



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	EEEL 151	Fall 2015
Instructor(s):	Dr. D. Muench		BI 397		dmuench@ucalgary.ca
	Dr. P. Vize		BI 268		pvize@ucalgary.ca

Desire 2 Learn (D2L) course name: F2015CMMB519L01 – 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 or presentation) 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.

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: 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.

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
- (f) <http://www.ucalgary.ca/secretariat/privacy>.
- (g) **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>
- (h) **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.
- (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 _____

Department Approval
For NO Final Exam : _____ ORIGINAL SIGNED _____ Date: _____
M519 F15; 8/25/2015 2:08 PM

UNIVERSITY OF CALGARY
DEPARTMENT OF BIOLOGICAL SCIENCES

COURSE OUTLINE
CMMB 519
ADVANCED CELL BIOLOGY

TERM: Fall 2015 SECTION NO: 01

PREREQUISITE(S): Biology 311 and 331 and one of Biochemistry 401 or 443

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

COURSE COORDINATOR: Dr. D.G. Muench

LECTURER(S): Dr. D.G. Muench BI 397 220-7935 dmuench@ucalgary.ca
Dr. P. D. Vize BI 039 220-8502 pvize@ucalgary.ca

LECTURES: TR 12:30 EEEL 151

MARK DISTRIBUTION: A. Composition of Final Grade

Assignments (3 x 25%)	75%
Presentation	20%
Class participation	5%
TOTAL:	100%

B. Final Exam

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

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

GRADING SCALE

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

TENTATIVE SCHEDULE FOR CMMB 519 Fall 2015

		<u>Instructor</u>
September	8 - Introduction, course outline, assignments, and overview of cell biology techniques. 10 - Cytoskeleton – components, dynamics and organization 15 - Cytoskeleton – components, dynamics and organization 17 - Cytoskeleton – associated proteins and motors 22 - Cytoskeleton – associated proteins and motors 24 - Cytoskeleton – cell shape and cell migration 29 - Lab session	DGM
October	1 - Lab session 6 - hedgehog signal transduction and IFT 8 - Primary cilia 13 - GECI 15 - Cilia and GECI 20 - Cilia and septins 22 – Wnt signaling and cilia 27 - GFP reporters – neural activity 29 - GFP reporters – cell cycle	PDV
November	3 - RNA trafficking – general 5 - Visualization of RNA localization 10 - RNPs and RNA export 17 - RNA localization – Trans-acting factors 19- RNA granule types and function, processing bodies (P bodies) 24 - RNA localization – Translational control 26 - Peroxisomes	DGM
December	1 - Peroxisome dynamics 3 - Peroxisome biogenesis and protein import 8 - 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. Upon completion of the course, students will have improved their ability to critically read research papers and will have an applied understanding of how cell biology research is conducted. Students are expected to keep up with their readings so that they are able to participate in active discussion and have a good understanding of the material covered in class.

There are no required textbooks for this course. However, a useful resource for some of the course material is "Molecular Biology of the Cell" Alberts et al., 2008, 5th Ed. This book is available on reserve at the main Library.