

CAPILANO UNIVERSITY COURSE OUTLINE	
Term: FALL 2013	Course No. BIOL 110
Course: GENERAL BIOLOGY I	Credits: 4.0
INSTRUCTOR Section: Office: Tel: email:	

COURSE FORMAT: Three hours of class time, three lab hours plus an additional hour of supplemental activity delivered through on-line or other activities for a 15 week semester, which includes two weeks for final exams.

PREREQUISITES: None.
Note: Biology 11, Biology 12, and Chemistry 12 or CHEM 101 are recommended.

COURSE OBJECTIVES:

General:

- To provide a foundation in the basic concepts of biology.
- To introduce students to experimental methods and hypothesis testing in the biological sciences.
- To prepare students for further courses in biology.
- Laboratory exercises provide training and hands-on experience in biochemical assays, microscopy, and genetic analysis.

**Student Learning
Outcomes:**

Upon successfully completing the course, the student should be able to:

- explain structure/function relationships at the molecular and cellular levels of organization;
- summarize and explain the significance of the cell theory;
- explain the importance of energy transformations and energy coupling in living systems;
- explain the genetic code and information flow in cells;
- analyze and solve problems involving Mendelian and non-Mendelian inheritance;
- interpret experimental data;
- critically evaluate statements from the popular media concerning biological sciences; and
- show proper technique in the handling of microscopes and laboratory equipment.

REQUIRED COURSE MATERIALS:

Textbook: Reece, Jane B. et al. Campbell Biology. 9th ed. San Francisco: Benjamin Cummings, 2011.

Lab Manual: Biology 110 & 111 Custom Laboratory Manual. Custom Publication for Capilano University. Toronto: McGraw-Hill, 2011.

Labs selected from:

- Mader, S. S. Biology Laboratory Manual, 10th edition. 2010.
- Mader, S. S. Human Biology Lab Manual, 11th edition. 2010.
- Dolphin, W. D., et al. Biological Investigations Lab Manual, 9th edition. 2010.

RECOMMENDED COURSE SUPPLEMENTS:

Study Guide: Capilano University Biology 110/111 Supplementary Study Guide.

Books: Kirszner, Laurie et al. The Pocket Handbook for Biology, 2nd edition. Scarborough, ON: Nelson Education, 2008.
van de Graaff, Kent and John Crawley. Photographic Atlas for the Biology Laboratory, 6th edition. Englewood, CO: Morton Publishing Company, 2009.
Hine, Robert (ed.). Oxford Dictionary of Biology, 6th edition. Oxford: Oxford University Press, 2008.

COURSE CONTENT: A selection of topics will be made from the listed chapters. Information may not be presented in the order listed below.

Weeks	Topics	Chapters
1	Introduction <ul style="list-style-type: none"> ▪ Themes in biology ▪ Scientific method 	1
2-3	Biochemistry <ul style="list-style-type: none"> ▪ Organic chemistry ▪ Macromolecules 	4-5
4-6	Cell Biology <ul style="list-style-type: none"> ▪ Cell structure ▪ Membranes ▪ Introduction to metabolism 	6-8
7-8	Cell Division <ul style="list-style-type: none"> ▪ Cell cycle and cellular reproduction ▪ Meiosis and sexual life cycles 	12-13
9-10	Heredity <ul style="list-style-type: none"> ▪ Mendel's laws ▪ Extensions of classical genetics 	14-15
11-13	Molecular Biology <ul style="list-style-type: none"> ▪ DNA structure and replication ▪ RNA and protein synthesis 	16-17
14-15	Final Exam Period	

EVALUATION PROFILE:

Final grades for the course will be computed based on the following schedule:

Quizzes (3)	15%
Midterm Exam	15%
Final Exam	35%
Lab	35%
TOTAL	100%

In order to pass the course, students must receive at least 50% on both the lecture and laboratory portions of the course.

SUPPLEMENTAL 4TH HOUR ACTIVITY:

Supplemental activity might be a scheduled tutorial, an on-line activity, a group meeting, or some other activity as indicated by your instructor.

GRADING PROFILE:

Letter grades will be assigned according to the following guidelines:

A+ 90 - 100%	B+ 77 - 79%	C+ 67 - 69%	D 50 - 59%
A 85 - 89%	B 73 - 76%	C 63 - 66%	F 0 - 49%
A- 80 - 84%	B- 70 - 72%	C- 60 - 62%	

Students should refer to the University Calendar for the effect of the above grades on grade point average.

OPERATIONAL DETAILS:***University Policies:***

Capilano University has policies on Academic Appeals (including appeal of final grade), Student Conduct, Cheating and Plagiarism, Academic Probation and other education issues. These and other policies are available on the University website.

Attendance:

The student is responsible for all information given in the lectures and laboratories, including times of examinations and assignment deadlines.

Missed Exams and Labs:

Normally, a score of zero will be given for a missed exam, test, quiz, lab, etc. In some **exceptional** situations, the student will be permitted to write a make-up test, defer the lab to a later date or to replace the score by other marks (see below). The date and timing of any make-up option is at the discretion of the instructor.

Options will only be offered to students if:

1. Circumstances are beyond the control of the student which resulted in the exam, test, quiz, lab, etc. to be missed. Such circumstances include serious illness or injury, or death of close family member. A departmental "medical form" to be completed by both the student and his/her physician may be requested. A copy of the death certificate of a close family member may also be required.

Reasons do **NOT** include forgetting about the test, lack of preparation for the test, work-related or social obligations.

2. The student has notified the instructor (or the Pure and Applied Science office staff, if the instructor is not available) about the missed exam, test, quiz, lab, etc. Such notification **MUST** occur in advance, if possible, or at the latest, on the day of the exam, test, quiz, lab, etc .
3. Proof of the circumstances must be provided. Proper documentation of illness or injury requires a completed medical form (supplied by the department) by both the student and the physician. All documentation **must be submitted within 5 days** of the missed exam.
4. The student has been fully participating in the course up until the circumstances that prevented the writing of the exam, test, quiz, lab, etc. **Fully participating means attending all classes and turning in all assignments in the course.**

Final Exam Period:

Students should note that the final exam period is from **(date)** (*includes Saturday, ??*), and that they can expect to write exams at any time during this period. Individual exam times will not normally be rescheduled because of holidays, work, or other commitments. While efforts are made to spread exams throughout the exam period, an individual's particular course combination may result in exams being scheduled close together, or spread widely through the entire exam period.

Cheating/Plagiarism:

Students caught cheating on a test will normally receive a grade of "F" on the course and may be expelled from the University. Plagiarism (including the copying of any part of assignments, laboratory reports, and essays) is a serious offence and is a form of cheating.

Incomplete Grades:

Incomplete grades ("I") are given only when special arrangements have been agreed upon with the instructor prior to the end of the semester. Since "I" grades are granted only in exceptional circumstances (usually health problems), their occurrence is rare.

Professionalism: Students should be able to demonstrate a professional attitude and behaviour: reliability, respect for and cooperation with colleagues, willingness to work calmly and courteously, respect for equipment and systems, and constructive response to criticism.

**Lab Exemption Policy
for Students Repeating Course:**

If students received 65% or better for the laboratory component of this course within the past three terms, they may apply for exemption from the lab. Students must obtain an exemption form from the Biology Laboratory Convenor or from the Coordinator of Biology. The exemption form should be completed, with appropriate signatures, and be returned to the Biology Laboratory Convenor within the first week of classes. If students are exempted, their previous lab mark will be carried over in calculating their final mark in the course this term.

English Usage: Students are expected to use correct standard English in their written and oral assignments, exams, presentations and discussions. Failure to do so may result in reduced grades in any part of the Evaluation Profile. Please refer to the guidelines provided in the Capilano Guide to Writing Assignments (available from the University bookstore).

**Emergency
Procedures:**

Please read the emergency procedures posted on the wall of the classroom.