



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

1. **Course: CMMB 531 – TOPICS IN CELLULAR INTERACTION**

Lecture Sections: L01 TR 09:30-10:45 SA 107 WINTER 2019

Course Coordinator/
Instructor: Dr. C. Shemanko BI 238C 220-3861 shemanko@ucalgary.ca

Desire 2 Learn (D2L) course name: CMMB 531 L01 - (Winter 2019) - Topics in Cellular Interactions
Biological Sciences Department BI 186; (403) 220-3140; biosci@ucalgary.ca

2. **PREREQUISITE(S):** Biology 331 and one of Biochemistry 401 or 443 or 431.
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:

Pre-Group assignment I	10%
Assignment I	20%
Pre-Group assignment II	10%
Assignment II	20%
Class participation	20%
Individual Presentation	20%

There will be NO Final exam scheduled by the Registrar's Office.

Each piece of work outlined above 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.

Letter Grade	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
Min. Percent Required	92	88	84	80	76	72	68	64	60	56	50

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:** Dates and times of approved class activities held outside of class hours. NIL
- REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY.**
6. **Course Materials:** Lecture figures, assignments, papers, and other course material will be posted on D2L
7. **Writing across the curriculum statement:** In this course, the quality of the student's writing in assignments will be a factor in the evaluation of those reports. See also [Section E.2](#) of the University Calendar.
8. **HUMAN & LIVING ORGANISM STUDIES STATEMENTS:**

Students will not participate as subjects or researchers in human studies.
See also Section E.5 of the University Calendar

Studies in the Biological Sciences involve the use of living and dead organisms. Students taking laboratory- and field-based courses in these disciplines can expect involvement with and experimentation on such materials. Students perform dissections on dead or preserved organisms in some courses. In particular courses, students experiment on living organisms, their tissues, cells, or molecules. Sometimes field work requires students to collect a variety of living materials by many methods, including humane trapping.

All work on humans and other animals conforms to the Helsinki Declaration and to the regulations of the Canadian Council on Animal Care. The Department strives for the highest ethical standards consistent with stewardship of the environment for organisms whose use is not governed by statutory authority. Individuals contemplating taking courses or majoring in one of the fields of study offered by the Department of Biological Sciences should ensure that they have fully considered these issues before enrolling. Students are advised to discuss any concern they might have with the Undergraduate Program Director of the Department.

9. Students are expected to be familiar with Section SC.4.1 of the University Calendar.

Reappraisal Of Grades:

A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See Section I.3 of the University Calendar.

- a. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **15 days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall immediately submit the Reappraisal of Graded Term work form to the department in which the course is offered. The department will arrange for a reassessment of the work if, and only if, the student has sufficient academic grounds. See sections I.1 and I.2 of the University Calendar
- b. **Final Exam:** The student shall submit the request to Enrolment Services. See Section I.3 of the University Calendar.

10. Other Important Information For Students:

- a. **Mental Health** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, Mental Health Services Website) and the Campus Mental Health Strategy website (Mental Health).
- b. **SU Wellness Center:** The Students Union Wellness Centre provides health and wellness support for students including information and counselling on physical health, mental health and nutrition. For more information, see www.ucalgary.ca/wellnesscentre or call 403-210-9355.
- c. **Sexual Violence:** The University of Calgary is committed to fostering a safe, productive learning environment. The Sexual Violence Policy (<https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf>) is a fundamental element in creating and sustaining a safer campus environment for all community members. We understand that sexual violence can undermine students' academic success and we encourage students who have experienced some form of sexual misconduct to talk to someone about their experience, so they can get the support they need. The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email (svsa@ucalgary.ca) or phone at 403-220-2208.
- d. **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. Examples of academic misconduct may include: submitting or presenting work as if it were the student's own work when it is not; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; collaborating in whole or in part without prior agreement of the instructor; borrowing experimental values from others without the instructor's approval; falsification/fabrication of experimental values in a report. **These are only examples.**
- e. **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on assembly points.
- f. **Academic Accommodation Policy:** 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 [procedure-for-accommodations-for-students-with-disabilities.pdf](#). Students needing an accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Associate Head, Undergraduate of the Department of Biological Sciences, Heather Addy by email addy@ucalgary.ca or phone 403 220-6979. Religious accommodation requests relating to class, test or exam scheduling or absences must be submitted no later than **14 days** prior to the date in question. See Section E.4 of the University Calendar.
- g. **Safewalk:** Campus Security will escort individuals day or night (See the Campus Safewalk website). Call 403-220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- h. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). 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 Legal Services website.
- i. **Student Union Information:** VP Academic, Phone: 403-220-3911 Email: svpaca@ucalgary.ca. SU Faculty Rep., Phone: 403-220-3913 Email: sciencerep@su.ucalgary.ca. Student Ombudsman, Email: svpaca@ucalgary.ca.

- j. **Internet and Electronic Device Information:** Unless instructed otherwise, cell phones should be turned off during class. All communication with other individuals via laptop, tablet, smart phone or other device is prohibited during class unless specifically permitted by the instructor. Students that violate this policy may be asked to leave the classroom. Repeated violations may result in a charge of misconduct.

- k. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction (USRI) survey and the Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a difference - please participate in these surveys.

Department Approval _____ ORIGINAL SIGNED _____ Date: _____

Department Approval for
NO Final Exam: _____ ORIGINAL SIGNED _____ Date: _____
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DATE	IMPORTANT DUE DATES AND EVENTS	TOPICS
Jan 10		Overview of the epithelium, mammary development
15		Cell junctions and epithelial polarity, Signal Transduction
17		Techniques
22		Paper critique
24		Paper critique
29		Paper critique
31		Paper critique
Feb 5	Pre-group assignment 1 due 1. Group work Part A	
7	1. interactive Group work part B	
12		Paper critique
14		Paper critique
Feb 18-22	Reading week	
Feb 26	Assignment 1 due	Paper critique
Feb 28		Paper critique
Mar 5	Deadline for presentation article selection Pre-group assignment 2 due 2. Group work Part A	
7	2. Group work Part B – prepare posters	Computer lab BI 182
12	2. Poster presentations Part C – interactive Group work	
14	Student presentations	
19-21	Student presentations	
26-28	Student presentations	
April 2-4	Assignment 2 due April 2 Student presentations	
Apr 9-11	Student presentations	

CMMB 531

This course covers several areas of cell biology, specifically cellular interactions, with an emphasis on the critical discussion of current literature. There will be some standard lecture formats, but the majority of classes will be discussion based on assigned readings. Penalties of 10% will be docked each day for late assignments.

Pre-Group Assignments

These are one-page summaries with an assigned format. The pre-group assignments will be the basis for group discussions that will help the students in their full assignments. Pre-group assignments must be handed in at the beginning of the class in which they are discussed or they will not be accepted.

Full Assignments

The two assignments are short essays, in a News and Views style (Nature), which are critical reviews of a small number of articles in the current literature. The essays are limited to 6 pages double-spaced, *Times* 12 point font. They should consist of an introduction to the topic, the overall hypothesis, specific hypotheses, and a discussion of what each of the research papers contributed to the field and how they complement or contrast each other. Discuss key experimental results. Identify the open unanswered questions and indicate the experimental approaches that could be used to answer the questions. Citations must be referenced using the format found in the journal *Cell* (full references). References and figures are not included in the page count, however, a 10% penalty will be assessed for each extra half page or page over the recommended guideline. Late assignments are docked 10% per day.

Group Discussions

There will be classes that will be held in small groups, in preparation for the assignments. No out-of-class time should be required for group activities.

First group sessions: Students will be assigned an article and each person will independently write a short one-page summary (pre-group assignment) that will be due at the beginning of the first discussion class. In that first class, small groups will form that shared the same paper, and discuss their assigned paper. In the second class, the smaller groups will present their papers to another group who chose a different paper and vice-versa, followed by discussion. The written full assignment will be to independently integrate the two papers in a critical review as described under 'full assignment'.

Second group sessions: Students will be assigned an article and will write a short one-page summary (pre-group assignment) that will be due at the beginning of the first discussion class. The small groups will meet in the first class to discuss the assigned paper. In the next class the groups will work on preparing one poster per group for presentation. In the third class, students will present their poster to a group that had a different paper, and vice-versa. The assignment will be to independently integrate two of the papers in a critical review as described under 'full assignment'.

Presentations

The presentation length will be 15-25 minutes in length (TBA) with up to 5 min of questions from the audience. Each student will present a critical overview of a scientific article chosen with prior approval of the instructor.

Class participation

There is an emphasis on class discussion in this course, which allows us to better explore the research topics. As noted above 20% of the grade is based on class participation. Students that only attend but do not actively participate will therefore score very poorly in this component. Students are expected to perform all required readings prior to attending each class. Students are expected to participate in discussions, ask questions of fellow students after their presentation, and if called upon, to be able to answer questions on either assigned readings or lecture content.

LEARNING OUTCOMES

Students should be able to learn new aspects of cell biology relating to cell-cell interactions, and the techniques used to discover these aspects.

The student should be able to apply the knowledge from this course and others to interpret and critique the research and conclusions of key scientific articles, alone and in groups.

The student should be able to communicate ideas in oral and written format, presenting clear summaries, critical evaluation, and problem solving ideas.