INSTRUCTORS

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TIME AND PLACE
Class: Tuesday 11:30 – 2:20 ETB

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. 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

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.
EVALUATION:
Weekly Participation (Individual mark): 15%*
Review Presentation Week 2 (Group mark): 5%
Group Presentations (2 per semester): 25%
Written essay assignment (Individual mark): 25%
Final oral presentation OR exam (*note depending on enrollment the final may be an exam or an oral presentation): 30%

*inclusive of impromptu in-class quizzes

SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>Jan 9th</td>
<td>Introduction</td>
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<tr>
<td>2</td>
<td>Jan 16th</td>
<td>Review: Key immunological topics</td>
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<tr>
<td>3</td>
<td>Jan 23th</td>
<td>Cancer Immunotherapy/Oncolytics PBL</td>
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<td>4</td>
<td>Jan 30th</td>
<td>Vaccine/Vaccine Development PBL</td>
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<td>5</td>
<td>Feb 6th</td>
<td>Allergy/Hypersensitivity PBL</td>
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<td>6</td>
<td>Feb 13th</td>
<td>Innate Immunity PBL</td>
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<td>7</td>
<td>Feb 20th</td>
<td>NO CLASS MIDTERM RECESS</td>
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<td>8</td>
<td>Feb 27th</td>
<td>Autoimmunity/Transplantation PBL</td>
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<tr>
<td>9</td>
<td>Mar 6th</td>
<td>Biotechnology PBL</td>
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<td>10</td>
<td>Mar 13th</td>
<td>CLASS CHOICE PBL</td>
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<td>11</td>
<td>Mar 20th</td>
<td>CLASS CHOICE PBL</td>
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<td>12</td>
<td>Mar 27th</td>
<td>CLASS CHOICE PBL</td>
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<tr>
<td>13</td>
<td>Apr 3rd</td>
<td>CLASS CHOICE PBL</td>
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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 reserves the right to modify elements of the course and will notify students accordingly (in class and online through Avenue to Learn)

Format: Starting in Week 2, at the end of each class ~30 minutes will be allocated to discuss and distribute the problem for the following week. During this time, students will be expected to brainstorm/search appropriate scientific databases in order to generate a list of possible solutions to the problem. Two groups will select options from this list (one per group) to research further and present the following week. In short, the presentations should seek to solve the question at hand AND also should convince your classmates that YOUR chosen solution is the best explanation/way forward. To do this you will need to critically appraise the scientific literature, provide persuasive evidence and rationale, and advocate for your solution. Presentations are expected to last ~30 minutes. At the conclusion of the presentation there will be 10-15 minutes of questions from the class and instructors.
WEEKLY PRESENTATIONS
Presentations should be uploaded on A2L by midnight the night BEFORE (Monday) you are scheduled to present. Each presentation should be approximately 30 minutes. Because all class members will have discussed the problem the previous week, your introduction should be BRIEF. The majority of your time should be spent explaining your solution, discussing the evidence, and convincing your classmates of the strength of your solution. 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.

RESPONSIBILITIES OF NON-PRESENTERS
It is the responsibility of those students NOT presenting to be engaged and ask questions. The audience will have the additional responsibility of selecting the strongest solution to the problem based on the data presented during class. Again, students NOT presenting in a given week should take an active role in participating and contributing to the discussion. Before a discussion/voting session for the strongest hypothesis, two students will be selected at random to provide a recap of the day’s presentations. 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
You will have an opportunity to select the theme for your final written assignment (from the six listed above). An e-mail will be circulated during Week 3 soliciting the themes from each student. You will subsequently receive a landmark paper from your selected theme, that is to say a paper describing a seminal immunological finding in the field. You task will be to discuss how your assigned paper provided a significant shift in immunological paradigms and review the current state/advances related to that particular topic. A detail description of this assignment will be available on A2L at the end of Week 2. As part of this assignment you will meet one-on-one with an instructor to discuss a draft of your essay. Those meetings will be scheduled for Week 8 and your final draft will be due in Week 12.
**Final Oral Presentation or Exam**
Final presentations/exam will be scheduled during the exam period. You will receive a specific topic/and or paper to review 72 hours before your scheduled presentation/exam.

**Assignment Deadlines and Missed or Late Work**
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 assignment can be found on A2L. 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](http://csd.mcmaster.ca).

All written work must be submitted on the due date (typically through Avenue to Learn). Please take care to submit your assignments in the correct folders. Otherwise you risk incurring late penalties. Do not submit essays by email, unless you are instructed to do so. Late assignments will be penalized **10% a day** (weekends will count as two days). Late penalties will not be waived unless you have submitted an MSAF, or the 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.

**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.

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.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at [http://www.mcmaster.ca/academicintegrity](http://www.mcmaster.ca/academicintegrity)

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one’s own or for which other credit has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations.

In this course, we will be using a web-based service (Turnitin.com) to reveal plagiarism.
Students will be expected to submit their work electronically to Turnitin.com so that it can be checked for academic dishonesty. Students who do not wish to submit their work to Turnitin.com must still submit their assignment as instructed. No penalty will be assigned to a student who does not submit work to Turnitin.com. All submitted work is subject to normal verification that standards of academic integrity have been upheld (e.g., on-line search, etc.). To see the Turnitin.com Policy, please go to www.mcmaster.ca/academicintegrity.

**AVENUE TO LEARN**

In this course, we will be using Avenue to Learn (A2L). Students should be aware that, when they access the electronic components of this course, private information such as first and last names, user names 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 this course will be deemed consent to this disclosure.

**MCMaster Student Absence Form**

This is an online, self-reporting tool for students to report absence due to minor medical situations that last up to 3 days and to request accommodation for any missed academic work that is worth less than 25% of the final grade. Please note that this tool cannot be used during final examination period. It is the prerogative of the Instructor to determine the appropriate relieve for missed term work-this may include different versions of quizzes/or exams. You may submit a maximum of one request per term. The form should be filled out immediately when you are about to return to class after your absence. It is your responsibility to follow up with Dr. Mullarkey immediately about the nature of the accommodation. If you are absent for more than 3 days, have missed academic work worth 25% or more must be reported to the associate Dean’s office, with documentation, and relief may not necessarily be granted.

**Academic Accommodation of Students with Disabilities**

Students who require academic accommodation must contact Student Accessibility Services (SAS) to make arrangements with a Program Coordinator. Academic accommodations must be arranged for each term of study. Student Accessibility Services can be contacted by phone 905-525-9140, ext. 2865 or e-mail sas@mcmaster.ca. For further information, consult McMaster University’s Policy for Academic Accommodation of Students with Disabilities.