School of Arts & Science

Biology 230 – Cell Biology
Fall 2008

Course Information

Instructor: Larry Anthony, PhD **Office**: Fisher 340A

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Tel: 370-3388 (voice messages may be left at this number)

Class Schedule:

Lectures:	Tue	12:30 PM – 1:20 PM
	Wed	12:30 PM – 1:20 PM
	Thu	12:30 PM – 1:20 PM
Lab Section A:	Mon	9:30 AM – 12:20 PM
Lab Section B:	Mon	2:30 PM – 5:20 PM

Drop-in office hours:

Mon	1:30 PM – 2:20 PM
Tue	1:30 PM – 3:20 PM
Wed	1:30 PM – 2:20 PM
Thu	11:30 PM – 2:20 PM

IMPORTANT NOTE: I understand that the scheduled times will not fit into everyone's schedules. ***This should not deter you from trying to visit me in my office!*** My schedule will be posted on my office door: I can be available at almost any time that I'm not already in class or lab. Simply arrange an appointment by phone or e-mail and I'll be ***very pleased*** to meet with you at a mutually convenient time.

Course Materials

Text
Becker, Kleinsmith, Hardin and Bertoni (2009) *The World of the Cell*, 7th Edition (Benjamin Cummings)

Lab Manual
Biology 230 labs will be posted on the Biology 230 D2L website several days prior to the Monday lab times. You will be responsible for printing the lab and reading it before the lab session. You will also be responsible for following any pre-lab instructions that may be indicated in the lab.

Lecture Outlines
Lectures will be delivered in a Power Point format. Printable PowerPoint lecture notes will be made available on the Biology 230 website that you may use to follow the lectures.

Course Evaluation

Lectures (70%)		**Laboratories (30%)**	
Quizzes/Assignments	10%	Lab Assignments/Reports	15%
Midterm Exam 1	15%	Lab Exam 1	5%
Midterm Exam 2	20%	Lab Exam 2	10%
Final Exam (Cumulative)	25%		

Intended Learning Outcomes

Upon completion of this course the student will be able to:

1. Describe the monomeric components, synthesis and properties of the polymer for each of the four groups of macromolecule.
2. Examine the molecular structure of cellular membranes. Discuss the roles of active and passive transport mechanisms in the movement of molecules across cellular membranes.
3. Classify and describe the structural and adhesive proteins of the extracellular matrix. Described the structure and function of the major types of cell junction. Discuss the roles of the extracellular matrix and cell junctions in cell-cell recognition, communication and adhesion.
4. Explain the structural organization of DNA and chromosomes in the nucleus. Describe the structure and function of the nuclear matrix and lamina. Discuss passive and active transport of molecules through nuclear pores.
5. Demonstrate knowledge of the molecular mechanism of eukaryotic DNA replication. Understand the events associated with, and the molecular basis of, regulation of the cell cycle. Discuss how abnormalities in cell cycle regulation contribute to the development of cancer.
6. Discuss the principles of eukaryotic transcription, RNA processing and RNA surveillance. Explain the events associated with translation, polypeptide folding, post-translational processing and protein targeting and sorting.
7. Discuss the role of the smooth endoplasmic reticulum in drug detoxification, carbohydrate metabolism, and calcium storage. Described the flow of molecules through the endomembrane system. Explain the roles of the rough endoplasmic reticulum and the Golgi complex in glycosylation and protein sorting.
8. Describe, at the molecular level, the means by which G protein-linked and protein-kinase associated receptors activate signal transduction pathways within the cell. Discuss the molecular mechanisms of induction and regulation of apoptosis.
9. Describe and differentiate among the major structural elements of the cytoskeleton. Discuss the role of the cytoskeleton in cell movement, division and positioning and movement of organelles.
10. Conduct complex experiments and use a variety of current molecular and analytical techniques to assess various aspects of cellular biology. Critically evaluate data and present written laboratory reports.

Grading System

The School of Arts and Science have adopted the following letter grade and percentage scale:

A+	90-100		B+	77-79		C+	65-69		D	50-59
A	85-89		B	73-76		C	60-64		F	0-49
A-	80-84		B-	70-72						

Late Assignments

Assignments and reports must be handed in at the beginning of the class or lab on the due date indicated by the instructor. Late assignments and reports will be accepted, but they will be assessed a penalty of 10% of the value per day late; weekends count as two days. No assignments or reports will be accepted after the other student's assignments or reports have been returned.

Plagiarism

Plagiarizing is appropriating the work of another or parts or passages of another's writing (including the ideas or language) and passing them off as the product of one's own mind or manual skill. **Plagiarism will not be tolerated.** All written material must be done individually. This includes lab data and graphs. Should two very similar reports be received, the mark will be either be divided between the students, or both students will forfeit their mark for that report. Plagiarism, including the copying of any part of assignments, laboratory reports and essays is a serious offense and is considered to be an academic misconduct.

Cheating

A student caught cheating on an exam will forfeit all credit for that exam and perhaps for the course. Cheating is a serious offense and is considered to be an academic misconduct. Cheating includes, but is not limited to, using unauthorized materials in an quiz/exam and providing information to another person regarding exam content.

Missed Exams

All in class lecture and lab exams and the final lecture exam must be written at the scheduled time. Only in emergency circumstances (e.g. illness) may a student write an exam before or after the scheduled time. It is the student's responsibility to ensure that the instructor is notified if an exam must be missed. Such notification must occur ***in advance***. The student will be required to provide ***documented evidence*** of the circumstance (i.e. medical certificate) in order to write a make-up exam.

Laboratory Attendance

Attendance at the entire laboratory session is mandatory and will be noted. Failure to attend the lab will result in forfeiting all credit for that lab, including any written assignments, i.e. you ***may not*** use another student's data to write a report for credit. The only exceptions will be in the case of emergency (e.g. illness), in which case the instructor must receive ***advance notification*** and ***documented evidence*** of the situation (i.e. medical certificate).

Student Responsibilities

1. Students are expected to hand in any required reports on time. Late assignments will receive a penalty of 10% per day.
2. Attendance is important to ensure success. If unable to attend a session, the student is responsible for arranging with a classmate to obtain information such as notes, handouts and announcements.
3. Examinations must be written as scheduled. Exceptions may be made for emergencies at the discretion of the instructor (see above). The student must notify the instructor in advance of the examination.
4. Any evaluation of work for in-class/lab assignments, reports and/or participation will not be given if a student is not present for any reason.
5. Students are expected to work independently on reports unless instructed that the evaluation is based on group effort and evaluation.
6. Students must know and follow all Safety Rules and Procedures. Students must sign the Safety Contract before participating in any laboratory activity. Failure to follow the Safety Rules and Procedures will result in penalties at the discretion of the instructor.
7. Students must turn off cell phones and pagers during lectures and laboratory sessions.
8. All laboratories start punctually. Information necessary for performing the laboratory correctly and safely is given at the beginning of the lab.
9. **All students must wear a lab coat during laboratory sessions.** Failure to bring a lab coat to the lab may result in being unable to work in the lab and loss of credit for the lab.

Academic Misconduct

Academic misconduct includes, but is not limited to, the following acts:

1. Giving or receiving unauthorized information to or from another student during any examination or test.
2. Obtaining or providing, without authorization, questions or answers relating to any examination or test prior to the time of the examination or test.
3. Using unauthorized sources of information during any examination or test.
4. Asking or arranging for another person to take any examination or test in one's place.

According to Camosun College policy, the consequence for academic misconduct is an 'F' grade for the work involved or for the course as a whole.

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.

http://www.camosun.bc.ca/about/policies/education-academic/e-2-student-services-&-support/e-2.5.pdf

**** HOLIDAYS OR SCHEDULED FLIGHTS ARE NOT CONSIDERED TO BE EMERGENCIES ****