

Introductory Immunology: Elements of Immunity MIMM 214 - Winter 2023

Welcome to MIMM 214! We are excited to have you participate in this course!

Lectures time and location

Time: Mondays, Wednesdays, and Fridays, 9:35 PM – 10:25 AM

Location: McIntyre Medical Building, Room 522

Instructor

Jasmin Chahal, Ph.D.

Duff Medical Building

3775 University St., Room 408A

Montreal, QC H3A 2B4

jasmin.chahal@mcgill.ca

*Office hours by appointment via: <https://calendly.com/jasmin-chahal/mimm-content-questions>

*If this time does not work, please send me an email and we can meet in-person or via zoom

Previous Instructors:

- Dr. Claire Trottier
- Dr. Joaquin Madrenas

Guest lecturers

- Dr. Caroline Lambert – Senior Clinical Research Coordinator
- Sarit Klein – MS patient advocate
- Dr. Annie Bernier – Technical and Clinical Sites Trainer at CellCarta
- Dr. Sonya Cyr – Global Medical Affairs Director at Regeneron
- Dr. Kristin Hunt – Pediatric Resident at Queen’s University and ITP patient advocate
- Dr. Giselle Boukhaled – Scientific lead for multi-dimensional analysis, immune profiling team

Teaching Assistants

Lydia Labrie – lydia.labrie@mail.mcgill.ca

Elizabeth Lapshina – elizabeth.lapshina@mail.mcgill.ca

Nicholas Vonniessen – nicholas.vonniessen@mail.mcgill.ca

TEAM members

*Note that you will be assigned a TEAM member after January 18th (add-drop period) – see MyCourses

Daphne Jin	daphne.jin@mail.mcgill.ca
Lin Liu	lin.liu2@mail.mcgill.ca
Bianca Brini	bianca.brini@mail.mcgill.ca
Bahar Rouzbahani	bahar.rouzbahani@mail.mcgill.ca

Optional Textbook

Janeway's Immunobiology by Kenneth Murphy & Casey Weaver, 9th or 10th edition

(8th is ok)

- Specific chapters and sections will be identified on MyCourses for optional reading
- Copies of the textbook are on reserve at the Schulich library
- Can be purchased at the [Le James McGill Bookstore](#)
- Inquisitive can be purchase separately at the W.W. Norton site under [Purchase Options](#)

Kuby Immunology by Punt, Stranford, Jones and Owen, 8th Edition

- Specific chapters and sections will be identified on MyCourses for optional reading
- Can be purchased at the [Le James McGill Bookstore](#)

Prerequisite: BIOL 200

Co-requisite: BIOL 201 or ANAT 212 / BIOC 212

Course description

MIMM214 is a three-credit course that serves as an introduction to immunology to a broad range of students: from those in a general science program to those going into Microbiology and Immunology as a field of specialization. In this course, you will learn about the cellular and molecular components of the immune system. You will understand how immune responses are generated, and the role of the immune system in human disease. This course also addresses how the science of immunology impacts society and will allow you to develop your ability to communicate science to the lay public.

Course Expectations

Although this course is content-heavy and can be difficult, we are here to help you. When facing a challenge, it is best to embrace it and use it as an opportunity to develop and learn. We would like for you to put in effort and seek help from your TAs, TEAM mentors and instructor when you need it. Learning is a shared responsibility, and we will do our best to facilitate your learning.

Learning Outcomes

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

1. Identify key molecules, cells, and tissues involved in the immune system
2. Construct complete models of innate and adaptive immune responses
3. Describe the main steps in the development of the key cells in the immune system
4. Describe the mechanisms involved in allergy and autoimmunity
5. Identify clinical applications of immunology
6. Conclude that immunology is an evolving field where much remains to be understood
7. Communicate to a lay audience on topics of immunology
8. Model the collaborative environment of immunological research

Instructional methods

The evidence is very clear that students who come to class and participate in the in-class activities gain a deeper and longer-lasting understanding of the material. This class uses an interactive approach to lectures. We will be using a web-based polling system called **Slido** to facilitate problem solving and other activities during the lecture. These activities are designed to allow you to actively engage with the material and obtain feedback from your peers and the professor during class time.

During a class with polling questions, you will respond to questions from the instructor from a personal device (smartphone, tablet or laptop). Polling will be available through <https://accounts.sli.do/login?redirect=aHR0cHM6Ly9hZG1pbi5zbGkuZG8vZXZlbnRz>. Please log in with Webex and enter your McGill credentials. For any technical problems with polling, please contact the IT Service Desk: <http://www.mcgill.ca/it/get-started-it/need-help>.

In this class, we foster an inclusive and supportive learning environment. To view resources regarding how to best learn, please visit [Learning Resources](#). If you experience an overwhelming feeling by your academic work and/or would like to further develop time and workload management skills, please seek support from [Student Services](#).

I encourage students to attend class where possible and participate in class activities, though I understand that circumstances may make this difficult this year. Classes will be recorded. Class discussion and formative evaluations will be used throughout to obtain feedback from students.

Evaluation and feedback

In this course you will be evaluated through various assessments, described further below, that allow the professor to measure your ability to gain the learning outcomes. The mark distribution for the course is as follows:

Assessment	Option 1: no creative assignment	Option 2: with creative assignment
Quiz	10	10
Midterm exam	35	30
Final exam	45	45
Formative assessments	10	10
Optional Creative Assignment	0	5
TOTAL	100	100

A brief description of each assessment is shown below. Further details on the instructions, assessment criteria and logistics will be posted in MyCourses. All deadlines are at **11:59 PM EST** on the date indicated below.

Quiz, Midterm and Final exam:

The quiz (10%), midterm (30 - 35%) and final exam (45%) will be held in-person and single answer, multiple choice question exams that will test immunology content, theory, and application. The quiz and midterm will be held during the semester and the final exam will be held during the final exam period.

The quiz will be done in two stages: Stage 1 is a traditional individual exam (worth 85% of the quiz). In stage 2, students will work in groups to answer a subset of questions and answer as a group (worth 15%). In the event where a student's "group" grade is lower than their individual grade, their individual grade will be used as their final mark for this assessment.

Missed midterm:

Students unable to attend the midterm exam due to medical or non-medical reasons must submit a request for missing the exam WITHIN 1 week of the scheduled midterm. Students who fail to do so will receive a grade of ZERO for the midterm. Students must make the request by completing the missed mid-term exam webform available on the MIMM Department [website](#). The Department will evaluate any medical and non-medical situations and reserves the right to make any final decisions regarding what accommodations are reasonable and appropriate in the circumstances. For more information on submitting a request, please go to the Department [website](#).

We will evaluate any non-medical situations and reserve the right to make final decisions regarding what accommodations are reasonable and appropriate in the circumstances. Please consult the Student Wellness Hub for sources of support-
<https://www.mcgill.ca/wellness-hub> .

If you have a valid reason for missing the midterm, you will receive information regarding a deferred midterm exam.

Formative assessments

The purpose of these assessments is to help you process and integrate the knowledge from this class in order to prepare you for the midterm and final exams. You will have the freedom to choose from a list of ten Formative Assessments throughout the semester, each of which is worth 2 points. You can accumulate up to 10 points to fulfill the 10% requirement for Formative Assessments in this course. This choice allows you to plan your semester and distribute your workload and places the responsibility for doing so in your hands. If you accumulate 10 points, this will be worth 10% of your final mark.

I encourage you to complete all the Formative Assessments, since they are designed to help you keep up with the material and study for the exams. Students who complete ALL the FAs will be entered into a draw to win a prize at the end of the semester.

You are encouraged to work on these FAs in study groups. **If you do so, please indicate the names of the members of your study group on your submitted assessment. Note that you are expected to hand in your own work, and not simply copy/paste the work of others. McGill's policy on plagiarism and academic integrity apply.** Detailed descriptions of the FA options and the deadlines for submission are found in MyCourses.

Optional Creative assignment

This semester, students will have the opportunity to complete an OPTIONAL assignment where you will communicate an aspect of immunology to a non-scientist audience using a creative medium of your choice. This optional Creative assignment is worth 5%, which will be taken from the Midterm exam, thus making the latter worth 30% rather than 35%. More information on the optional creative assignment will be available on MyCourses and discussed in class.

Lecture			Class Content	Assignment deadlines
1	W	Jan 4	Introduction	
2	F	Jan 6	Overview of the immune system	
3	M	Jan 9	Overview of the immune system	
4	W	Jan 11	Innate immunity	
5	F	Jan 13	Innate immunity	FA #1
6	M	Jan 16	Innate immunity	
7	W	Jan 18	Innate immunity	
8	F	Jan 20	Innate immunity	FA #2
9	M	Jan 23	Innate immunity	
10	W	Jan 25	Linking innate and adaptive immunity	
11	F	Jan 27	Linking innate and adaptive immunity	
12	M	Jan 30	QUIZ	
13	W	Feb 1	Linking innate and adaptive immunity	
14	F	Feb 3	Linking innate and adaptive immunity	FA #3
15	M	Feb 6	Linking innate and adaptive immunity	
16	W	Feb 8	Linking innate and adaptive immunity	
17	F	Feb 10	Linking innate and adaptive immunity	FA #4
18	M	Feb 13	Guest lecture – Dr. Kristin Hunt	
19	W	Feb 15	Adaptive immunity: T cells	
20	F	Feb 17	MIDTERM	
21	M	Feb 20	Adaptive immunity: T cells	
22	W	Feb 22	Adaptive immunity: T cells	
23	F	Feb 24	Guest lecture – Ms. Sarit Klein	FA #5
Feb 28 – March 4 Reading Week				
24	M	Mar 6	Adaptive immunity: T cells	Optional Creative Assignment – Group submission request
25	W	Mar 8	Adaptive immunity: T cells	
26	F	Mar 10	Guest lecture – Dr. Sonya Cyr	FA #6
27	M	Mar 13	Adaptive immunity: T cells	
28	W	Mar 15	Adaptive immunity: B cells	
29	F	Mar 17	Guest lecture – Dr. Giselle Boukhaled	FA #7
30	M	Mar 20	Adaptive immunity: B cells	
31	W	Mar 22	Guest lecture – Dr. Caroline Lambert	

32	F	Mar 24	Adaptive immunity: B cells	FA #8
33	M	Mar 27	Adaptive immunity: B cells	
34	W	Mar 29	Adaptive immunity: B cells	
35	F	Mar 31	Adaptive immunity: B cells	FA #9
36	M	Apr 3	Guest lecture – Dr. Annie Bernier	
37	W	Apr 5	Adaptive immunity: B cells	
	F	Apr 7	GOOD FRIDAY	
	M	Apr 10	EASTER MONDAY	
38	W	Apr 12	Adaptive immunity: B cells	FA #10 Optional Creative Assignment – Final Submission & Group feedback

Class recording

The pre-lab lectures will be recorded to allow you to review material outside of scheduled class time. Class recordings do not replace a student's presence in a class; rather, they provide complementary pedagogical support for student learning. The recordings will be uploaded 24 h after the lecture date on MyCourses.

Intellectual property considerations

I ask for everyone's cooperation in ensuring that the course videos and associated material are not reproduced or placed in the public domain. This means that each of you can use it for your own purposes, but you cannot allow others to use it by posting it online or giving it or selling it to others who may copy it and make it available.

Lateness:

A 5% deduction will be applied for each day of late submission of an assignment and will received a 0 after a week.

Inclusive Learning Environment

This course is designed to help you learn to communicate professionally both during your time at McGill and in your future workplaces. In keeping with McGill's policies on student rights and responsibilities, it is expected that during class discussions and small group interactions you will communicate constructively and respectfully. Sexist, racist, homophobic, ageist, and ableist expressions will not be tolerated in the classroom or during group meetings held outside of class.

McGill is committed to providing an inclusive and supportive learning environment. If you experience barriers to learning in this course, do not hesitate to discuss them with me. If you have a special learning need or disability, you are encouraged to contact the Student Accessibility & Achievement office: <https://www.mcgill.ca/access-achieve/> .

Health and Wellness

Student wellbeing is a priority for the University. To help students find the support they need as quickly as possible, all of McGill's health and wellness resources have been

integrated into a single [Student Wellness Hub](https://www.mcgill.ca/wellness-hub/), a one-stop shop for everything related to physical and mental health. If you need access to services or would like more information, you are strongly encouraged to visit the Virtual Hub: <https://www.mcgill.ca/wellness-hub/>.

McGill Writing Centre Tutorial Service

Writing well is key to both academic and professional success. The McGill Writing Centre (MWC) offers credit courses in academic and professional writing, and a tutorial service open to all McGill students: <https://www.mcgill.ca/mwc/tutorial-service>. The tutorial service offers one-to-one sessions with seasoned instructors and experienced tutors who will work with you at any stage of the writing process.

During the campus closure period, there will be no tutors on site and no administrative staff at the MWC to answer inquiries. Tutoring sessions will be conducted online via the Microsoft Teams platform. This application is available for free to all students through Office 365: <https://www.mcgill.ca/it/office365-software>. For information about how to book an appointment through Microsoft Teams, please go to <https://www.mcgill.ca/mwc/tutorial-service>.

McGill Library

Discover the McGill Library's rich array of resources. Watch a short welcome video in English, French, Arabic, Chinese, Hindi, Persian, Spanish, or Urdu: <https://www.mcgill.ca/library/orientation>.

Additional Statements

- McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures” (see www.mcgill.ca/students/srr/honest/ for more information)
- In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded/ *Conformément à la Charte des droits de l'étudiant de l'Université McGill, chaque étudiant a le droit de soumettre en français ou en anglais tout travail écrit devant être noté (sauf dans le cas des cours dont l'un des objets est la maîtrise d'une langue)* **Note: Please contact Dr. Chahal if you wish to submit your assignments in French by the end of the add/drop period so that arrangements can be made for you to achieve the same learning outcomes as your peers**
- The [University Student Assessment Policy](#) exists to ensure fair and equitable academic assessment for all students and to protect students from excessive workloads. All students and instructors are encouraged to review this Policy, which addresses multiple aspects and methods of student assessment, e.g. the timing of evaluation due dates and weighting of final examinations.
- Instructor-generated course materials (e.g., handouts, notes, summaries, exam

questions, etc.) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor. Note that infringements of copyright can be subject to follow up by the University under the Code of Student Conduct and Disciplinary Procedures.

- *As the instructor of this course I endeavor to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with me and the [Office for Students with Disabilities](#), 514-398-6009*
- [End-of-course evaluations](#) are one of the ways that McGill works towards maintaining and improving the quality of courses and the student's learning experience. You will be notified by e-mail when the evaluations are available. Please note that a minimum number of responses must be received for results to be available to students.
- In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.
- Additional policies governing academic issues which affect students can be found in the McGill Charter of Students' Rights (see the [Handbook on Student Rights and Responsibilities](#)).
- McGill has policies on sustainability, paper use and other initiatives to promote a culture of sustainability at McGill. (See the [Office of Sustainability](#).)
- Guidelines for the use of mobile computing and communications (MC2) devices in classes at McGill have been approved by the APC. Consult the [Guidelines](#) for a range of sample wording that may be used or adapted by instructors on their course outlines.
- To maintain a safe and respectful classroom environment, please ensure that any polling responses you submit are appropriate and relevant to the question asked. Please note that unless the poll is labelled as anonymous, your responses are identifiable to the instructor. Please see the [Code of Student Conduct and Disciplinary Procedures](#).