

COURSE OUTLINE

1. Instructor Information

- (a) Instructor: W. Donald MacRae
- (b) Office hours: M (11:30-12:30), T (11:30-12:30), W (12:30-1:30), R (11:30-12:30) and by app't.
- (c) Location: F 340B
- (d) Phone: 370-3430
- (e) E-mail: dmacrae@camosun.bc.ca
- (f) Website: www.camosun.bc.ca/~dmacrae

2. Intended Learning Outcomes

- a) 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.
- b) Differentiate among the various transport mechanisms available to mobilize molecules across cell membranes.
- c) Name and outline the pathways utilized by cellular respiration and photosynthesis and explain the importance of these processes to living organisms.
- d) Describe the basic steps of DNA replication and indicate its role in cell division and inheritance.
- e) 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.
- f) Identify and explain the principles and consequences of the cell cycle, including both mitosis and meiosis.
- g) Examine the basic principles of Mendelian genetics and describe how these relate to other topics encompassed in this course.
- h) Describe and explain the role of growth regulators in the control of plant growth, development and physiology.
- i) Describe and explain the diversity of control mechanisms in animal systems, including the role of the endocrine and nervous systems.
- j) 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

Campbell, Neil A., and Jane B. Reece 2002. **BIOLOGY, 6th edition.**
Benjamin/Cummings Publishing Company, Inc., California.

(b) Lab Manual

Camosun College Biology Faculty. 2002. **Biology 226 (Plant and Animal Physiology),**
Camosun College, Victoria, B.C.

4. Course Content and Schedule

Lectures: M (F212) TTh (F100), 10:30-11:20
Lab: W, 2:30-5:20 (F226)

Week	Date	Chapter	Lecture Topic	Lab
1	Jan. 6-10	1 5	Introduction to Study of Life Macromolecules	Introduction
2	Jan. 13-17	8	Membrane Structure and function	Lab. 1 Molecules of Life
3	Jan. 20-24	9	Cellular Respiration	Lab. 1 Molecules of Life
4	Jan 27-31	10	Photosynthesis	Lab. 2 Photosynthesis Lab. 3 Respiration
5	Feb. 3-7	16	Molecular Basis of Inheritance Mid Term 1	Lab. 2 Photosynthesis Lab. 3 Respiration
6	Feb. 10-12 13-14	17	From gene to protein Reading Break	Lab. 4 DNA restriction Lab. 5 Genetics of Eye Pigments
7	Feb. 17-21	17	From gene to protein	Lab. 4 DNA restriction Lab. 5 Genetics of Eye Pigments
8	Feb. 24 - 28	12	Cell Cycle	Lab. 4 and 5 continued
9	Mar. 3-7	13	Meiosis	Lab. 4 and 5 continued
10	Mar. 10-14	15	Chromosomal Genetics Mid Term 2	Lab. 6 Plant control
11	Mar. 17-21	39	Plant control systems	Lab. 6 Plant control
12	Mar. 24-28	45	Endocrine system	Lab. 7 Animal control systems
13	Mar. 31 - Apr 4	48	Nervous system	Completion and Review
14	Apr. 7-11	49	Sensory and motor mechanisms	Lab Exam
	Apr. 14-17, 22-25		Exam Period	

Contact hours included 3 hours of lecture per week and 3 hours of lab on alternate weeks.
The student should expect to spend **4-6** hours per week, outside of scheduled class time, for completion of assignments and studying.

5. Basis of Student Assessment

(a/b)	Assignments/Quizzes	20%
(c)	Exams	
	Lab:	20%
	Lecture Midterm 1	15%
	Lecture Midterm 2	15%
	Lecture Final:	30%

6. Grading System

The following percentage conversion to letter grade will be used:

A+ = 95 - 100%	B = 75 - 79%	D = 50 - 59%
A = 90 - 94%	B- = 70 - 74%	F = 0.0 - 49%
A- = 85 - 89%	C+ = 65 - 69%	
B+ = 80 - 84%	C = 60 - 64%	

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

Taylor, Martha R. 2002. **STUDENT STUDY GUIDE FOR CAMPBELL'S BIOLOGY, 6TH EDITION.** Benjamin/Cummings Publishing Company, Inc., California.

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>

ACADEMIC 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