Immunology
UNIVERSITY OF TORONTO

IMM199H1 Fall 2024
Immunology in the News Today

Course Instructor
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Teaching Assistant

Office Hours

Lectures and Tutorials

Course Description
Why do we get sick? How do vaccines work? Does our diet influence our immunity? This course is intended to inspire curiosity about questions generated by immunology concepts that are prevalent in the news today. Different topics will be explored each week including immunity worldwide, human vaccinations and the mucosal immune system. Topics will be placed in context through real-life case studies, immunology virtual laboratory simulation, interactions with faculty members and extensive coverage of the basic science underlying each topic. Restricted to first-year students. Not eligible for CR/NCR option.

Course Learning Outcomes
- Understand a broad spectrum of concepts that help to provide a framework for current thoughts, systems, networks and paradigms in Immunology.
- Establish relationships with instructors and peers through engagement in online and class discussions.
- Explore various limits of current news stories, by fact-checking and corroborating knowledge with the scientific literature.
- Assess immunology resources critically (e.g. videos, virtual labs, case studies, news articles), and use precise written responses to present the work to both a science literate and general audience in the form of abstract submissions and the written group project.

Evaluation Scheme & Course Assessments

Assessment	% of Grade	Date
Attendance / Participation	10%	Ongoing
Annotated Abstract Submissions	20% (2x10%)	September 17, November 5
Midterm Test	20%	October 8
Group Assignment **Written Assignment** **Peer Review**	 23% 2%	November 26
Final Assessment	25%	TBD

Attendance / Participation (10%)

Class attendance is mandatory and an integral part of your learning experience in this course. Students are expected not only to attend class but also to read the required text before class. Students will have a number of opportunities to participate in the course, including discussion boards on Quercus, weekly online case studies and/or in-class discussions.

Students will be required to complete/submit a **weekly response to a case study** by 11:59pm on the Friday following the class. Material presented in case studies is testable; therefore, these weekly exercises provide practice for test questions and should be completed thoroughly. Weekly case study response submissions will be graded for participation only. Students must attend class *AND* complete 6/8 post-class case studies over the term to earn the full participation grade. Given the inherent flexibility in the grading scheme (i.e. you can miss up to two post-class case study submissions), there are *no extensions nor make-ups available for missed class, nor for missed case study submissions.*

Annotated Abstract Submissions (20%)

Students will compose "Annotated Abstracts," which must be between 300-350 words. Students will use precise language to describe the immune response at play in a specific news-related article (e.g., immune concept at play, detailed markers on a cell, specific receptors, cytokines, protein structure, etc.). Students will gain a profound understanding of the language of immunology and an appreciation for the immunological principles underlying stories in the news.

An *annotated bibliography* must follow, and all written work must be referenced in a consistent format of your choice. For the annotations, each reference entry should be followed by your own description in a few sentences that clearly indicate the main point that links the use of the reference to your abstract text statements.

Further details on topics and a grading rubric will be posted on Quercus. Each abstract submission is worth 10%.

Due Dates: **Sept. 17 and Nov. 5**, 11:59PM through Quercus

Group Assignment (23% Written Assignment + 2% Peer Review)

Upon exposure to stories in the news, an understanding of immunological principles is key to discerning "myth" from "fact." For this assignment, your group will choose a news article that is related to a pre-assigned Immunology topic, and you will have the opportunity to engage in a collaborative written assignment with a group of five students. 23% of your grade for this assignment will be derived from the written group submission, and 2% from peer evaluation of your contribution to the group assignment.

Further details on topics, assignment guidelines and a grading rubric will be posted on Quercus.

All group members are expected to contribute to the written assignment equally and provide an outline of their involvement. Information on how individuals' contributions to the group assignment will be assessed will be provided on Quercus, but students will need to complete a peer evaluation survey to evaluate their group members' contributions. ***Failure to complete this survey will result in a 2-mark penalty on a student's individual project grade.*** Every group member will earn the grade earned by their group's assignment, unless there is a clear and consistent message in the peer/self-evaluations that an individual's contributions were less than satisfactory. If this is the case, that individual's project grade will be less than the grade earned by the group assignment. The exact amount less will be determined on a case-by-case basis, based on the contributions of that group member.

Due Dates: All components of this assignment as described above are due on **November 26**, 11:59PM through Quercus

Midterm Test (20%) and Final Exam (25%)

The questions used in the midterm (**October 8**) and final exam will reflect course topics, interactive learning exercises and videos throughout the course. The final exam will only cover the new material preceding the exam (i.e., non-cumulative). Exams will be in both multiple choice and short answer formats. The final exam will be 2 hours in duration and will be scheduled by the Faculty of Arts & Science during the examination period.

Marking Concerns with Assignments

Any requests to have an assignment re-graded must be made in writing directly to Dr. Yi **within one week** of the date the marks were posted on Quercus. To be considered, your message must clearly identify your concern, contain a detailed justification for your concern and make specific references to the relevant course material. *Keep in mind that it is possible for your assignment grade to go down if the re-graded mark is lower than your original assignment grade.*

Missed Assignment Policy

- This course follows the University of Toronto's Policies on missed tests, assignments, and tutorials and requires students to complete the Absence Declaration on ACORN if an assessment is missed due to illness. Your Absence Declaration must be accompanied by a Verification of Illness form if applicable, and you must report your absence to the course coordinator, Dr. TJ Yi (taejoon.yi@utoronto.ca) by email within one week of the assessment due date to request accommodation.
  Note: If you cannot submit a VOI due to limits on terms of use, you can submit a different form (like a letter from a doctor), as long as it is an original document, and it contains the same information as the VOI (including dates, academic impact, practitioner's signature, phone and registration number).
- Other reasons for missing an assessment (i.e., assignment, test) will require prior approval by your instructor. If approval is not granted in advance for non-medical reasons, then 0% will be recorded for the missed assessment.
- *Note*: If you submit an assessment (i.e., assignment, test), it will be assumed that you deemed yourself fit enough to do so and your grade will stand as calculated. No accommodation will be made based on reports of medical, physical, or emotional distress ***after*** the fact.
- **Accommodation for a missed class/case study response** - There are no make-ups for missed class/case study responses, given the inherent flexibility in the grading scheme (i.e. you can miss up to 2 submissions).
- There are **no accommodations** for individual contributions to the **group written assignment** due to the nature of the assessment (i.e. it is a group assignment).

Statement on Academic Integrity

All students, faculty and staff are expected to follow the University's guidelines and policies on academic integrity. For students, this means following the standards of academic honesty when writing assignments, collaborating with fellow students, and writing tests and exams. Ensure that the work you submit for grading represents your own honest efforts. Plagiarism—representing someone else's work as your own or submitting work that you have previously submitted for marks in another class or program—is a serious offence that can result in sanctions. Speak to your course instructor for advice on anything that you find unclear. To learn more about how to cite and use source material appropriately and for other writing support, see the U of T writing support website at http://www.writing.utoronto.ca. Consult the Code of Behaviour on Academic Matters for a complete outline of the University's policy and expectations. For more information, please see http://www.artsci.utoronto.ca/osai and http://academicintegrity.utoronto.ca.

Students will be required to submit their course assignments to the University's plagiarism detection tool for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their assignments to be included as source documents in the tool's reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of this tool are described on the Centre for Teaching Support & Innovation web site (https://uoft.me/pdt-faq).

Can I use Generative AI Tools in IMM199?

The work you submit for this course must be your own, and may not include any content from generative artificial intelligence (AI) tools, either verbatim or with edits. You may, however, use generative AI to support your work on assignments in this course in the following ways:

- To answer general questions about high-level concepts covered in this course or assignments
- To provide examples of the usage of library tools

Generative AI should not be used to summarize information and generate assignment outlines. Please note that any uses of generative AI beyond the ones listed above are not permitted, and will be considered use of an unauthorized aid, which is an academic offense. Submissions will be assessed at the discretion of the course coordinator, and students will be asked to show evidence of their work if a case of Academic Integrity and the inappropriate use of Generative AI tools is suspected.

Accessibility Needs

Students with diverse learning styles and needs are welcome in this course. If you have an acute or ongoing disability issue or accommodation need, please feel free to approach the course instructor, as well as register with Accessibility Services (AS) at the beginning of the academic year by visiting http://accessibility.utoronto.ca.

Required Readings

There is no textbook for this course. All required readings/content will be posted on the Quercus course website (information below), and should be read **prior** to attending the lectures as we will critically analyze these readings in lecture.

Quercus Course Website

We will be using the new learning management software implemented at the University of Toronto, called Quercus, to post information about the course. To access the course website, go to the U of T Quercus log-in page at https://q.utoronto.ca. Once you have logged in to Quercus using your UTORid and password, you should see the link or "card" for **IMM199, Immunology in the News Today**. All questions about the course can be posted on the Discussions area of our Quercus course site. It is your responsibility to check this Quercus site, including the announcements section, regularly, and to monitor your @mail.utoronto.ca email inbox for messages about the course. Here, you will find announcements about assessments, help (via the Quercus Discussions), your grades, etc. Course assessments will also need to be submitted through Quercus and outline lecture slides will be posted there in .pdf format. Alternative file formats will not be available. **Note that complete slides/lecture material used in class will not be posted or distributed in any form under any circumstance**.

You can ask questions on the Discussions tool on Quercus and respond to your peers' questions about weekly course content (e.g., lecture, readings, assignment questions, etc.) or general course administration. If you email your instructor/TAs with a course content or general administration question, you will be directed to Quercus Discussions. This is a public (to the class) Discussion Board and an extension of our classroom learning community so please be respectful of one another. Derogatory, discriminatory, or otherwise inappropriate language or topics will be removed and dealt with at the instructors' discretion.

Intellectual Property Statement

Audio recording of lectures is permitted, but **no videotaping of lectures will be permitted under any circumstances**. Note that all course materials are the intellectual property of the course instructor, and they

are made available to you for your personal use in this course. Sharing, posting, selling or using this material outside of your personal use in this course is **not** permitted under any circumstances and is considered an infringement of intellectual property rights. According to intellectual property laws, not asking permission constitutes stealing.

Questions & Additional Course Help

All course content or course administration questions must be posted to the online Discussion Board on Quercus or brought to office hours. Any messages of a more personal nature (e.g., medical documentation for a missed class/assignment) should be emailed to the instructor (taejoon.yi@utoronto.ca). You can expect a response within 48 hours (Monday-Friday) to a discussion board posting or to an email.

Tentative Class Schedule

The tentative schedule for course topics is shown on the following pages. Some adjustments may be made to weekly topics as the course progresses.

Timeline	Class Topic	Class Topic
Sep 3	**"A Primer for Immunity" Part 2** • Immunology in the news Overview of cells and molecules of the Immune • system with some basic concepts	Explore cellular immunity and components of blood via use of the Immunology virtual lab.
Sep 10	**"A Primer for Immunity" Part 2**	
Sep 17	**"Immune Geography & Diversity"** • Anatomy: why are the systems of the immune system placed where are they? • Why a diversity of cell types & antibody molecules for defense?	**Due**: Annotated Abstract #1 *Students select topics for final group project write-up on Quercus.*
Sep 24	**"Human Vaccines"** • Overview of current global human immunization program, and its social, economic and cultural challenges.	
Oct 1	**"Natural Killer cells: what's in a name?"** • NK cells and their role in natural defense against tumors and viral infections.	
Oct 8	Midterm	
Oct 15	**"Neuroimmunology"** • Challenges that early life forms must have faced in identifying progeny versus pathogens • Evolutionary trade-offs	
Oct 22	**"Errors in autoimmunity"** • How and why does the immune system target the body in autoimmune diseases?	
Oct 29	Reading week	
Nov 5	**"The immunology of "new" viruses"** • What happens when a new virus arises in a certain population? • Population-virus interactions	**Due**: Annotated Abstract #2
Nov 12	**"Gut microbes – you are what you eat"** • The cultural/geographical link to composition of microbial communities	
Nov 19	**"Strategies to modulate the anti-tumor immune response**" • Cancer immunotherapy • How does the immune system recognize cancer?	
Nov 26	**"Is Allergy a case of mistaken Identity?"** • Allergens: Innocuous vs dangerous?	**Due**: Group Project Write-Up