



UNIVERSITY OF CALGARY
FACULTY OF SCIENCE
DEPARTMENT OF BIOLOGICAL SCIENCES
COURSE OUTLINE

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

Lecture Sections:	L01	MWF	09:30-11:20	ST 139	SUMMER 2017
Tutorial Sections:	T01	TR	09:00-09:50	ST 059	
	T02	TR	10:00-10:50	ST 059	

Course Coordinator/Instructor(s): Dr. Kumar Chandrasekhar

kchandra@ucalgary.ca

Plant Cell Biology: Dr. Douglas Muench 220-7935

dmuench@ucalgary.ca

<https://d2l.ucalgary.ca>: Study material, assignments, background information, readings, and course information.

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

2. **PREREQUISITE(S):** Biology 311

See section 3.5.C in the Faculty of Science section of the online Calendar

(<http://www.ucalgary.ca/pubs/calendar/current/sc-3-5.html>)

3. **Grading:** The University policy on grading and related matters is described sections F.1 and F.2 of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Tutorial Assignments		12% total
Assignment A:	6%	
Assignment B:	6%	
Tutorial quizzes x8 (1% each)		8% total
1 Preliminary Exam		
Midterm: Monday, July 31 st , 2017	(in class)	40% total
Final Exam (scheduled by the Registrar's Office – Aug 18 to Aug 21)		40% total

Each piece of work (tutorial assignments, 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.

Grading Scale:

92.5+	A+
87.5	A
82.5	A-
77.5	B+
72.5	B
67.5	B-
62.5	C+
57.5	C
52.5	C-
50.0	D+
47.5	D
<47.5	F

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](#). It is the student's responsibility to familiarize himself/herself with these regulations. See also [Section E.3](#) of the University Calendar

5. **Scheduled out-of-class activities:** NONE

REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY.

6. **Course Materials:** TEXT: Required: Cell and Molecular Biology, Concepts and Experiments. Gerald Karp, John Wiley & Sons Inc., Toronto. 8th Edition, 2016.
Comes with WileyPlus – Available through D2L; please register following the instructions provided on D2L
7. **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.
8. **Writing across the curriculum statement:** e.g. “In this course, the quality of the student’s writing in laboratory reports will be a factor in the evaluation of those reports.” See also [Section E.2](#) of the University Calendar.
9. **Human studies statement:** indicating whether students in the course may be expected to participate as subjects or researchers. See also [Section E.5](#) of the University Calendar.

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>.

10. OTHER IMPORTANT INFORMATION FOR STUDENTS:

- (a) **Misconduct:** 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 [Section K](#). Student Misconduct 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 on [assembly points](#).
- (c) **Student Accommodations:** Students needing an Accommodation because of a Disability or medical condition should contact Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities available at http://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities_0.pdf.
Students needing an Accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to the Associate Head of Biological Sciences, Dr. H. Addy by email addy@ucalgary.ca or phone 403 220-3140.
- (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: 403 220-3911 Email: suypaca@ucalgary.ca
SU Faculty Rep. Phone: 403 220-3913 Email: science1@su.ucalgary.ca, science2@su.ucalgary.ca and science3@su.ucalgary.ca;
Student Ombuds Office: 403 220-6420 Email: ombuds@ucalgary.ca; <http://ucalgary.ca/provost/students/ombuds>
- (g) **Internet and Electronic Device Information:** You can assume that in all classes that you attend, your cell phone should be turned off unless instructed otherwise. 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.
- (h) **U.S.R.I.:** At the University of Calgary, feedback provided by students through the Universal Student Ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses (www.ucalgary.ca/usri). Your responses make a difference - please participate in USRI Surveys.

Department Approval _____ ORIGINAL SIGNED _____ Date _____

Tentative Lecture Schedule (Mondays, Wednesdays, and Fridays; 09:30 to 11:20; ST 139)

Wk	DATE	Instructor	Lecture #	Topics
July				
1	5	KC	1	Welcome to BIOL 331 - Introduction to the Study of Cell & Molecular Biology
	7		2	Techniques in Cell and Molecular Biology
2	10	KC	3	The Structure of the Plasma Membrane
	12		4	The Function of the Plasma Membrane
	14		5	Cytoplasmic Membrane Systems: Structure and Function
3	17	KC	6	Membrane Trafficking
	19		7	The Cytoskeleton and Cell Motility
	21	DM	8	Plant Cell Biology
4	24	KC	9	The Nature of the Gene and the Genome
	26		10	The Central Dogma: DNA to RNA to Protein
	28		11	The Central Dogma: DNA to RNA to Protein
5	31	In Class 2 hr Midterm Exam		
Midterm exam includes materials from July 5 to July 28				
August				
5	2	KC	12	Interactions between Cells and their Environment
	4		13	Control of Gene Expression
6	7	Alberta Heritage Day (University Closed)		
	9	KC	14	Cell Division
	11		15	Cell Signaling and Signal Transduction: Communication between Cells
7	14	KC	16	Cell Signaling and Signal Transduction: Communication between Cells
	16		17	Cancer

Tentative Tutorial Schedule (Tuesdays and Thursdays; 09:00 to 09:50; ST 059)

Wk	Date		Tutorial #	Topics
July				
1	11	KC	1	The Chemical Basis of Life
	13		2	Techniques in Cell and Molecular Biology
2	18	KC	3	Techniques in Cell and Molecular Biology
	20		4	The Function of the Plasma Membrane
3	25	KC	5	Membrane Proteins
	27		6	Protein Localization
August				
4	1	KC	7	Control of Gene Expression
	3		8	Cell Signaling and Signal Transduction
5	8	KC	9	Cell-Cell Junctions
	10		10	Cell Migration and Invasion Assays
6	15	KC	11	Cancer

Final exam includes materials from August 2 to August 16. Exam date will be between August 18 & 21 as scheduled by the Registrar's Office.

July 5 to July 19
July 24 to August 16

Dr. Chandrasekhar
e-mail: kchandra@ucalgary.ca

July 21

Dr. Muench
Telephone 220-7935; email: dmuench@ucalgary.ca

OFFICE HOURS WILL BE ANNOUNCED BY EACH INSTRUCTOR.

YOU MUST ATTEND THE TUTORIAL SESSION IN WHICH YOU ARE REGISTERED.