



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

1. **Course: CMMB 567/MDSC 567 – ADVANCED TOPICS IN IMMUNOLOGY**

Lecture Sections: L01 TR 1530 - 1645 ST 057 WINTER 2015

Instructor: **Dr. Derek McKay** **220-7362** **dmckay@ucalgary.ca**

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

2. **PREREQUISITE(S):** CMMB 527

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:

Drs. Kubes and Patel:	40% (test = 25%, in class participation = 15%)	Feb. 5 In-Class
Dr. von der Weid:	17% (presentation of a research article)	
Dr. Newton:	17% (7% = 8 min presentation of a research paper; 10% = short answer test)	
Dr. McKay:	26% (16% = 4 page critical essay; 10% in class participation)	

There will not be a final exam scheduled by the Registrar's Office.

"Each piece of work (as listed 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

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

5. **Course Materials:** There is no textbook, individual reading and papers will be assigned; some lectures may provide electronic notes and presentations .
6. **Examination Policy:** Standard testing procedure with no aids allowed. Students should also read the Calendar, [Section G](#), on Examinations.
7. **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.
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.
SU Faculty Rep. Phone: 220-3913 Email: 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). Your responses make a difference - please participate in USRI Surveys.

Department Approval _____ ORIGINAL SIGNED _____ Date _____

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PROPOSED COURSE OUTLINE - INTRODUCTION TO IMMUNOLOGY

1. COURSE: CMMB 567 – Advanced Topics in Immunology

Winter 2015

Lecture Sections: T, R (2 x 1h 15 min)

Location: Main Campus

Class Size: min 6

Course Coordinator: Dr. Derek McKay

E-mail: dmckay@ucalgary.ca;

Tel: 403 220 7362

2. COURSE DESCRIPTION: This is an advanced course catering to students with a clear interest in immunology, and those with research interests. The material presented builds on the foundation of basic immunological principles that students will have obtained in CMMB 527 or an equivalent course. The course is modular and can change/rotate annually. This year instruction is provided by six experts in immunology under the main topics of: (1) innate immunity and immune cell trafficking; (2) structure and function of the lymphatic system; (3) Inflammation and therapeutics in the airways; (4) B cell immunology in disease; and (5) mucosal immunity, inflammation and disease.

3. RATIONAL: This course is designed for motivated students who can work well independently and in groups, with the central goal of illuminating current immunological concepts as they relate to homeostasis, infection and disease. Students are introduced to a variety of teaching styles (lectures, small group discussions and problem-based learning) and, similarly, a variety of evaluation tools are employed (in class tests, in class participation, form presentations, critique of the scientific literature, composition of a critical essay). The student will gain a much fuller understanding of the complexity of immunology – signals, cell-cell communication, coordinated responses, immunopathological mechanism, interaction of the immune system with other systems in the body – and how this advances our knowledge of the organism and health and disease.

4. PREREQUISITES: CMMB 527

5. GRADING: The University policy on grading and related matters is described in “Academic Regulations, sections F.1 and F.2” of the online University Calendar (<http://www.ucalgary.ca/pubs/calendar/current/f-1.html> and <http://www.ucalgary.ca/pubs/calendar/current/f-2.html>). For determining the overall grade in the course the following weights will be used:

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Dr. von der Weid:	17% (presentation of a research article)
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Grade cut-offs are:

92 = A+; 86 = A; 80 = A-; 76 = B+; 72 = B; 68 = B-; 64 = C+; 60 = C; 56 = C-; 53 = D+; 50 = D

2015

CMMB 567: Advanced Topics In Immunology

Tuesday and Thursday 15:30-16:45

Room : Science Theatres (ST) 057

Date	Session	Presentation	Lecturer	Evaluation
13-Jan	Tues	1	Hallmark Features of Inflammation	P. Kubes
<i>INNATE IMMUNE AND IMMUNE CELL TRAFFICING</i>				
15-Jan	Thurs	2	Course outline and introduction	D. McKay
20-Jan	Tues	3	Recruitment of Leukocytes	P. Kubes
22-Jan	Thurs	4	Ischemia/reperfusion injury - a model of inflammation	P. Kubes
27-Jan	Tues	5	Chemokines and Cytokines	K. Patel
29-Jan	Thurs	6	Lipids mediators of inflammation	K. Patel
3-Feb	Tues	7	Discussion and debate - How to decide if a drug does more harm than good? The story of celebrex.	K. Patel
5-Feb	Thurs		In Class test	Kubes/Patel
<i>LYMPH NODE STRUCTURE, MUSCOA ASSOCIATED IMMUNE CELLS AND LYMPHATICS</i>				
10-Feb	Tues	8	The Lymphatic System, Lymphoid Tissues and Lymphatics	P-Y. von der Weid
12-Feb	Thurs	9	Mucosal Immunity and Immune Cell Trafficking	P-Y. von der Weid
17-Feb	Tues		reading week - no class	
19-Feb	Thurs		reading week - no class	
24-Feb	Tues	10	lecture TBA	P-Y. von der Weid
26-Feb	Thurs	11	Journal Club - Student presentations	P-Y. von der Weid
3-Mar	Tues	12	Journal Club - Student presentations	P-Y. von der Weid
<i>AIRWAYS INFLAMMATION</i>				
5-Mar	Thurs	13	Introduction. Basic airways physiology and asthma	R. Newton
10-Mar	Tues	14	Immunology in asthma, COPD and therapeutics	R. Newton
12-Mar	Thurs	15	Mechanisms of anti-inflammatory action by glucocorticoids	R. Newton
17-Mar	Tue	16	Student presentations	R. Newton
19-Mar	Thurs	17	Section Q&A (45 min); Assessment: written test (~30 mins)	R. Newton

MUCOSAL IMMUNITY INFLAMMATION & INTESTINAL DISEASE

24-Mar	Tues	18	Gut form & function. Case report objectives	D. McKay
26-Mar	Thurs	19	Mucosal immunity - players in hypersensitivity, allergy	D. McKay
31-Mar	Tues	20	Inflammatory bowel disease - immune dysregulation (1)	D. McKay
2-Apr	Thurs	21	Inflammatory bowel disease - immune dysregulation (2)	D. McKay
7-Apr	Tues	22	Enteric microflora in gut homeostasis and disease	D. McKay
9-Apr	Thurs	23	Enteric parasitic disease - lessons from the worm	D. McKay
14-Apr	Tues	24	An intergrated environment - nerves, stromal cells and immune interaction	D. McKay

4 page report on role of a defined
immune cell in IBD (16%)
In class particiaption (10%)