



UNIVERSITY OF
CALGARY

DEPARTMENT OF BIOLOGICAL SCIENCES
COURSE OUTLINE

1. **Course:** **CMMB 519 - ADVANCED CELL BIOLOGY**

Lecture Section(s) L01 TR 12:30-13:45 SA 125 Fall 2017

Course Coordinator: **Dr. D. Muench**

Instructor(s): Dr. D. Muench BI 397 dmuench@ucalgary.ca
Dr. P. Vize BI 268 pvize@ucalgary.ca

Desire 2 Learn (D2L) course name: F2017CMMB519L01 – Advanced Cell Biology

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

2. **Prerequisites:** **Biology 311 and 331 and one of Biochemistry 401 or 443**

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

Assignment (3 x 25%)	75%
Presentation	20%
Class participation	5%

There will not be a Final Examination scheduled by the Registrar's Office.

Each piece of work (assignment, presentation and class participation) submitted by the student will be assigned a percentage score. The student's 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.

Final Grade Scale :

A+: 91 or higher
A : 86 and under 91
A- : 81 and under 86
B+: 78 and under 81
B : 74 and under 78
B- : 71 and under 74
C+: 68 and under 71
C : 64 and under 68
C- : 61 and under 64
D+: 55 and under 61
D : 50 and under 55
F : <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.6 of the University Calendar

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

6. **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.

7. 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 [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 (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: 403 220-3911 Email: suvpaca@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) 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 _____

Department Approval
For NO Final Exam : _____ ORIGINAL SIGNED _____ Date: _____
M519 F17; 9/6/2017 8:44 AM

TENTATIVE SCHEDULE FOR CMMB 519 Fall 2017

		<u>Instructor</u>
September	12 - Introduction, course outline, assignments, and overview of cell biology techniques. 14 - Cytoskeleton – components, dynamics and organization 19 - Cytoskeleton – components, dynamics and organization 21 - Cytoskeleton – associated proteins and motors 26 - Lab session 28 - Lab session	DGM
October	3 - Cytoskeleton – associated proteins and motors 5 - Cytoskeleton – cell shape and cell migration 10 - Cytoskeleton – cell shape and cell migration 12 – High throughput sequencing methods 17 – RNA-seq 19 – Epigenomics and signal transduction 24 - Epigenomics and signal transduction 26 - Epigenomics and signal transduction 31 – Wnt signaling and cilia	PDV
November	2 - GEC1 7 - GFP reporters of cellular processes 9 - RNA trafficking – general 14 - Visualization of RNA localization 16 - RNPs and RNA export 21 - RNA localization – Trans-acting factors 23- RNA granule types and function, processing bodies (P bodies) 28 - RNA localization – Translational control 30 - Peroxisomes	DGM
December	5 - Peroxisome dynamics 7 - Peroxisome biogenesis and protein import	

CMMB 519 covers several cell biology topics. The course has a focus on understanding how to approach problems associated with cell biology research. The course involves instructor lecturing, critical reading of key research papers, student presentations, group discussion, and take home assignments. There is an emphasis on the techniques used to study cell biology. A laboratory session on advanced fluorescence microscopy is included. Since the focus is on recent and high impact research papers, there is no textbook used in this course

After completing this course, students will have gained experience in critical reading of substantive and high-impact cell biology research publications; be able to describe common experimental techniques used to study cell biology; design experiments aimed at testing cell biology related hypotheses; critique high-impact cell biology research publications in a written format; and present orally the results from a high-impact cell biology research publications.