Immunology
UNIVERSITY OF TORONTO

Course & Instructor Information

Course Coordinator: Liliana Clemenza, Assistant Professor, Teaching Stream

Online Office Hours: Every Monday 1:30-2:30pm, Teams Office Hours Room. Other times can be arranged by appointment.

Lecturers	Email
T. Mallevaey	thierry.mallevaey@utoronto.ca
L. Clemenza	liliana.clemenza@utoronto.ca
A. Mortha	arthur.mortha@utoronto.ca
S. MacParland	s.macparland@utoronto.ca
L. Serghides	lena.serghides@utoronto.ca
T. Watts	tania.watts@utoronto.ca

Lecture Delivery Mode:
In-person lectures will take place on Thursdays from 10 a.m. to 12 p.m. They will be recorded and posted on Quercus. Attendance is not mandatory, but a 2% bonus will be awarded for attending eight out of the ten lectures, giving a possible 102 Quercus points for the course. Please note that the highest score entered as an official grade for the course is 100. Therefore, a student with a perfect score of 100 before the bonus will see their grade of 100 unchanged.

Friday Session Delivery Mode:
The in-person *Spotlight on Researcher* sessions occur every Friday from 1:00 to 2:00 pm. Attendance is mandatory and will be taken at the beginning of each session. In these sessions, postdoctoral fellows and senior PhD students will present new material, which will form the basis for weekly assignments. See below for detailed assignment guidelines.

Arts & Science Calendar Course Overview (20L/9T)
IMM341H, 'Fundamental Immunology,' introduces the basic principles and key players of the immune system: the differences and interplay between innate and adaptive immunity, how immune cells develop and function, and how immune cells recognize threats and danger and mount an appropriate and measured response.

Prerequisite: BIO230H1
Required Textbook: Janeway's Immunobiology: 10th Edition by Murphy, Wearer, Berg

Evaluation Scheme & Course Assessments

Assessment	% of Grade	Due Date

Janeway's Readings & InQuizitive	10%	Ongoing
"Spotlight on a Researcher" Assignment	15%	Ongoing
Test 1	17.5%	January 30, 10:00am-11:30am
Test 2	17.5%	March 6, 10:00am-11:30am
Final Assessment	40%	TBA

1. Readings and InQuizitive (10 Quizzes, each worth 1% - total 10%)

Janeway's textbook and companion site, InQuizitive, are mandatory resources for this course and can be purchased for CAD 72.00. Note: If you have already purchased the InQuizitive package as an IMM341 student in the fall 2024, you still have access to Janeway's resources and ebook and you will not need to buy it again. However, you will need a student Set ID and an access code that will be posted on Quercus Readings related to the weekly lecture will be assigned every Thursday at noon, along with an associated InQuizitive quiz. In InQuizitive, students must answer a minimum number of questions in each activity before receiving a grade and reach a 100% Target Score. The quiz must be completed by 11:59 p.m. on Thursday of the following week (one-week window).
An activity called "How to use InQuizitive" will be available during the first week of class.

There are no make-ups for missed InQuizitive homework, given the nature of the assessment and since there is a one-week period for completion.

1. Spotlight on a Researcher Assignment (9 submissions, each worth 1.66% - total 15%)

In this course, you will complete weekly assignments based on the research paper and discussion presented during the "Spotlight on a Researcher" Friday sessions. These sessions and associated assignments are designed to deepen your understanding and promote critical engagement. Please note: Attendance of the Friday sessions is mandatory, and attendance will be taken at the beginning of every session.
You are encouraged to use generative AI tools like Microsoft Copilot under specific conditions to support your learning. However, all submitted work must demonstrate your own understanding and effort. You must also clearly document any assistance received from AI. **Pretending that AI-generated content is entirely your own or using AI-generated text without modifications is prohibited and may lead to academic penalties.**
You can opt out of using AI; however, your assignment will be reviewed for any undeclared use, and you may be required to submit work-in-progress files of your submitted work (see the section "Follow-up for undeclared use of AI").

Microsoft Copilot:
The recommended AI tool is the protected version of Microsoft Copilot that is available to faculty, staff, and UofT students. "Copilot is an enterprise version of an AI-powered chatbot and search engine which better protects the privacy and security of users (when users are signed into their U of T account). Copilot, like other generative AI tools, may provide information that is not correct ("hallucinations"), and it is up to each individual user to determine if the results are acceptable. For information and instructions on accessing the enterprise edition, please read and adhere to the Microsoft Copilot guidelines for use. "

AI Use Guidelines
You may use AI tools to outline, brainstorm, and clarify concepts.

Examples of appropriate AI use:

Use	Example*	Documentation
Generating outlines	Asking AI to provide an outline for organizing responses.	I used an AI-generated outline and reorganized it to better reflect the study's focus and tutorial discussion
Brainstorming ideas	Asking AI to generate potential follow-up studies based on the results of the paper presented in the tutorial	I used AI to suggest themes for my analysis and selected relevant ones, refining them to align with tutorial insights
Clarifying Concepts	Asking AI to explain a term (e.g., "cytokine storm") in simpler language	I verified AI's explanation and transform it into my own words before integrating it into my response

*Provide screenshots in an appendix.

AI tools must not be used to:
- Generate final answers or entire sections without modification.
- Fabricate or create citation lists. You must include only the reference you used for your writing.
- Bypass critical thinking or personal analysis.

Documentation Requirements
For every assignment using AI, include an appendix with:
1. Name of AI Tool(s): Specify the tools used (e.g., ChatGPT, Copilot).
2. Prompts Entered: Provide the exact prompts used.
3. AI Output: Include unedited output directly generated by the tool.
4. Modifications: Explain how you changed or integrated the AI-generated content.

Follow-Up for Undeclared AI Use
If your submission is flagged for potential undeclared AI use, the instructor will meet with you to discuss your assignment. Be prepared to explain your thought process, approach, and sources. This is an opportunity to clarify and ensure adherence to the guidelines. Failure to provide a satisfactory explanation may result in academic penalties.

Rubric for Evaluation

Criteria	Exemplary (Full Points)	Proficient (75%)	Emerging (50%)	Beginner (25%)
Introduction (10%)	Background is highly developed and focused; context of main ideas is clear and insightful. **(10 points)**	Background is developed and relevant; context of main ideas is mostly clear. **(7.5 points)**	Background is moderately developed; context is vague or partially irrelevant. **(5 points)**	Background is underdeveloped; lacks clarity or focus. **(2.5 points)**
Development of Main Content (30%)	Excellent summary of the presentation with clear and specific references to tutorial discussions. Evidence of critical engagement with the material. **(30 points)**	Adequate summary with some references to tutorial content. Engagement is present but not deep. **(22.5 points)**	Minimal or vague summary with superficial engagement. **(15 points)**	No meaningful summary or references to tutorial content. Lacks engagement. **(7.5 points)**
Reflective Component and Engagement (20%)	Thoughtful and original insights into the material. Demonstrates personal engagement and a clear reflection on the topic's impact or relevance. **(20 points)**	Some originality and reflection. Demonstrates adequate engagement but lacks depth in insights. **(15 points)**	Limited reflection or originality. Engagement is present but underdeveloped. **(10 points)**	Little or no reflection, originality, or engagement. Weak or absent insights. **(5 points)**
AI Utilization (15%)	AI was creatively and critically used; modifications are extensive and reflect deep understanding. Documentation is clear and thorough. **(15 points)**	AI was effectively used and appropriately modified; documentation is adequate. **(11.25 points)**	AI was minimally modified; documentation is vague or incomplete. **(7.5 points)**	AI-generated content was used without modification or documentation, resulting in lack of originality. **(3.75 points)**
Organization and Flow (15%)	Ideas are consistently logical, well-structured, and engaging. **(15 points)**	Ideas are logical and structured; flow is clear but could be improved. **(11.25 points)**	Ideas are somewhat logical; flow is inconsistent or disjointed. **(7.5 points)**	Ideas lack logical flow or structure, making the narrative difficult to follow. **(3.75 points)**
Grammar and Spelling (10%)	Masterful use of grammar; no spelling errors. **(10 points)**	Generally good; some minor errors in grammar and/or spelling. **(7.5 points)**	Several grammatical and/or spelling errors. **(5 points)**	Many grammatical and spelling errors. **(2.5 points)**

If you choose to opt out of using AI tools, the 15% allocated for "AI utilization" will be equally divided between "Development of main content" and "Reflective component and engagement."

Refer to the "Missed Assessment Policy" section below for information on requesting accommodation for a missed peer scholar assignment and possible accommodations.

3. Tests and Final Assessment

Term Tests 1 and 2 will take place online via Quercus Quizzes. Test dates and coverage/format are highlighted below:

Test 1 (17.5%): Test 1 will be **online on January 30, 2024, from 10:00 to 11:30 a.m.** It will cover Lectures 1-3 of the course, with 10 multiple-choice questions per lecture.

Test 2 (17.5%): Term Test 2 will be **online on March 6, 2024, from 10:00 to 11:30 a.m**. It will cover Lectures 4-6 of the course and consist of 10 multiple-choice questions per lecture.

In-person Final Exam (40%): The Faculty of Arts & Science will schedule the final exam date. The Final Exam will cover lectures 7-10 of the course, with 10 multiple-choice questions per lecture.

Please refer to the "Missed Assessment Policy" section below for information on requesting accommodation for a missed test or assignment and what accommodations may be possible.

Course Schedule

Lecture Date	Tutorial* Date	Lecture (Thursdays at 10am-12pm)	Thursday Presenter	Friday (1-2pm) Presenter
Jan 9	Jan 10	Innate Lymphocytes (NK, NKT, ILCs)	T. Mallevaey	T. Mallevaey
Jan 16	Jan 17	Mucosal Immunity	A. Mortha	B. Cordeiro
Jan 23	Jan 24	The microbiota and the Immune System	L. Clemenza	T. CiudadGarcia
Jan 30	N/A	**Test 1**	N/A	N/A
Feb 6	Feb 7	Cancer Immunology	T. Mallevaey	T. CiudadGarcia
Feb 13	Feb 14	Cancer Immunotherapy	T. Mallevaey	S. Lamorte
Feb 20	N/A	**Reading week**	N/A	N/A
Feb 27	Feb 28	Transplantation Immunology	S. MacParland	S. Moshkelgosha
March 6	N/A	**Test 2**	N/A	
March 13	March 14	Immune memory & vaccination	T. Watts	B. Tsankov
March 20	March 21	Immunity to viral & bacterial infections	L. Serghides	?
March 27	March 28	Autoimmunity	L. Clemenza	C. Cordeiro
April 3	N/A	Hypersensitivity reactions	L. Clemenza	N/A

Missed Assessment Policy

- *This course follows the University of Toronto's Policies on missed tests and assignments and requires students to complete an Absence Declaration on Acorn for illness-related circumstances.*
- *Other reasons for missing course assessments will require <u>prior</u> approval by the course coordinator. If approval is not granted <u>in advance</u> for non-medical reasons, then 0% will be recorded for the missed assessment.*
- *Note: If you submit an assessment, it will be assumed that you deemed yourself fit enough to do so and your grade will stand as calculated. No accommodations will be made based on claims of medical, physical or emotional distress after the fact.*
- *InQuizitive Homework – There are <u>no make-ups</u> for missed InQuizitive homework, given the nature of the assessment and since there is a one-week period to complete it.*
- *Spotlight Assignments – There are <u>no make-ups</u> for missed Friday session assignments, given the nature of the assessment and stepwise schedule. If accommodation is requested for a missed assignment as above and is granted by the course coordinator, the weighting for that assignment will be shifted to your other Spotlight assignments; otherwise, 0% will be recorded for your missed assignment. Since these Spotlight Assignments are essential to the course learning outcomes, <u>at most one</u> assignment can be accommodated in this way. 0% will be recorded for any additional missed assignments.*

- *Missed Tests – Missed tests/final assessments will be accommodated at the course coordinator's discretion. Make-up tests/final assessments will be composed of a mix of short-answer and multiple-choice questions.*

Accessibility Needs:
The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services as soon as possible: disability.services@utoronto.ca or http://studentlife.utoronto.ca/accessibility.

Masks on Campus:
While the mask mandate has been paused as of 1 July 2022, the use of medical masks continues to be strongly encouraged in high-density indoor settings where physical distancing is not possible. Please wear a mask when attending lectures or tutorials unless you are unable to do so due to health conditions.