



**School of Arts & Science  
BIOLOGY DEPARTMENT**

**BIOL 126-01  
Non-Majors Biology 2  
2011F**

## COURSE OUTLINE

The Approved Course Description is available on the web @ \_\_\_\_\_

Ω Please note: this outline will be electronically stored for five (5) years only.  
It is strongly recommended students keep this outline for your records.

**An introduction to biological diversity, evolution, ecology, scientific knowledge, and the biodiversity crisis. Includes a survey of the major taxonomic groups of living organisms, the evidence for evolution, natural selection, the nature of scientific knowledge, and the impact of humans on the ecology of populations, communities and ecosystems.**

Prerequisites: English 12 or assessment. *Math 10 recommended.*

### 1. Instructor Information

(a)	Instructor:	Alison Moran		
(b)	Office Hours:	TBA		
(c)	Location:	Fisher		
(d)	Phone:	TBA	Alternative Phone:	
(e)	Email:	MoranA@camosun.bc.ca		
(f)	Website:	D2L: Biology 126: (Moran 001)		

**IMPORTANT NOTE:** My scheduled drop-in office hours may not fit into everyone's class schedules. Please contact me by email through the D2L site so a mutually convenient meeting time can be arranged.

### 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 9th ed. Pearson Education, Inc.

(b) Other

Biology 126. Laboratory Manual. Camosun College.

#### 4. Course Content and Schedule

The following schedule is tentative and subject to change if deemed necessary by the instructor.

Note: The mid-term is scheduled for the first lecture of the week, unless specified otherwise.

<b>W k</b>	<b>Dates</b>	<b>Lecture</b> (chapter #s in brackets)	<b>Lab/Field</b>
1	Sept. 6-9	Characteristics of Life (1), Chemical Context of Life (2)	Introduction, Safety and Laboratory Procedures
2	Sept. 12-16	Chemical Context of Life (3-5)	1. Tools for Scientific Discovery
3	Sept. 19-23	Cells and Membranes(6) Introductory metabolism (8)	2. Enzyme Activity
4	Sept. 26-30	Introductory metabolism (8) Cellular Respiration (9)	3. Cellular Respiration
5	Oct. 3-7	Cellular Respiration (9)	4. Fermentation
6	Oct. 10 Oct. 11-14	Thanksgiving (Oct. 10 <sup>th</sup> ) Photosynthesis (10)	No Lab
7	Oct.17-21	Photosynthesis (10) <b>MIDTERM</b> (in 2 <sup>nd</sup> lecture)	4. Photosynthesis
8	Oct. 24-28	Membranes and Cellular Communication (7, 11)	<b>LAB EXAM I</b>
9	Oct. 31- Nov. 4	Mitosis and Cell Cycle (12)	5. Movement of Molecules
10	Nov. 9-10 	Meiosis and Inheritance (13-14)	Remembrance Day (Nov. 11 <sup>th</sup> )  6/8a. Mitosis & Meiosis & Eye Pigments (Pt 1)
10	Nov. 14-18 	Inheritance and DNA (15-16)	8b. Fruit Fly Eye Pigments (Part 2)
11	Nov. 21-25	DNA Replication (16) Gene Expression (17)	7a. DNA Lab
12	Nov. 28- Dec. 2	Genetics of Viruses and Bacteria (18)	7b. DNA Lab
13	Dec. 5-9	Review	<b>LAB EXAM II</b>

Exam Period Dec.12-17, 19,20 (scheduled by registrar) - check CAMLINK. **Do not book flights!**  
Nov. 8<sup>th</sup> is the last day to withdraw.

## 5. Basis of Student Assessment (Weighting)

### Assignments & Quizzes:

In-class presentation (group)	5%
On-line Quizzes	10%
Lab reports/quizzes	4%

### Exams:

Midterm	20%
Lab Exam I	13%
Lab Exam II	13%
Final Exam	35%

Science is a language and to give it meaning we need to use and practice its vocabulary. As such, class participation is a key component of this course. It will take the form of questions, presentations and discussions. Each week one group will present a special assignment and design questions on their topic for the rest of the class to answer. You will also have regular on-line (open book) quizzes that will run through the D2L site.

The midterm and lab exams are unit exams (i.e. *not* cumulative).

The final lecture exam is cumulative, with a greater emphasis on the last unit, which was not covered by the midterm. Midterm and final exams contain a mix of multiple choice and short answer questions. Lab exams consist of a series of "stations" in which equipment, data and experiments can be examined in order to answer practical and theoretical questions.

Please bring a pen *and* pencil to all class and lab exams.

## 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](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. <i>(For these courses a final grade will be assigned to either the 3<sup>d</sup> course attempt or at the point of course completion.)</i>
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

### STUDENT CONDUCT POLICY

There is an Academic Conduct Policy. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, Registration, and on the College web site in the Policy Section.

[www.camosun.bc.ca/divisions/pres/policy/2-education/2-5.html](http://www.camosun.bc.ca/divisions/pres/policy/2-education/2-5.html)

### 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, Registrar's Office or the College web site at

<http://www.camosun.bc.ca>

### ADDITIONAL INFORMATION

#### General:

Be sure that you are familiar with the General Department Policies, which are stated in the lab manual. The student conduct code will also be observed.

Please note: Plagiarism will not be tolerated in any form, and may result in a "0".

No programmable devices are allowed in exams.

Each student is required to sign a Laboratory Safety Contract and give it to the instructor prior to commencing laboratory work in the course.

#### Attendance:

You are expected to attend all classes, and be on time. It is your responsibility to acquire *all* information given during a class missed, incl. notes, hand-outs, assignments, changed exam dates etc.

Missed exams or quizzes cannot be made up except in case of documented illness (doctor's note required). Lab attendance is *mandatory*.

**Do not book trips until the exam schedule is finalized.**

### **Labs:**

A **1% final grade penalty** applies to any unexcused absence from lab. Frequent late attendance may count as an absence. Should you miss roll call at the beginning of lab, please identify yourself to the instructor as "late" or you may remain marked "absent." You need to attend labs and lab exams during your assigned section (A or B). Switching between sections on a permanent or temporary basis requires instructor's permission. Lab assignments can only be handed in for labs actually attended.

It is *absolutely* necessary to read through each exercise before coming to lab. Otherwise you may not be able to finish on time and may not be able to complete your lab correctly. Please bring a pencil and a few sheets of unlined and graph paper, in case drawings are required.

### **Assignments:**

Unless otherwise stated, all assignments are due at the **beginning** of the lab/class of the due date. There is a **10%/day late penalty**. The format is expected to be professional, i.e. a neat, legible, clean copy. "Rough" drafts risk rejection and a subsequent late penalty. If the assignment is more than one page, **separate pages must be stapled** before you come to class.

### **Study Habits:**

Biology 126 will require regular study and preparation ahead of each class. It is valuable to review your notes within 24 hours of each class, as that is a proven means of improving memory and retention of information. You should expect to spend at least 6 hours outside of scheduled class time in the preparation of assignments, answering on-line quizzes and for general studying. Study groups are a highly effective way of learning and the great discussions that you have in these groups just make biology even better!

The course will be administered via a D2L site. This site can be accessed from the Camosun homepage via online services and then online courses. Lecture notes and animations will be provided on the D2L site in Power Point. You may prefer to download lectures ahead of time and then write your notes directly onto copies of the slides. Lecture notes must not be considered your sole source of information! They are merely a summary of the main points and you will need to write down additional information in each lecture. Please feel free to email me with questions or come and see me after class or during office hours. If a question is urgent, a specific appointment can be made. Please conduct all course-related correspondence to me through the D2L site. In addition, you will have access to other class members course emails and can contact them via the site.