

**CAMOSUN COLLEGE**  
**School of Arts & Science**  
**Biology 100 Non-Majors Biology 1**  
**Winter 2005 – Section 002**

**COURSE OUTLINE**

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Fundamentals of Biology in the context of contemporary issues. Topics include basic principles of biochemistry and cell biology, genetics and nutrition, animal structure and function.

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Instructor: Rosemary Mason  
Office hours: M. 2:30 – 4:30, Tu. 2:30 – 4:00, F. 2:30 – 4:30  
Location: RH 303  
Phone: 370-3301  
E-mail: [masonr@camosun.bc.ca](mailto:masonr@camosun.bc.ca)

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Time and Location: Lecture Tu. 6:30 – 9:20  
Lab Sec. 02A Th. 6:30 – 7:50 F244  
Sec. 02B Th. 8:00 – 9:20 F244

Course Website: [www.camosun.bc.ca/~masonr](http://www.camosun.bc.ca/~masonr)

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

(Students who have recently completed grade 12 Biology will notice an overlap of course content.)

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**REQUIRED MATERIALS**

Textbook: Johnson, G.B., 2003. **The Living World**. 3<sup>rd</sup> edition. McGraw Hill.

**BIOL 100 Laboratory Manual**

Optional: Study Guide for *The Living World*.

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**BASIS OF STUDENT ASSESSMENT**

Assignments/quizzes	15%
Exams:	
Midterm I	15%
Midterm II	15%
Lab Exam I	15%
Lab Exam II	15%
Final Exam	25%

Midterms I and II, as well as the lab exams, will be unit exams. The final lecture exam will be cumulative.

## INTENDED LEARNING OUTCOMES

The successful student, by the end of the course, will

- Explain structures and roles of biological molecules especially carbohydrates, proteins, lipids and nucleic acids in living organisms
- Describe the complexity and diversity of cellular ultrastructure and the functions of cellular organelles as they relate to energetics, protein synthesis and cellular communication
- Describe basic metabolism and energy-producing pathways within the cell
- Explain the concept of the gene in the contexts of both Mendelian inheritance and the biochemical expression of genetic information
- Demonstrate an understanding of DNA synthesis and protein synthesis
- Describe interactions between the environment and long-term changes in genetic information
- Describe the anatomy of the digestive system, circulatory system, respiratory system, nervous system, urinary system and immune system and explain how the physiology of these systems is related to organization at the molecular and cellular level

## 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 - 49%
A- = 85 - 89%	C+ = 65 - 69%	
B+ = 80 - 84%	C = 60 - 64%	

## ADDITIONAL INFORMATION

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

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

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

McCraw-Hill, the publisher of your textbook, has donated a prize of \$100 to be awarded to the Biology 100 student with the highest mark 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*.

### **Labs:**

A **1% final grade penalty** applies to any unexcused absence from lab. Frequent lates will 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 and mentally work through each exercise before coming to lab. Otherwise you may not be able to finish on time, annoy your lab partner, or flunk a pre-lab pop quiz. Please also come prepared with 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.

**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.

### **Study Habits:**

You will probably find Biology 100 not very difficult, but surprisingly labor-intensive. Good (and regular!!) study habits are required to do well in this course. You should plan on a *minimum* of 6 hours outside of scheduled class time for the completion of assignments and for general studying. Joining a study group can help this make more fun.

Lecture notes will be provided in point form. These should be used as a study guide, not as your sole source of information! You will need to write down additional key words for examples and explanations given during lecture. It is also recommended practice to transcribe these notes into a study-friendly format after each lecture, incorporating additional information from your textbook. Study these notes before the next class to prepare yourself for new material, which will often build on previously covered material.

Due to time constraints, not all details can be covered in lecture, and you may be held responsible for textbook material not specifically discussed in class. Please keep up with your readings, and take advantage of office hours if you need extra clarification and help, or simply would like to discuss a topic a little further.

### **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>

## Course Content and Schedule

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

WK	DATE (week of)	BIO 100 LECTURE TOPICS	TEXT CH.	LAB #	BIO 100 LAB TOPICS
1	Jan 10	Course Introduction The Living World Scientific Method	1		<b><u>NO LAB</u></b>
2	Jan 17	Biochemistry Basics Organic Macromolecules	3	1	Introduction, Safety; Microscopes & Measurements
3	Jan 24	Cell Biology Organelles Membrane Transport	4	2	Eukaryotic and Prokaryotic Cells
4	Jan 31	Energetics Enzymes Cellular Respiration	5	3	Diffusion & Osmosis
5	<b>Feb 7</b>	<b>MIDTERM I</b> Cell Division Overview	---		
	<b>Feb 10-11</b>	<b>Reading Break</b>	6		<b><u>NO LAB</u></b> (Reading Break)
6	Feb 14	Mitosis Meiosis	6	4	Enzymes
7	Feb 21	Mendelian Genetics Sex-linked Traits	7	5	Mitosis: Onion Root
8	Feb 28	Patterns of Inheritance Human Genetics	7		<b>LAB EXAM I</b>
9	Mar 7	Replication Transcription/Translation Mutations	8	6	Human Genetics
10	<b>Mar 14</b>	<b>MIDTERM II</b> Circulation	---	7	CATLAB
			23		
11	Mar 21	Circulation cont. Gas Exchange/Respiration	23	8	Nutrition
12	<b>Mar 28</b>	<b>Easter Monday (NO CLASS)</b> Nutrition Digestion	24	9	Human Organ Systems: Models
13	Apr 4	Homeostasis Excretion	24	10 = 9 cont.	Human Organ Systems: Models
14	Apr 11	Catch-up & Review			<b>LAB EXAM II</b>