

UNIVERSITY OF CALGARY
DEPARTMENT OF BIOLOGICAL SCIENCES
COURSE OUTLINE

1. Course: BIOLOGY 331 – INTRODUCTION TO CELLULAR AND MOLECULAR BIOLOGY

Lecture Sections: L01 MWF SB 148 10:30-12:20 SUMMER 2015

Instructor(s): Dr. Lars Petersen lfpeters@ucalgary.ca

Tutorial: T01/02 TR ST 063 09:00/10:00

Teaching Assistant: Gareth Jones gmjones@ucalgary.ca

D2L course website: <https://d2l.ucalgary.ca/d2l/home>

Biological Sciences Department BI 186; (403) 220-3140; biosci@ucalgary.ca

2. **PREREQUISITES:** Biology 311

3. **GRADING:** The University policy on grading and related matters is described in “Academic Regulations, sections F.1 and F.2” of the online University Calendar (<http://www.ucalgary.ca/pubs/calendar/current/f-1.html> and <http://www.ucalgary.ca/pubs/calendar/current/f-2.html>) In determining the overall grade in the course the following weights will be used:

Midterm Exam	35% total
Tutorial term project	20% total
Tutorial participation	10% total
Final Exam scheduled by the Registrar.	35% total

“Each piece of work (assignment, midterm test or final examination) submitted by the student will be assigned a percentage score. The student’s average percentage score for the various components listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.”

4. **Missed Components of Term Work.** The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in section 3.6: <http://www.ucalgary.ca/pubs/calendar/current/sc-3-6.html>. It is the student's responsibility to familiarize himself/herself with these regulations. See also <http://www.ucalgary.ca/pubs/calendar/current/e-3.html>.

5. Dates and times of class exercises held outside of class hours: NIL

REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY. If you have a clash with this out-of-class-time-activity, please inform your instructor as soon as possible so that alternative arrangements may be made for you.

Department Approval _____ **ORIGINAL SIGNED** _____ Date _____
B331 CO S15; 26/06/2015 11:06

6. **EXAMINATION POLICY:** No electronic or written aids (eg. cell phones, tablets, computers, PDAs, notes, textbooks) will be allowed during writing of any exams. Non-programmable calculators will be permitted to answer quantitative questions on exams, if applicable, and permission to do this will be clearly indicated on the examination paper. Students should also read the Calendar, Section G, on Examinations: <http://www.ucalgary.ca/pubs/calendar/current/g.html>.
7. “In this course, the quality of the student’s writing in laboratory reports will a factor in the evaluation of those reports. See also <http://www.ucalgary.ca/pubs/calendar/current/e-2.html>.”
8. **STUDIES IN THE BIOLOGICAL SCIENCES INVOLVE THE USE OF LIVING AND DEAD ORGANISMS.** Students are expected to be familiar with <http://www.ucalgary.ca/pubs/calendar/current/sc-5-1.html> of the on-line calendar. See also <http://www.ucalgary.ca/pubs/calendar/current/e-5.html>.
9. **OTHER IMPORTANT INFORMATION FOR STUDENTS:**
 - (a) **ACADEMIC MISCONDUCT** (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under K. Student Misconduct (<http://www.ucalgary.ca/pubs/calendar/current/k.html>) to inform yourself of definitions, processes and penalties
 - (b) **ASSEMBLY POINTS in case of emergency during class time. Be sure to FAMILIARIZE YOURSELF with the information at <http://www.ucalgary.ca/emergencyplan/assemblypoints>.**
 - (c) **ACADEMIC ACCOMMODATION POLICY.** Students with documentable disabilities are referred to the following links:
Calendar entry on students with disabilities: <http://www.ucalgary.ca/pubs/calendar/current/b-1.html>
Student Accessibility Services: www.ucalgary.ca/access
 - (d) **SAFEWALK:** Campus Security will escort individuals day or night <http://www.ucalgary.ca/security/safewalk/>. Call 220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
 - (e) **FREEDOM OF INFORMATION AND PRIVACY:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). As one consequence, **students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page.** For more information see also <http://www.ucalgary.ca/secretariat/privacy>.
 - (f) **STUDENT UNION INFORMATION:** VP Academic Phone: 220-3911 Email: suvpaca@ucalgary.ca.
SU Faculty Rep. Phone: 220-3913 Email: sciencerep@su.ucalgary.ca Website <http://www.su.ucalgary.ca/home/contact.html>.
Student Ombudsman: <http://www.su.ucalgary.ca/services/student-services/student-rights.html>
 - (g) **INTERNET and ELECTRONIC COMMUNICATION DEVICE Information.** You can assume that in all classes that you attend, **your cell phone should be turned off.** Also, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.

UNIVERSITY OF CALGARY
DEPARTMENT OF BIOLOGICAL SCIENCES
COURSE OUTLINE

BIOLOGY 331

INTRODUCTION TO CELL AND MOLECULAR BIOLOGY

TERM: Summer 2015

SECTION NO: 01

PREREQUISITE: Biology 311

A student may not register in a course unless he has a grade of at least C- in each prerequisite course.

LECTURER(S): Dr. Lars Petersen lpeters@ucalgary.ca

LECTURES: L01 MWF 10:30-12:20 SB 148

Tutorial : T01/02 TR 09:00/10:00 ST 063

TEXTS: Required: Cell and Molecular Biology, Concepts and Experiments. Gerald Karp, John Wiley & Sons Inc., Toronto. 7th Edition, 2013.

RESERVE SERVICES: None

MARK DISTRIBUTION: A. Composition of Final Grade

Midterm Exam	35% total
Tutorial term project	20% total
Tutorial participation	10% total
Final Exam scheduled by the Registrar.	35% total

B. Final Exam

There will be a Final Examination scheduled by the Registrar's Office (sometime Aug 17-19).

Grade Breakdown

A+ = 91%

A = 85%

A⁻ = 79%

B⁺ = 75%

B = 70%

B⁻ = 64%

C⁺ = 59%

C = 55%

C⁻ = 50%

D⁺ = 45%

D = 40%

F = below 39%

Tentative Lecture Schedule (Monday, Wednesday, Fridays)

Date	Topics	Text References	Assignment Deadlines and Scheduled Exams
July 3	Plasma Membrane I (membrane lipids and proteins)	Chap 4; p120-146	
July 6	Plasma Membrane II (membrane transport, potential, & nerve impulses)	Chap 4; p147-177	
July 8	Endomembrane system I (ER & Golgi)	Chap 8; 270-318	
July 10	Mitochondria & Chloroplasts	Chap 5&6; 178-234	
July 13	Cytoskeleton I (Microtubules)	Chap 9; 330-353	
July 15	Cytoskeleton II (Microfilaments)	Chap 9; 356-384	
July 17	Cytoskeleton III (Intermediate filaments)	Chap 9; 354-356	
July 20	Nucleus, DNA, and the Genome	Chap 10; 388-417, Chap 12; 483-542, Chap 13; 545-571	
July 22	Ribosome and Protein Synthesis	Chap 11; 426-479	
July 24	In Class 2 hr Exam		
July 27	Cell Cycle Regulation	Chap 14; 572-615	
July 29	ECM and Cell Interactions I	Chap 7; 235-256	
July 31	ECM and Cell Interactions II	Chap 7; 257-269	
Aug. 3	Civic Holiday No lectures		
Aug. 5	Cell Signalling I	Chap 15; 617-662	
Aug. 7	Cell Signalling II	Chap 15; 617-662	
Aug. 10	Cancer		
Aug. 12	Molecular/Cell Biology Techniques	Chap 16; 664-697	
Aug. 14	Review Lecture (if needed)		

Tutorial Lectures will begin on Tuesday, July 7, 2015.

The Final Exam will be scheduled sometime during Aug 17-19.

Tentative Tutorial Schedule (July/ August Tuesdays and Thursdays)

Date	Topic	Important Deadlines
July 7	Membrane fluidity	
July 9	Protein Secretion	
July 14	Mitochondria & Chloroplasts	
July 16	Cytoskeleton & Microtubules	
July 21	DNA techniques and the Genome	
July 23	Gene Expression and Cellular Function	
July 28	Cell Growth and Culturing	
July 30	Microscopy	
Aug. 4	Cell Cycle	
Aug. 6	Cellular protein function	

***All material covered in tutorials will be included on exams.**