

CMMB/MDSC 567

Advanced Topics in Immunology

Instructors:

Course Coordinator
Derek McKay (dmckay@ucalgary.ca)

Course Instructors
Kamala Patel (kpatel@ucalgary.ca)
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Office Hours/Policy on Answering Student Emails

There are no specified office hours unless specifically announced in class at the beginning of module by the individual course instructor, who may post this information on course D2L site

Please note that all direct individual issues relating to the course must be via direct email (from @ucalgary email account) to either the course coordinator or the appropriate instructor. Under normal circumstances a response to emails will be sent within 48 hours.

We fully acknowledge the challenges posed by COVID-19 and will be as accommodating as possible around this as the circumstances dictate and we express our commitment to you for delivering course content and to concern for student well-being.

Time and Location:

Winter semester
Lectures: Tuesday and Thursday
15:30-16:45

*Given the current (Nov. 2020) situation with COVID-19, this course will be delivered via Zoom, with notes, slides and assigned reading as determined by the instructor posted on the MDSC 567 D2L site.

As outlined in the accompanying course schedule, classes are synchronous and any asynchronous component (i.e. individual working on their own, use of discussion boards, etc.) will be determined by the individual instructor.

This course will take place **online** via Desire2Learn (D2L) and Zoom. If unable to participate live inform the instructor in advance and propose and discuss an alternative activity. This may not always be possible

Prerequisite/Co-Requisite:

Introductory Immunology (CMMB 527 or MDSC 321)

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/MDSC 321 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) mucosal immunity, inflammation and disease in the GI tract.

Overarching Theme

This course expands upon the basic knowledge of immunological process in health and disease provided a foundational introductory immunology course. It is also a bridge to more in-depth analysis of the immune system that would be acquired in graduate courses or through graduate research.

This year we are restricted to zoom conferencing to deliver content because of the COVID-19 situation, but whenever possible group discussion and group work will be encouraged. While course material is provided by the instructors, students will be expected to work independently on assignments that may complement 'in-class' instruction but need not overlap that presented in class. Thus, there is a component of self-directed learning, which is seen as essential for being able to understand and critique analysis of immunology and as a forerunner to training in graduate school.

Global Objectives

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. 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.

Course Learning Outcomes

By the end of this course, students will be able to:

- Better critique the scientific literature;
- Apply problem-based learning to a biomedical question and as a learning tool;
- Understand the complexity of immune cells recruitment and trafficking;
- Appreciate the active role that lymphatic vessels play in the control of homeostasis and disease;
- Understand steroid intracellular signaling and gene regulation as they relate to airway inflammation;

- Appreciate the interplay between the mucosal immune system in the gut and the commensal microbiota in the control of intestinal function in health and disease; and,
- Appreciate the complexity of host-parasite interactions as they pertain to the regulation of host immune reactions.

Learning Resources

As appropriate Instructors will post on the course D2L site: lecture notes, slides, assigned reading, url sites from published material, instructions regarding participation and presentation.

Recommended Textbooks/Readings

N/A

Appropriate resources will be identified by each instructor during their module, as needed.

Learning Technology Requirements

Brightspace (by D2L) is located on the University of Calgary server and will be used extensively for communication with students. **It is the student's responsibility to ensure that they receive all posted communications and documents and that they receive emails sent by instructors or fellow students through D2L.** Only your @ucalgary.ca email address may be linked to D2L. Please ensure that you are regularly checking your @ucalgary.ca account.

In order to successfully engage in learning experiences at the University of Calgary, students taking online, remote and blended courses are required to have reliable access to the following technology:

- A computer with a supported operating system, as well as the latest security and malware updates;
- A current and updated web browser;
- Webcam (built-in or external);
- Microphone and speaker (built-in or external), or headset with microphone;
- Current antivirus and/or firewall software enabled;
- Broadband internet connection

Most current laptops will have a built-in webcam, speaker and microphone.

A laptop, desktop, tablet or mobile device is required for D2L access. If you need help accessing or using D2L, please visit the Desire2Learn resource page for students: <http://elearn.ucalgary.ca/d2l-student/>.

Evaluation

The University policy on grading and related matters is described in section F of the 2020-2021 Calendar.

In determining the overall grade in the course, the following weights will be used:

Dr. McKay:	25% (5 page critique of a topic to be determined)
Drs. Von der Weid & Liao:	25% (test, 7.5%; questions and critique during discussion, 7.5%;

written critique 10%)

Dr. Patel: 25% (online and in class participation (10%), written critique (10%))

Dr. Newton: 25% (Essay (20%), in class participation (5%))

There will not be a final examination.

A student's final grade for the course is the sum of the separate assignments. It is not necessary to pass each assignment separately in order to pass the course.

Students who do not complete all major components of the course will be considered as not having completed the course; this will be reflected on the students' official transcript as 'Incomplete'. Major components of the course include in class participation and written assignments. In the absence of medical or other documented reasons, the instructor reserves the right to award an 'Incomplete'."

A Note regarding Writing Assignments:

Writing skills are important to academic study in all disciplines. In keeping with the University of Calgary's emphasis on the importance of academic writing in student assignments (section E.2 of 2020-21 Calendar), writing is emphasized, and the grading thereof in determining a student's mark in this course. The Bachelor of Health Sciences values excellence in writing. Competence in writing entails skills in crafting logical, clear, coherent, non-redundant sentences, paragraphs and broader arguments, as well as skills with the mechanics of writing (grammar, spelling, punctuation). Sources used in research papers must be properly documented. The University of Calgary offers a number of instructional services through the Students' Success Centre's Writing Support Services (<http://www.ucalgary.ca/writingsupport/>) for students seeking feedback on assignments or seeking to improve their general writing skills. Students are **strongly encouraged** to take advantage of these programs.

Grading Scheme:

Letter Grade	Description	Percentage
A+	Outstanding performance	96-100
A	Excellent performance	90-95
A-	Approaching excellent performance	85-89
B+	Exceeding good performance	80-84
B	Good performance	75-79
B-	Approaching good performance	70-74
C+	Exceeding satisfactory performance	65-69
C	Satisfactory performance	60-64
C-	Approaching satisfactory performance	57-59
D+	Marginal pass	54-56
D	Minimal pass	50-53

F	Did not meet course requirements	0-49
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Missed Components of Term Work:

At each instructor's discretion, late assignments will not be accepted and will automatically receive a mark of zero, (or students will lose 5% per day late past the deadline for all assignments. In this case, assignments will NOT be accepted more than 72 hours after the posted deadline and students failing to submit any assignment within this time frame will receive a mark of zero). Students who miss an assignment will receive a mark of zero unless the instructor has been previously notified. There will be NO exceptions to this policy.

It is the agreement of all Faculty and Staff involved in MDSC567 that extensions will NOT be granted on any assignment or quizzes. The only exceptions to this are those in keeping with the University Calendar (illness, religious conviction, or severe domestic affliction) that are received in writing and with supporting documentation. Please be advised that students should notify the instructor before the assignment deadline to discuss the issue. Please note that while absences are permitted for religious reasons, students are responsible for providing advance notice and adhering to other guidelines on this matter, as outlined in the University Calendar (<https://www.ucalgary.ca/pubs/calendar/current/e-4.html>).

Course Evaluations and Student Feedback

Student feedback will be sought at the end of the course through the Universal Student Rating of Instruction (USRI) and a qualitative student evaluation. Students are welcome to discuss the process and content of the course at any time with the instructor. Students may also address any concerns they may have with Dr. Ebba Kurz, Associate Dean (Undergraduate Health and Science Education) in the Cumming School of Medicine (kurz@ucalgary.ca).

Guidelines for Zoom Sessions

Zoom is a video conferencing program that will allow us to meet at specific times for a 'live' video conference, so that we can have the opportunity to meet each other virtually and discuss relevant course topics as a learning community.

To help ensure Zoom sessions are private, do not share the Zoom link or password with others, or on any social media platforms. **Zoom links and passwords are only intended for students registered in the course.** Zoom recordings and materials presented in Zoom, including any teaching materials, must not be shared, distributed or published without the instructor's permission.

The use of video conferencing programs relies on participants to act ethically, honestly and with integrity; and in accordance with the principles of fairness, good faith, and respect (as the Code of Conduct). When entering Zoom or other video conferencing sessions, you play a role in helping create an effective, safe and respectful learning environment. Please be mindful of how your behaviour in these sessions may affect others. **Participants are required to use names officially associated with their UCID** (legal or preferred names listed in the Student Centre) when engaging in these activities. Instructors/moderators can remove those whose names do not appear on class rosters. Non-compliance may be investigated under relevant University of

Calgary conduct policies. If participants have difficulties complying with this requirement, they should email the instructor of the class explaining why, so the instructor may consider whether to grant an exception, and on what terms. For more information on how to get the most out of your zoom sessions visit: <https://elearn.ucalgary.ca/guidelines-for-zoom/>.

If you are unable to attend a Zoom session, please contact your instructor to arrange an alternative activity (where available). Please be prepared, as best as you are able, to join class in a quiet space that will allow you to be fully present and engaged in Zoom sessions. Students will be advised by their instructor when they are expected to turn on their webcam (such as for group work, presentations, etc.).

The instructor may record online Zoom class sessions for the purposes of supporting student learning in this class – such as making the recording available for review of the session or for students who miss a session. Students will be advised before the instructor initiates a recording of a Zoom session. These recordings will be used to support student learning only.

Attendance

Attendance in class/zoom tutorials is expected, with the normal exceptions noted above. Zoom lectures will not be recorded to be available after the class date.

Conduct During Lectures

The classroom (whether in-person or virtual) should be respected as a safe place to share ideas without judgement - a community in which we can all learn from one another. Students are expected to frame their comments and questions to lecturers in respectful and appropriate language, always maintaining sensitivity towards the topic. Students, employees, and academic staff are also expected to demonstrate behaviour in class that promotes and maintains a positive and productive learning environment.

As members of the University community, students, employees and academic staff are expected to demonstrate conduct that is consistent with the University of Calgary Calendar, the Code of Conduct and Non-Academic Misconduct policy and procedures, which can be found at <https://www.ucalgary.ca/policies/forms/title>.

Students are expected to take notes during class and should not rely solely on material supplied by the instructors.

Use of Internet and Electronic Communication Devices in Class

The Bachelor of Health Sciences program aims to create a supportive and respectful learning environment for all students. The use of laptop and mobile devices is acceptable when used in a manner appropriate to the course and classroom activities. However, research studies have found that inappropriate/off-topic use of electronic devices negatively affects the learning of the user and others during class time.

Students are responsible for being aware of the University's Internet and email use policy, which can be found at <https://www.ucalgary.ca/policies/files/policies/electronic-communications-policy.pdf> .

UNIVERSITY OF CALGARY POLICIES AND SUPPORTS

Copyright

All students are required to reach the University of Calgary policy on Acceptable Use of Material Protected by Copyright (<https://www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright-policy.pdf>) and requirements of the Copyright Act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to ensure they are aware of the consequences of unauthorized sharing of course materials (including instructor notes, electronic versions of textbooks, etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy <https://www.ucalgary.ca/pubs/calendar/current/k.html>.

Instructor Intellectual Property

Course materials created by instructors (including course outlines, presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the instructor. These materials may **NOT** be reproduced, redistributed or copied without the explicit consent of the professor. **The posting of course materials to third party websites such as note-sharing sites without permission is prohibited.** Sharing of extracts of these course materials with other students enrolled in the course **at the same time** may be allowed under fair dealing.

Academic Accommodations

It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The Student Accommodations policy is available at <https://ucalgary.ca/student-services/access/prospective-students/academic-accommodations>. Students needing an accommodation based on disability or medical concerns should contact Student Accessibility Services (SAS) in accordance with the Procedure for Accommodations for Students with Disabilities (<https://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities.pdf>). Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their instructor.

SAS will process the request and issue letters of accommodations to instructors. For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/.

Academic Misconduct

The University of Calgary is committed to the highest standards of academic integrity and honesty. The University of Calgary has created rules to govern all its members regarding the creation of knowledge and the demonstration of knowledge having been learned.

Academic Misconduct refers to student behaviour that compromises proper assessment of a student's academic activities and includes (but is not limited to): cheating, fabrication, falsification, plagiarism, unauthorized assistance, failure to comply with an instructor's expectations regarding conduct required of students completing academic assessments in their courses, and failure to comply with exam regulations applied by the Registrar.

For information of the Student Academic Misconduct Policy and Procedures, please visit;
<https://ucalgary.ca/policies/files/policies/student-academic-misconduct-policy.pdf>
<https://ucalgary.ca/policies/files/policies/student-academic-misconduct-procedure.pdf>

Additional information is available on the Academic Integrity website at:
<https://ucalgary.ca/student-services/student-success/learning/academic-integrity>.

Recording of Lectures

Audio or video recording of lectures is **prohibited** except where explicit permission has been received from the instructor.

Freedom of Information and Protection of Privacy Act

Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary

Appeals

If there is a concern with the course, academic matter or a grade, first communicate with the instructor. If these concerns cannot be resolved, students can proceed with an academic appeal, as per Section I of the University Calendar. Students must follow the official reappraisal/appeal process and may contact the Student Ombuds' Office (<http://www.ucalgary.ca/ombuds>) for assistance with this and with any other academic concerns, including academic and non-academic misconduct. Students should be aware that concerns about graded term work may only be initiated **within 10 business days** of first being notified of the grade. <https://www.ucalgary.ca/pubs/calendar/current/i-2.html>

Sexual Violence Policy

The University recognizes that all members of the University Community should be able to learn, work, teach and live in an environment where they are free from harassment, discrimination, and violence. The University of Calgary's sexual violence policy guides us in how we respond to incidents of sexual violence, including supports available to those who have experienced or witnessed sexual violence, or those who are alleged to have committed sexual violence. It provides clear response procedures and timelines, defines complex concepts, and addresses incidents that occur off-campus in certain circumstances. Please see the policy available at <https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf>

Resources for Support of Student Learning, Success, Safety and Wellness

Student Success Centre <http://www.ucalgary.ca/ssc/>

Student Wellness Centre <http://www.ucalgary.ca/wellnesscentre/>
Distress Centre <http://www.distresscentre.com/>
Library Resources <http://library.ucalgary.ca>

Wellness and Mental Health Resources

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 excellent 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 (<https://www.ucalgary.ca/wellnesscentre/services/mental-health-services>) and the Campus Mental Health Strategy (<http://www.ucalgary.ca/mentalhealth/>).

Student Ombuds' Office

The Student Ombuds' Office supports and provides a safe, neutral space for students. For more information, please visit www.ucalgary.ca/ombuds/ or email ombuds@ucalgary.ca

BHSc Student Faculty Liaison Committee (SFLC)

The BHSc SFLC, with elected representatives from all majors, serves to raise issues of interest to BHSc students to the program administration, including items pertaining to curriculum, scheduling and events. A list of current representatives can be found on the BHSc website.

Student Union (SU) Information

The SU Vice-President Academic can be reached at (403) 220-3911 or suvpaca@ucalgary.ca; the SU representatives for the Cumming School of Medicine can be reached at medrep1@su.ucalgary.ca or medrep2@su.ucalgary.ca.

Student Success Centre

The Student Success Centre provides services and programs to ensure students can make the most of their time at the University of Calgary. Our advisors, learning support staff, and writing support staff assist students in enhancing their skills and achieving their academic goals. They provide tailored learning support and advising programs, as well as one-on-one services, free of charge to all undergraduate and graduate students. For more information visit: <https://www.ucalgary.ca/student-services/student-success>

Emergency Evacuation/Assembly Points

As part of the University of Calgary Emergency Evacuation plan, students, faculty, and staff should locate the closest Assembly Point in case of Fire Alarm. Safety signage is posted throughout the campus showing the locations and the possible route to these locations. All students, faculty, and staff are expected to promptly make their way to the nearest Assembly Point if the Fire Alarm is activated. No one is to return into campus facilities until an all clear is given to the warden in charge of the Assembly Area. For more information, see <https://www.ucalgary.ca/emergencyplan/building-evacuation/assembly-points>

Safewalk

Campus security will escort individuals, day or night, anywhere on campus (including McMahon Stadium, Health Sciences Centre, Student Family Housing, the Alberta Children's Hospital and the University LRT station). Call 403-220-5333 or visit

<http://www.ucalgary.ca/security/safewalk>. Use any campus phone, emergency phone or the yellow phone located at most parking lot pay booths. Please ensure your personal safety by taking advantage of this service.

Class Schedule

Please see accompanying excel spreadsheet for the class schedule that provides the date/time, instructor, and topic for each class

Please note that unforeseen circumstances may cause changes to the schedule with respect to the timing of topics and readings. Students will be notified of all changes in a timely manner by way of email and D2L announcements. The exam dates are firm and will not be altered.