ca) and I will be very pleased to meet with you at a mutually convenient time. 😊

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. Materials

- 1) **Recommended material**- Textbook: Campbell Biology, Canadian Edition. 2015. Biology 1st ed., Pearson Education, Inc., San Francisco, CA.
- 2) **Required material**- Lab Manual/Coursepack- Biology 126 Physiological Basis of Life - Camosun College, Victoria, B.C.

4. Course Content and Schedule

Class Schedule:

Lectures:	Tue (Y211)	4:30 PM – 5:50 PM
	Thu (Y211)	4:30 PM – 5:50 PM
Lab Section A:	Fri (F224)	1:30 PM – 4:20 PM
Lab Section B:	Wed (F224)	6:00 PM – 8:50 PM

Course Content:

See Last Page

5. Basis of Student Assessment (Weighting)

Lab Exam I	12.5%
Lab Exam II	12.5%
Midterm I	12.5%
Midterm II	12.5%
Final Lecture Exam	30%
Assignments/labs/quizzes	20%

Midterms and lab exams, will be unit exams. The lecture final exam will be cumulative.

6. Grading System

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	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

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, at Student Services, or the College web site at camosun.ca.

STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services, and the College web site in the Policy Section.

Plagiarism

Plagiarizing is appropriating the work of another 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. **Plagiarism will not be tolerated.** All written material must be done individually. This includes **lab data and graphs**; although some lab work will be done in groups, material submitted for grading must be processed and submitted independently. **Plagiarism, including the copying of any part of assignments or lab assignments, is a serious offence and is considered to be academic misconduct.**

Cheating

A student caught cheating on an exam will forfeit all credit for that exam and perhaps for the course. Cheating is a serious offence and is considered to be academic misconduct. **Cheating includes, but is not limited to, using unauthorized materials in a quiz/exam and providing information to another person regarding exam content.** 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> and <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.1.pdf> and may be severe.

ADDITIONAL INFORMATION

No programmable devices are allowed in exams.

Missed Exams

Without exception, all lecture and lab exams must be written at the scheduled times. **Under no circumstances will a make-up exam be administered.** 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 (a) the instructor is notified in advance of the exam (**not after**) and (b) the student provides **documented evidence** of the circumstance (i.e. medical certificate). **Without exception**, the accommodation will be in the form of adjusting the weighting of the final exam to make up the missing marks. In such cases, the final exam will include extra questions to examine knowledge of the untested subject matter.

****HOLIDAYS OR SCHEDULED FLIGHTS ARE NOT CONSIDERED TO BE EMERGENCIES ******

Late Penalties

Assignments are due at the **beginning** of the class period on the due date. Assignments not handed in at the beginning of class will be considered late, for which there is a 10% penalty/day.

Note: There is the option of 1 free late assignment. There will be no penalty provided the assignment is received prior to it being marked and returned to the class. Any assignment received after its return to the rest of the class will be marked but will not receive credit.

Lecture Attendance

Attending lectures will be an important part of succeeding in this course. From time to time there will be quizzes and other in-class activities for marks that will also help you and I determine how you are doing with the material. If you know that there is a lecture that you will miss where an announced activity will take place, you must let me know ahead of time and have a legitimate reason to miss it (e.g. an emergency or an illness with documented evidence). The lecture PPT presentations will be posted on <http://online.camosun.ca> but there will be much more information provided during lecture time that you won't want to miss!

Laboratory Attendance

The laboratory experience is critical to the course objectives and so attendance throughout the entire laboratory session is mandatory and will be noted. **Missing labs without a valid excuse will result in a deduction of 1% per lab missed from the final grade.** 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.

Arriving more than **5 minutes** after the start of the lab time is considered late and will only be acceptable one time or with a legitimate excuse.

If a lab session is missed, another student's data **may not** be used to complete a lab assignment for credit. Exceptions can be made **at the instructor's discretion** in legitimate cases of emergency (e.g. illness); in such cases the instructor must receive **advance notification** and **documented evidence** of the situation (e.g. medical certificate) and grant approval for any accommodation.

The schedule, which follows, is an attempt to outline the weekly activities of the class. It is subject to change or modification as the need arises.

Week	Lecture Topic	Ch.	Laboratory Exercise
1 (Jan 9-13)	Introduction & Characteristics of Life	1,4,5,6	Concentration, Standard Curve
2 (Jan 16-20)	Metabolism - Introductory	8	Enzyme Activity
3 (Jan 23-27)	Glycolysis & Respiration	9	Cellular Respiration
4 (Jan 30-Feb 3)	Respiration completed Photosynthesis	9 10	Fermentation
5 (Feb 6-10)	Photosynthesis/Plant Growth Midterm 1 Feb 9	10,39	Photosynthesis
6 (Feb 13-17)	February 13 Family Day College closed, February 14-17 Reading Break College Closed		
7 (Feb 20-24)	Membrane structure and Function	7	Lab Exam 1
8 (Feb 27-Mar 3)	Intracellular Communication Mitosis & Cell Cycle	11 12	Diffusion and Osmosis
9 (Mar 6-Mar 10)	Mitosis Meiosis	12 13	Mitosis & Meiosis
10 (Mar 13-17)	Sources of Variation Lecture Exam 2 (Mar 16)	14 - 16	Fruit Fly (Part 1)
11 (Mar 20-24)	Inheritance DNA Replication	15, 16	Fruit Fly (Part 2) DNA Lab (Part 1)
12 (Mar 27-31)	From Gene to Protein	17	DNA Lab (Part 2)
13 (Apr 3-7)	Endocrine System	45	Lab Exam 2
14 (Apr 10-14)	Neurons and Nervous System	48,49	No labs (Friday April 14 Good Friday, College Closed)