

Health Sciences 4J03

Immunological Principles in Practice

Winter Term 2021

INSTRUCTORS

Samuel Workenhe PhD

Research Scientist
Pathology and Molecular Medicine
workens@mcmaster.ca

Caitlin E. Mullarkey DPhil

Assistant Professor,
Biochemistry and Biomedical Sciences
mullarkc@mcmaster.ca

TIME AND PLACE

Class: Tuesday 11:30 – 2:20 MDCL 3504

TEXTBOOK

No textbook is specifically required. Comprehensive background knowledge of immunology is assumed (the most recent edition Janeway's Immunobiology 8th ed. is a good reference point). The expectation for this course is that students will rely heavily on primary and peer-reviewed literature.

OVERVIEW AND LEARNING OBJECTIVES

The course will explore advanced topics in immunology through *problem-based learning* and *journal clubs*. Each week students will be guided to collaborate in small groups on a weekly problem that falls into one of the following themes:

- Allergy/Hypersensitivity
- Autoimmunity/Transplantation
- Biotechnology
- Cancer Immunotherapies/Oncolytics
- Vaccines/Vaccine Developments
- Innate Immunity

In many ways this course will be administered similar to a graduate seminar. Each class will be run through student-led presentations. We will spend half the time exploring an assigned weekly problem and half the time discussing a journal article related to that problem/topic. It is important to note that these problems will be *open-ended*; As such there will rarely be a straightforward “right” answer. Instead, many solutions will be possible. The aim for this course is that students (working in groups) will critically evaluate a body of scientific literature and come to a consensus/conclusion based on published data and the strength of these data.

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EVALUATION:

Weekly Participation (Individual mark): 10%
 PBL Presentation (Group mark): 20%
 Journal Club Presentation (Group mark): 20%
 Written essay assignment (Individual mark): 20%
 Final exam (Individual Mark): 30%

SCHEDULE

Week	Date	Topic
1	Jan 12th	Introduction
2	Jan 19th	Review
3	Jan 26th	Cancer Immunotherapy/Oncolytics PBL
4	Feb 2nd	Vaccine/Vaccine Development PBL
5	Feb 9th	Allergy/Hypersensitivity PBL
6	Feb 16th	MIDTERM RECESS
7	Feb 23rd	Innate Immunity PBL
8	Mar 2nd	Autoimmunity/Transplantation PBL
9	Mar 9th	Biotechnology PBL
10	Mar 16th	Class Choice PBL
11	Mar 23rd	Class Choice PBL
12	Mar 30th	Class Choice PBL
13	Apr 6th	Class Choice PBL

Class Choice PBL: Where possible, this course will strive to be student-directed. Therefore, the class will have the opportunity to choose the themes for the final 4 class sessions.

At times during the term, it may make sense to modify the schedule outlined above. *The instructors reserve the right to modify elements of the course and will notify students accordingly (in class and online through Avenue to Learn)*

Format: We will spend roughly half the time (~75 minutes) discussing the assigned weekly problem. There will be a short break, followed by a journal club (~1hr). Both of these exercises will be led by small groups of students. One group of students will lead the PBL discussion and a separate group of students will run the journal club. Group size will depend on the final enrollment but is expected to be 2-3 people per group. Each student (working in a small group) will be responsible for one PBL presentation and one journal club presentation per term.

PBL WEEKLY PRESENTATIONS

Open-ended PBL problems will be released ~10 days before your scheduled presentation. Presentations should be uploaded on A2L by **midnight** the night BEFORE (Monday) you are

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scheduled to present. Each presentation should be approximately 1 hour long and will be followed by a question and answer period. Presentations will be marked out of 50 points using the following criteria:

- Brief background/introduction
- Proposed hypothesis/ “solution” to the problem
- Detailed immunological explanation of the proposed solution
- Strength of evidence/rationale
- Overall organization and delivery
- Ability to field questions

A further breakdown of the expectations and description for presentations can be found on A2L in the Course Documents folder.

JOURNAL CLUB PRESENTATION

One of the primary goals of this course is for students to deeply engage with recently published primary articles. These papers will be assigned and be relevant to the weekly PBL presentation. For these presentations, students should aim to **facilitate** a discussion in which the entire class can participate. Active learning exercises (think-pair share, one-minute paper, etc.) are highly encouraged. Presentations will be marked out of 50 points using the following criteria:

- Background/introduction
- Significance of research questions/importance
- Techniques
- Results
- Facilitation of discussion

RESPONSIBILITY OF NON-PRESENTERS

It is the responsibility of those students NOT presenting to be engaged and ask questions. Again, students NOT presenting in a given week should take an active role in participating and contributing to the discussion. Each student can earn up to 10 points for each class. Participation marks will not be awarded for weeks when you are a presenter. Attendance will be recorded for each class. Unexcused absences will result in a participation mark of zero for the missed class session. A further description of the expectations for non-presenters can be found in the Course Documents Folder on A2L.

WRITTEN ASSIGNMENT

A detailed description of this assignment will be available on A2L at the end of Week 2.

FINAL EXAM

The final exam will be a take-home assignment. We will provide you with 10 prompts which cover the themes we have discussed in class. You will have a week to familiarize yourself with these prompts and complete preliminary research. Two prompts from this list will then be assigned to the whole class. You will have 72 hours to complete the exam.

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ACADEMIC INTEGRITY

You are expected to exhibit honesty and use ethical behavior in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity. **It is your responsibility to understand what constitutes academic dishonesty.**

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behavior can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: “Grade of F assigned for academic dishonesty”), and/or suspension or expulsion from the university. For information on the various types of academic dishonesty please refer to the [Academic Integrity Policy](https://secretariat.mcmaster.ca/university-policies-procedures-guidelines/), located at <https://secretariat.mcmaster.ca/university-policies-procedures-guidelines/>

The following illustrates only three forms of academic dishonesty:

- plagiarism, e.g. the submission of work that is not one’s own or for which other credit has been obtained.
- improper collaboration in group work.
- copying or using unauthorized aids in tests and examinations.

AUTHENTICITY AND PLAGIARISM DETECTION

Some courses may use a web-based service (Turnitin.com) to reveal authenticity and ownership of student submitted work. For courses using such software, students will be expected to submit their work electronically either directly to Turnitin.com or via an online learning platform (e.g. A2L, etc.) using plagiarism detection (a service supported by Turnitin.com) so it can be checked for academic dishonesty. Students who do not wish their work to be submitted through the plagiarism detection software must inform the Instructor before the assignment is due. No penalty will be assigned to a student who does not submit work to the plagiarism detection software. **All submitted work is subject to normal verification that standards of academic integrity have been upheld** (e.g., on-line search, other software, etc.). For more details about McMaster’s use of Turnitin.com please go to www.mcmaster.ca/academicintegrity.

AVENUE TO LEARN

In this course we will use Avenue to Learn (A2L). Students should be aware that, when they access the electronic components of a course using these elements, private information such as first and last names, usernames for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in a course that uses on-line elements will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

ONLINE PROCTORING

Some courses may use online proctoring software for tests and exams. This software may require students to turn on their video camera, present identification, monitor and record their computer activities, and/or lock/restrict their browser or other applications/software during tests or exams. This software may be required to be installed before the test/exam begins.

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CONDUCT EXPECTATIONS

As a McMaster student, you have the right to experience, and the responsibility to demonstrate, respectful and dignified interactions within all of our living, learning and working communities. These expectations are described in the [Code of Student Rights & Responsibilities](#) (the “Code”). All students share the responsibility of maintaining a positive environment for the academic and personal growth of all McMaster community members, **whether in person or online**. It is essential that students be mindful of their interactions online, as the Code remains in effect in virtual learning environments. The Code applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in University activities. Student disruptions or behaviors that interfere with university functions on online platforms (e.g. use of Avenue 2 Learn, WebEx or Zoom for delivery), will be taken very seriously and will be investigated. Outcomes may include restriction or removal of the involved students’ access to these platforms.

COPYRIGHT AND RECORDING

Students are advised that lectures, demonstrations, performances, and any other course material provided by an instructor include copyright protected works. The Copyright Act and copyright law protect every original literary, dramatic, musical and artistic work, **including lectures** by University instructors. The recording of lectures, tutorials, or other methods of instruction may occur during a course. Recording may be done by either the instructor for the purpose of authorized distribution, or by a student for the purpose of personal study. Students should be aware that their voice and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you.

MARKING

Marking schemes and rubrics will be provided for most assignments. All written work will be marked on grammar, clarity of writing, and organization, as well as content and analysis. Further descriptions of the criteria for all assignments can be found in the Tutorial Guidelines. All essays must be properly referenced. It is suggested that students have Mendeley to keep track of references. This is a free reference software program offered to McMaster Students. Students are encouraged to visit the Centre for Student Development to improve their essay skills (MUSC B107; x24711). For information about the Writing Clinic and the Centre’s other services, visit the Centre’s website: <http://csd.mcmaster.ca>.

ASSIGNMENT DEADLINES AND MISSED OR LATE WORK

All written work must be submitted on the due date (exclusively through submission folders on **Avenue to Learn**). It is **YOUR** responsibility to ensure you have uploaded your assignment to the *correct* folder. Assignments submitted to incorrect folders risk incurring late penalties. **DO NOT** submit essays by email, unless you are instructed to do so by Dr. Mullarkey. Late assignments will be **penalized 10% per day** (weekends will count as *two* days). Late penalties will not be waived unless your Faculty/Program Office advises the instructor that you have submitted to that office the appropriate documentation to support your inability to submit the work by the due date.

REQUESTS FOR RELIEF FOR MISSED ACADEMIC TERM WORK

McMaster Student Absence Form (MSAF): In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar “Requests for Relief for Missed Academic Term Work”. It is the prerogative of the Instructor to determine the appropriate relief for missed work. *It is your responsibility to follow up with Dr. Mullarkey immediately about the nature of the accommodation.*

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ACADEMIC ACCOMMODATION OF STUDENTS WITH DISABILITIES

Students with disabilities who require academic accommodation must contact [Student Accessibility Services \(SAS\)](#) at 905-525-9140 ext. 28652 or sas@mcmaster.ca to make arrangements with a Program Coordinator. For further information, consult McMaster University's [Academic Accommodation of Students with Disabilities](#) policy.

ACADEMIC ACCOMMODATION FOR RELIGIOUS, INDIGENOUS OR SPIRITUAL OBSERVANCES (RISO)

Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the [RISO](#) policy. Students should submit their request to their Faculty Office *normally within 10 working days* of the beginning of term in which they anticipate a need for accommodation or to the Registrar's Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

EXTREME CIRCUMSTANCES

The University reserves the right to change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labor disruptions, etc.). Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, A2L and/or McMaster email.