

	<b>School of Arts &amp; Science</b> <b>BIOLOGY DEPARTMENT</b> <b>BIOL 126</b> <b>Physiological Basis of Life</b> <b>Winter 2011 (Jan – Apr)</b>
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## COURSE OUTLINE

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

Ω 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

(a)	Instructor:	Dr. Larry Anthony		
(b)	Drop-In Office Hours:	Mon 10:00 AM – 10:50 AM	Wed 11:30 AM – 12:20 PM	
		Tue 10:30 AM – 11:20 AM	Fri 9:30 AM – 11:20 AM	
(c)	Location:	F340A		
(d)	Phone:	250-370-3388	Alternative Phone:	
(e)	Email:	anthonyl@camosun.bc.ca		
(f)	Website:	<a href="http://online.camosun.ca/">http://online.camosun.ca/</a> (D2L entry site)		

**IMPORTANT NOTE:** I understand that my scheduled drop-in office hour times will not fit into everyone's class schedules. **This should not deter you from trying to visit me in my office!** My schedule will be posted on my office door and on the course D2L website. I can be available at almost any time that I'm not already in class or lab. Simply arrange an appointment by phone or e-mail and I'll be very pleased to meet with you at a mutually convenient time.

### 2. Intended Learning Outcomes

*(No changes are to be made to these Intended Learning Outcomes as approved by the Education Council of Camosun College.)*

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) Text

Neil A. Campbell and Jane B. Reece. 2007. Biology 8th ed. Pearson Education, Inc.

(b) Other

Biology 126. Laboratory Manual. Camosun College.

### 4. Course Content and Schedule

*(This section can include: class hours, lab hours, out of class requirements and/or dates for quizzes, exams, lectures, labs, seminars, practicums, etc.)*

#### Class Schedule:

<b>Lectures:</b>	Mon (F200)	12:30 PM – 1:20 PM
	Wed (F200)	12:30 PM – 1:20 PM
	Fri (F200)	12:30 PM – 1:20 PM
<b>Lab Section A:</b>	Thu (F224)	9:30 AM – 12:20 AM
<b>Lab Section B:</b>	Wed (F224)	2:30 PM – 5:20 PM

#### Course Content:

See Last Page

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

*(This section should be directly linked to the Intended Learning Outcomes.)*

Assignments/labs/quizzes	15%
Midterm I	10%
Midterm II	15%
Lab Exam I	15%
Lab Exam II	15%
Final Lecture Exam	30%

Note: Lecture exams will be cumulative. Lab exams will be unit exams (i.e. not cumulative).

### 6. Grading System

*(No changes are to be made to this section unless the Approved Course Description has been forwarded through the Education Council of Camosun College for approval.)*

#### 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](http://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 <sup>rd</sup> 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](http://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 lab work is 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-&-support/e-2.5.pdf> and <http://camosun.ca/about/policies/education-academic/e-2-student-services-&-support/e-2.5.1.pdf>) and may be severe.

## 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 \*\*\*\***

Be sure not to plan airline flights for the end of semester until the final exam schedules are finalized and posted.

## Late Penalties

All assignments must be handed in on the scheduled date **before 5:00 PM**. Late assignments will be graded but marks equivalent to 15% of the total value of the assignment will be deducted per day past the deadline.

## Lab Attire

Students are **required** to wear closed shoes in all lab times. Flip flops, sandals or shoes with holes are not acceptable.

The wearing of lab coats at all lab sessions is **absolutely mandatory** for both safety and professional reasons. Cloth coats are preferable but disposable ones are acceptable. If you forget your lab coat you may rent one at a cost of \$5. The money received through lab coat rental will be donated to **Spread the Net**, an organization that supplies insecticide-impregnated bed nets to help prevent the spread of malaria in Africa.

Failure to wear proper lab attire will result in the inability to enter the lab and the subsequent **loss of credit** for that lab.

## 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. 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. 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. In cases when a lab is done over two weeks, missing one of the weeks without instructor approval will result in a 50% reduction in the grade for any assignment associated with that lab.

## Student Responsibilities

1. It is believed that attending and actively engaging in lecture times is in the best interests of student success. Should it be necessary to miss a lecture, however, it is the student's responsibility to catch up on anything that may have been missed (e.g. important announcement or assignments).
2. Students are expected to hand in any required assignments or reports on time. Late assignments will be penalized (see above).
3. Unless otherwise indicated by the instructor, all written work (including numerical entries in data tables) is to be submitted in word processed form. Typical exceptions include calculations (when required) or graphs, which may be submitted handwritten or hand-drawn. Electronic submissions (e.g. as e-mail attachments) will not be accepted, except where specified **by the instructor**. Failure to comply will result in late penalties (as indicated).

4. Any evaluation of work for in-class/lab assignments, reports and/or participation will not be given if a student is not present for any reason.
5. Students are expected to work independently on assignments and reports unless instructed that the evaluation is based on group effort and evaluation.
6. Students must know and follow all Safety Rules and Procedures. Students must sign the Safety Contract before participating in any laboratory activity. Failure to follow the Safety Rules and Procedures will result in penalties at the discretion of the instructor.
7. Eating or drinking is **strictly prohibited** and failure to comply may result in expulsion from the lab and loss of any associated lab credit. **No exceptions** will be tolerated.
8. Students must turn off cell phones and pagers during lectures, laboratory sessions and exams.

**Biology 126-001A/B - W11 - Course Schedule (Note: Scheduled dates are subject to change)**

Topics may be added or deleted depending upon time constraints

Wk	Day	Date		Lecture Topic	Chap	Lab	Lab Activity
1	Mon	10-Jan-11	Lec	Course Introduction			
1	Wed	12-Jan-11	Lec/Lab	Characteristics of Life	1-6		LAB INTRODUCTION
1	Thu	13-Jan-11	Lab				LAB INTRODUCTION
1	Fri	14-Jan-11	Lec	Characteristics of Life	1-6		
2	Mon	17-Jan-11	Lec	Characteristics of Life	1-6		
2	Wed	19-Jan-11	Lec/Lab	Characteristics of Life	1-6	1	Tools for Scientific Discovery
2	Thu	20-Jan-11	Lab			1	Tools for Scientific Discovery
2	Fri	21-Jan-11	Lec	Characteristics of Life	1-6		
3	Mon	24-Jan-11	Lec	Introductory Metabolism	8		
3	Wed	26-Jan-11	Lec/Lab	Introductory Metabolism	8	2	Enzyme Activity
3	Thu	27-Jan-11	Lab			2	Enzyme Activity
3	Fri	28-Jan-11	Lec	Introductory Metabolism	8		
4	Mon	31-Jan-11	Lec	Cellular Respiration	9		
4	Wed	2-Feb-11	Lec/Lab	Cellular Respiration	9	3	Cellular Respiration
4	Thu	3-Feb-11	Lab			3	Cellular Respiration
4	Fri	4-Feb-11	Lec	Cellular Respiration	9		
5	Mon	7-Feb-11	Lec	Cellular Respiration	9		
5	Wed	9-Feb-11	Lec/Lab	Cellular Respiration	9	4	Fermentation
5	Thu	10-Feb-11	Lab			4	Fermentation
5	Fri	11-Feb-11	Lec	Cellular Respiration	9		
6	Mon	14-Feb-11	Lec	<b>MIDTERM LECTURE EXAM 1</b>			
6	Wed	16-Feb-11	Lec/Lab	Photosynthesis	10	5	Photosynthesis
6	Thu	17-Feb-11	Lab			5	Photosynthesis
6	Fri	18-Feb-11	Lec	Photosynthesis	10		
7	Mon	21-Feb-11	Lec	Photosynthesis	10		
7	Wed	23-Feb-11	Lec/Lab	Photosynthesis	10		<b>NO LAB</b>
7	Thu	24-Feb-11	Lab	<b>READING BREAK</b>			<b>NO LAB</b>
7	Fri	25-Feb-11	Lec	<b>READING BREAK</b>			<b>NO LECTURE</b>
8	Mon	28-Feb-11	Lec	Photosynthesis	10		
8	Wed	2-Mar-11	Lec/Lab	The Cell Membrane	7		<b>LAB EXAM 1A</b>
8	Thu	3-Mar-11	Lab				<b>LAB EXAM 1B</b>
8	Fri	4-Mar-11	Lec	The Cell Membrane	7		
9	Mon	7-Mar-11	Lec	The Cell Membrane	7		
9	Wed	9-Mar-11	Lec/Lab	Intracellular Communication	11	6	Movement of Molecules
9	Thu	10-Mar-11	Lab			6	Movement of Molecules
9	Fri	11-Mar-11	Lec	Intracellular Communication	11		
10	Mon	14-Mar-11	Lec	Intracellular Communication	11		<b>WITHDRAWAL DEADLINE</b>
10	Wed	16-Mar-11	Lec/Lab	Mitosis, Meiosis and Cell Cycle	12-13	7/8a	Mitosis & Meiosis & Eye Pigments (Pt 1)
10	Thu	17-Mar-11	Lab			7/8a	Mitosis & Meiosis & Eye Pigments (Pt 1)
10	Fri	18-Mar-11	Lec	Mitosis, Meiosis and Cell Cycle	12-13		
11	Mon	21-Mar-11	Lec	<b>MIDTERM LECTURE EXAM 2</b>			
11	Wed	23-Mar-11	Lec/Lab	Mitosis, Meiosis and Cell Cycle	12-13	8b	Fruit Fly Eye Pigments (Part 2)
11	Thu	24-Mar-11	Lab			8b	Fruit Fly Eye Pigments (Part 2)
11	Fri	25-Mar-11	Lec	Inheritance	14-15		
12	Mon	28-Mar-11	Lec	Inheritance	14-15		
12	Wed	30-Mar-11	Lec/Lab	Inheritance	14-15	9a	DNA Lab (Part 1)
12	Thu	31-Mar-11	Lab			9a	DNA Lab (Part 1)
12	Fri	1-Apr-11	Lec	Inheritance	14-15		
13	Mon	4-Apr-11	Lec	DNA Replication	16		
13	Wed	6-Apr-11	Lec/Lab	DNA Replication	16	9b	DNA Lab (Part 2)
13	Thu	7-Apr-11	Lab			9b	DNA Lab (Part 2)
13	Fri	8-Apr-11	Lec	DNA Replication	16		
14	Mon	11-Apr-11	Lec	Gene Expression	17-18		
14	Wed	13-Apr-11	Lec/Lab	Gene Expression	17-18		<b>LAB EXAM 2A</b>
14	Thu	14-Apr-11	Lab				<b>LAB EXAM 2B</b>
14	Fri	15-Apr-11	Lec	Gene Expression	17-18		
	Mon	18-Apr-11		<b>FINAL EXAM PERIOD BEGINS</b>			