

CAPILANO UNIVERSITY COURSE OUTLINE	
Term: SPRING 2017	Course No. BIOL 200
Course: GENETICS I	Credits: 3.0 Section:
INSTRUCTOR Office: Tel: email:	

COURSE FORMAT: Three hours of class time 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.

PRE-REQUISITES: BIOL 111 or BIOL 113 with a minimum grade of C-; and CHEM 111.

Note: There is no laboratory for this course. This is an approved Quantitative/Analytical course for baccalaureate degrees.

COURSE OBJECTIVES:

General: The general objective of this course is to provide students with a basic understanding of the concepts and applications of genetics. The emphasis will be on an analytical approach to heredity. Topics covered include transmission, molecular, and population genetics.

Student Learning Outcomes:

- Upon successfully completing the course, the student should be able to:
- use rules of probability to infer genotypes in pedigrees and experimental crosses;
 - use recombination frequencies to construct genetic linkage maps;
 - apply statistical tests to quantitative genetic data;
 - solve problems in mathematical population genetics;
 - provide detailed explanations of molecular genetic mechanisms;
 - demonstrate and explain molecular genetic techniques and their applications; and
 - apply ethical reasoning to the applications of genetic knowledge and technology.

REQUIRED COURSE MATERIALS:

Textbook: Pierce, Benjamin. Genetics Essentials. 3rd ed. New York: W.H. Freeman, 2016.

COURSE CONTENT: Topics for detailed discussion will be selected from the following:

Weeks	Topics	Chapters
1	Introduction	1
2	Chromosomes and Cell Division	2
3	Mendelian Genetics	3
4	Extensions of Mendelian Genetics	4
5	Linkage and Genetic Mapping in Eukaryotes	5
6	Quantitative Genetics	17
7	Population Genetics	18
8	Microbial Genetics	7
9	DNA Structure; Transcription	8, 10
10	RNA Processing; Translation	10-11
11	Control of Gene Expression	12
12	Molecular Analysis	14
13	Genomics	15
14-15	Final Exam Period	

EVALUATION PROFILE:

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

Quizzes (4)	40%
Midterm Exam	25%
Final Exam	35%
TOTAL	100%

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.

For success in this course, students are expected to attend all lectures and laboratory sessions; come prepared to address topics presented; pre-read laboratory exercises; and complete assigned text book readings. For every one hour of lecture material presented, students should expect to spend two hours reviewing material, completing online quizzes and study guide assignments.

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:** 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 almost 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. The use of cellphones during lecture and lab sessions is prohibited. This policy is strictly enforced. Students using cell phones could be asked to leave the lecture hall or laboratory room by the instructor.

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.