

CAMOSUN COLLEGE
School of Arts & Science
Biology

BIOL 100, Non-Majors Biology I
Winter 2004 – Sections 001/ 003/ 004

COURSE OUTLINE

1. Instructor Information

- (a) Ted Davis, *M.Sc., Ph.D.*
- (b) Office hours: M, Tu, W 9:30-10:30 AM and **by appointment**.
- (c) Location: F 340A
- (d) Phone: 370-3388
- (e) e-mail: davist@camosun.bc.ca

2. Intended Learning Outcomes (Official Approval Pending)

- demonstrate a sense of the culture of scientific endeavor and a capacity for critical thinking
- identify the critical roles played by water in the maintenance of life on earth
- demonstrate an understanding of the structures and roles of biological macromolecules, particularly carbohydrates, proteins and lipids
- describe the complexity and diversity of cellular ultrastructure and the functions of significant cellular organelles, in particular: chloroplasts, mitochondria, ribosomes, Golgi apparatus, cilia and flagellae
- describe basic metabolism and energy producing pathways within the cell
- demonstrate an understanding of the concept of the gene in the contexts of both Mendelian inheritance as well as the biochemical expression of genetic information
- relate the structure of nucleic acids to the storage and replication of genetic information
- demonstrate an understanding of the mechanisms used to regulate and translate genetic information into the assembly of functional proteins
- demonstrate an appreciation of the interactions between the environment and long term changes in genetic information, particularly in consideration to neoplasia
- describe the anatomy of the human digestive, cardiovascular and excretory systems and explain how the physiology of these organ systems is related to organization at the molecular and cellular level
- describe the structure and explain the functions of the human immune system and apply this knowledge into an understanding of immune dysfunction, particularly allergies and AIDS

3. Required Materials

- (a) Text Johnson, George, B. (2000). **The Living World**. McGrawHill Companies, Inc.

- (b) Lab Manual Biology 100 (Non-Majors Biology 1) Laboratory Manual and Supplementary Materials, Camosun College.

4. Course Content and Schedule

Section 001: Lectures: M, Tu,Th, 1:30-2:20 PM; Lab: W, 2:30-5:20 PM

Section 003: Lectures: M, Tu,W, 8:30-9:20 AM; Lab: Th, 9:30-12:30 PM

Section 004: Lectures: M, Tu,W, 11:30-12:20 PM; Lab: W, 2:30-5:20 PM

DATE	TEXT CH.	LECTURE AND DISCUSSION	WEEK	LAB	LAB TOPICS
Jan 5-8	3	Course Introduction, The Chemistry of Life	1		No Lab
Jan. 12-15	3	Water, pH, Macromolecules,	2	1	Introduction – Measurement and Microscopes
Jan. 19-22	4	Cell Structure and Function	3	2	Microscopic Observations of Cells
Jan. 26-29	3 & 5	Buffers and Diffusion, Energetics	4	3	Diffusion and Osmosis
Feb 2-5	5	Cellular Respiration, Photosynthesis	5	4	Properties of Enzymes
Feb. 9-11	6	MIDTERM I Cell Cycle and Cancer	6		No Lab
Feb 12-13		<i>Reading Break – College closed</i>			
Feb. 16-19	1	Science and Epistemology	7		Lab Exam I
Feb. 23-26	6-7	Meiosis Genetics	8	5	Cell Division
Mar. 1-4	7	Genetics	9	6	Genetics – traits in human
Mar. 8-11	23	Circulatory and Gas Exchange Systems	10		Problems in Genetics
Mar. 15-18	8	MIDTERM II Protein synthesis	11	7	Genetics – inheritance of simple traits in <i>Drosophila</i>
Mar. 22-25	24	Digestive System, Excretion	12	8	Human Nutrition
Mar. 29 - Apr. 1	25	Immune System	13	9	Anatomy of the Rat
Apr. 5-8		TBA	14		Lab Exam II

Final examination: April 13-21 – **DO NOT MAKE OTHER PLANS FOR THIS PERIOD!!!**

3 hours of lecture/discussion and 1.5 hours of lab. Each student should plan on a minimum of 6 hours outside of scheduled class time for the completion of assignments and for general studying.

5. Basis of Student Assessment

(a/b) Assignments/Quizzes 20%

Assignments will consist of a series of pre-lab exercises for a total of 15% of the final mark as well as a series of five assessments based on popular literature. Details will be provided in class.

(c) Exams

Lab Exam I	12.5%
Midterm I	15%
Midterm II	15%
Lab Exam II	12.5%
Final Exam	25%

Midterms I and II will be unit exams. The final lecture exam will be comprehensive.

6. Grading System

The following percentage conversion to letter grade will be used:

A+ = 95 - 100%

A = 90 - 94%

A- = 85 - 89%

B+ = 80 - 84%

B = 75 - 79%

B- = 70 - 74%

C+ = 65 - 69%

C = 60 - 64%

D = 50 - 59%

F = 0.0 - 49%

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, 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

ADDITIONAL INFORMATION

Be sure that you are familiar with the General Department Policies which are stated in the lab manual and which will be discussed during the first scheduled laboratory. A student conduct code also will be observed and can be found in the Calendar on pages 42 - 48.

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

Lab attendance is **mandatory**. A 3% lab grade penalty may be imposed for unexcused lab absences.

Biology 100 includes lab work with dissection. Students who have questions or concerns regarding dissection must see the instructor prior to the end of the second week of classes.

No programmable devices are allowed in exams.

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

McGraw Hill, the publisher of your textbook, has donated a prize of \$100 to be awarded to the Biology 100 student who has achieved the highest mark in the course.