



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 109    WINTER 2015  
Instructor:                    Dr. C. Shemanko                    BI 238C                                    220-3861    shemanko@ucalgary.ca

Desire 2 Learn (D2L) course name: [CMMB 531 L01 - \(Winter 2015\) - 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."

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.6](#) 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.** 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.

6. **Course Materials:** Lecture figures, assignments, papers, and other course material will be posted on D2L

7. **Writing across the curriculum statement:** e.g. "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 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>.

**9. 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) **Academic Accommodation Policy:** Students with documentable disabilities are referred to the following links: Students with Disabilities: <http://www.ucalgary.ca/pubs/calendar/current/b-1.html#B.1> and Student Accessibility Services: <http://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 (FOIPPA). 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](mailto:suvpaca@ucalgary.ca).  
SU Faculty Rep. Phone: 220-3913 Email: [sciencerep@su.ucalgary.ca](mailto:sciencerep@su.ucalgary.ca); [Student Ombudsman](#)
- (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](http://www.ucalgary.ca/usri)). Your responses make a difference - please participate in USRI Surveys.

Department Approval \_\_\_\_\_ ORIGINAL SIGNED \_\_\_\_\_ Date \_\_\_\_\_

Department Approval for  
NO Final Exam: \_\_\_\_\_ ORIGINAL SIGNED \_\_\_\_\_ Date: \_\_\_\_\_  
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UNIVERSITY OF CALGARY  
DEPARTMENT OF BIOLOGICAL SCIENCES COURSE OUTLINE  
**Topics in Cellular Interactions**  
CMMB 531

TERM: Winter 2015

PREREQUISITE: Biology 331 and one of Biochemistry 401 or 443 or 431

Students may not register in a course unless they have a grade of at least C- in each prerequisite course.

Instructors: Dr. C. Shemanko                      BI 238C                      220-3861                      shemanko@ucalgary.ca

LECTURES: T & R                                      09:30-10:45                                      SA 109

MARK DISTRIBUTION: A. Composition of Final Grade

Pre-Group assignment I	10%	Feb 3
Assignment I	20%	February 24
Pre-Group assignment II	10%	March 3
Assignment II	20%	March 19
Class participation	20%	
Individual Presentation	20%	Mar 24-April 14

Participation in this course requires acceptance of this grading structure.

There is no required text.

B. Final Exam

There will be NO final examination scheduled by the Registrar's Office.

C. Components of course for which a passing grade is essential N/A

DATE	IMPORTANT DUE DATES AND EVENTS	TOPICS
Jan 13		Overview of the epithelium, mammary development
Jan 15		Cell junctions and epithelial polarity, Signal Transduction
Jan 20		Techniques
Jan 22		Mammary gland development
Jan 27		Mammary gland development - Stem Cells
Jan 29		Cancer Stem Cells
Feb 3	<b>Pre-group assignment 1 due</b> 1. Group work Part A	EMT
Feb 5	1. Group work part B	EMT
Feb 10		Metastasis
Feb 12		Metastasis
Reading week		
Feb 24	<b>Assignment 1 due</b>	Entosis
Feb 26		Transfer of microRNA
Mar 3	<b>Pre-group assignment 2 due</b> 2. Group work Part A	Stem cell function, hormones and bone-like factors driving cancer
Mar 5 <b>BI 190</b>	2. Group work Part B – prepare posters	
Mar 10	2. Poster presentations Part C	
Mar 12		Tumor microenvironment
Mar 17		Tumor microenvironment
Mar 19	<b>Assignment 2 due</b>	Tumor microenvironment
Mar 24-26	Student presentations	
Mar 31-Apr 2	Student presentations	
Apr 7-9	Student presentations	
Apr 14	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.

### **Full Assignments**

The first two assignments (for Dr. Shemanko) 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 8 pages double-spaced, *Times* 12 point font. They should consist of an introduction to the topic, the current hypothesis, and a discussion of what each of the research papers contributed to the field and how they complement or contrast each other. Include 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.

### **Group Discussions**

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

**First group sessions:** Student groups 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. In that first class, the groups will meet and discuss the assigned paper and identify the most important points. In the second class, groups will mix and present their papers to each other. The written full assignment will be to integrate the two papers in a critical review as described under 'full assignment'.

**Second group sessions:** Student groups 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 groups will meet in the first discussion class to discuss the assigned paper, and identify the most important points. In the second class the groups will work on preparing one poster per group for presentation. In the third class, students will present their poster and visit the other posters. The assignment will be to 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, and if called upon, to be able to answer questions on either assigned readings or lecture content.

<b>Letter Grade</b>	<b>Cut-Off</b>
A+	90+
A	85
A-	80
B+	77
B	73
B-	70
C+	67
C	63
C-	60
D+	55
D	50
F	<50