Immunology
UNIVERSITY OF TORONTO

Course & Instructor Information

Course Coordinator
Dr. Liliana Clemenza liliana.clemenza@utoronto.ca
Office Hours: Monday, 2pm-3pm Online via Teams (drop-in)

Lecturer	Email
L. Clemenza	liliana.clemenza@utoronto.ca
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Delivery Mode:
IMM340 is an in-person course.
*In-person Lectures***:** Thursday, 9am-11am. Please see ACORN for location. The lectures will
be recorded and posted on Quercus.

*In-person Tutorials***:** Mondays, 3-4pm. Please see ACORN for location. The tutorial will be a
space for planning and discussing group case-study presentations. Each Monday, five groups
of seven self-assigned students will discuss a draft of their project and receive feedback from
the instructor/TAs. Each group will attend only one tutorial. **See the Course Assessment
section below for important information concerning tutorials.**

*Term Tests***:** Term tests will be delivered **online** during regular class time.

Arts & Science Calendar Course Overview (20L/10T)

IMM340H 'Fundamental Immunology' introduces the basic principles and key players of the
immune system: differences and interplay between innate and adaptive immunity, how immune
cells develop and function, 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, Weaver, Berg; Norton.

Evaluation Scheme & Course Assessments

Assessment	% of Grade	Due Date
Readings & InQuizitive	13%	Ongoing
Test 1	23%	September 28, 9am-11am ET
Test 2	28%	November 2, 9am-11am ET
Final Assessment	23%	TBA
Tutorial Group Presentations	13%	Ongoing

1. Readings and Inquizitive (13%)

Janeway's textbook and companion site, InQuizitive, are mandatory resources for this course and can be purchased for CAD 65.00. Purchase instructions can be found here, and student help notes can be found here.

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 12pm (noon) on Thursday of the following week (one-week window).

Please note that **the readings might contain content not covered in the lecture that is testable on InQuizitive and course tests/exams.**

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.

2. Tutorial Group Presentations + Peer Review (13%)

The group presentations will be a space to incorporate immunology content not covered in the lecture/textbook and EDIIA (Equity, Diversity, Inclusion, Indigeneity, Accessibility) issues in the IMM340 course. EDIIA topics are presented in tutorials 1, 2, 6, and 9, along with case studies or long readings in immunology. They are marked in bold in the list of tutorial topics, which is available under the Tutorial Presentations Module on Quercus. Recognizing that these concepts may be new to some, it is essential to approach this content with an open mind and a willingness to engage.

For those unfamiliar with EDIIA:
- **Equity**: Ensuring fair treatment for all, recognizing that different people have different needs.
- **Diversity**: Acknowledging and valuing differences in identities, experiences, and perspectives.
- **Inclusion**: Creating an environment where everyone feels valued and can fully participate.
- **Indigeneity**: Recognizing and respecting the unique status and cultural traditions of indigenous peoples.
- **Accessibility**: Ensuring that all materials and interactions are accessible to everyone, regardless of disability or other factors.

Tutorial Attendance & Collaboration Sessions:

Tutorials are designed to facilitate group discussions, planning, and project development. Here is how they work:

- **Designated Space**: Each Monday, five groups will attend the tutorial as scheduled (see List of Topics & Groups under the Tutorial Presentations Quercus Module). Given the spacious nature of the tutorial (room MS2158), each group will comfortably find a spot to discuss their respective projects without disturbances. **Each group will attend only their scheduled tutorial.**
- **Objective**: These sessions provide an opportunity for group members to convene, brainstorm, and develop their presentations. It is a dedicated time for project discussions, clarifications, role allocations, and refining details.
- **Instructor/TA's Role**: During these sessions, the instructor/TA will move around the room, visiting each group. This time is a chance for groups to ask questions, seek feedback, and ensure they are on the right track. By the end of the tutorial, each group should aim to have a minimum draft plan detailing their presentation's direction, content, and design.
- **Benefits**: The tutorial sessions offer a collaborative environment and ensure that all groups have direct access to the instructor's guidance, making the project development process smoother and more effective.

Group Formation:
- **Assigning**: Once the instructor populates Quercus with groups and topics, you can select a group number (and its associated topic).
- **Size**: Groups must consist of up to 7 students (might be increased to 8, depending on final enrolment).
- **Diversity**: It is beneficial to form groups with a mix of skills for a richer collaborative experience.
- **Roles**: Assign specific roles. Remember, each member can assume multiple roles, and roles can overlap among members:
    - Researcher: Consolidates relevant information.
    - Writer: Drafts the presentation's main content.
    - Presenter: Delivers the presentation. If possible/desired, all members should be involved as presenters.
    - Editor: Refines clarity, coherence, and grammar.
    - Coordinator: Manages meetings and acts as the group's representative.
    - Visual Designer: Designs slides or visual aids.

Guidance for Group Choice:
This assignment is designed to offer students flexibility with considerations of their learning styles, interests, and scheduling availability. **When selecting a group, consider:**
1. Interest in the topic.
2. Personal schedule.
3. Interest in clinical (case studies) vs. basic research (longer readings).
4. Interest in acquiring digital skills.
5. Commitment to EDIIA themes.

Types of Presentations:
1. **Case Study Presentations:**
    - **Source:** Based on short case studies from Geha, Notarangelo's "Case Studies in Immunology, 7th edition, 2016". These case studies can be accessed as part of the Janeway's package. Additional research on the selected case study is not strictly required but is welcomed.
2. **Longer Reading Presentations:**

- **Source:** In-depth readings, including immunology review articles or landmark primary papers, DEAAI themes. These PDF files will be posted on Quercus.

Format: Submit a 10-minute video or voice-over PowerPoint presentation.

Submission: Due by 11:59pm on the Sunday two weeks after the groups' tutorial week. (e.g., groups meeting on Monday Sept. 11 have a submission deadline on Sunday Sept. 24).

Note: Due to inherent problems with Quercus group assignments, the online presentations must be submitted using the Assignment Link for group grading AND uploaded on the dedicated Quercus Graded Discussion for individual peer review.

The list of case studies and long readings will be posted on Quercus under the Tutorial Presentations Module.

Presentation Crafting Tips:
- Slide Design: Prioritize visuals over text. Use graphs, images, or charts.
- Script: Either script your narration or create bullet points to maintain focus.

Software Recommendations:
- PowerPoint: Use the "Record Slide Show" feature for voice narrations.
- Online Tools: Platforms like Quercus, Zoom, and MyMedia offer screen and voice recording.
- Advanced Editing: Adobe Premiere Pro, iMovie, or Filmora.

Peer Review & Slide Submission:
- Mandatory Posting: Every group must upload their presentation to the designated Quercus Graded Discussion.
- Feedback: Each week review two peers' presentations and offer constructive feedback. Remember, kindness and respect are key.

Your peer feedback will be graded using the following rubric.

	Inadequate (40%)	Average (70%)	Good (85%)	Outstanding (100%)
Relevance/Content (1 point)	Contributions do not consistently add to the development or progression of the discussion. Comments and questions are not relevant to the topic. Contribution demonstrates poor understanding of course concepts.	Discussion contributions help to develop the conversation to some extent. Comments and questions are generally relevant to the topic. It demonstrates some understanding of course concepts.	Discussion contributions keep the discussion on topic and help to develop it. Comments and questions address the topic. Contribution demonstrates good understanding of course concepts.	Thoughtful contributions to discussions push the 'conversation' to a deeper level. Comments and questions directly and thoughtfully address the topic. Contribution demonstrates strong understanding of course concepts.
Tone (1 point)	Tone is disrespectful or unprofessional. Comments would benefit from significant proof-reading prior to posting, so that ideas are communicated in a clear and professional manner.	Tone is respectful, friendly and professional. Comments would benefit from proof-reading prior to posting, so that ideas are communicated in a clear manner.	Tone is respectful, friendly and professional. Comments contain few minor errors. Generally, ideas are presented in a clear manner, using standard academic language to communicate ideas in a professional but engaging way.	Tone is respectful, friendly, and professional. Comments are proofread for clarity before posting, and use clear, standard academic language to communicate ideas in a professional but engaging way.

Grading Breakdown:

Group Evaluation:
• ***Group presentation****: 11% of the total grade is determined by the group's presentation quality, content, and engagement.*

Individual Evaluation:
• ***Peer review****: 2% of the total grade. Each student is required to review two different presentations every week.*
Total Combined Grade*: 13%*

> ***As indicated in the "Missed Assessment Policy" section below, there are no extensions nor accommodations for the Group Assignment due to the nature of the assessment (i.e. it is a group assignment).***

TAs will oversee the video submissions grading using the following rubric:

Criteria	Inadequate (5%)	Average (15%)	Good (20%)	Outstanding (25%)
Presentation Structure/Audience	The structure is incoherent. It does not catch the attention of the viewer. The opening statement and ending are do not capture the main points of the video. Very little effort made overall Content and presentation not appropriate for intended audience	Good effort but the structure is not completely coherent. It does not catch the attention of the viewer at all times. The opening statement and ending do not effectively capture the main points of the video. Content and presentation often not appropriate for intended audience.	Good structure but the viewer loses focus at times. Good opening statement summarizing main points and good ending. Content and presentation almost always appropriate for intended audience.	Very good structure, maintains focus throughout. Excellent opening statement summarizing main points, impressive ending. High quality overall. Content and presentation always appropriate for intended audience
Content/Research	Content does not reflect the chosen topic and has several inaccuracies.	Content represents the chosen topic but has some inaccuracies.	Content illustrates well the chosen topic and is mostly accurate.	Content illustrates well the chosen topic and is accurate throughout. A critical understanding of the topic is demonstrated
Script/Narrative	Narrative is not clear, a script was not generated, references were not cited consistently.	Script was generated but narrative is not coherent, references were not always cited consistently.	Script is clear and organized. References are cited in a consistent manner.	Excellent script and fascinating narrative. References are cited in a consistent manner.
Use of digital media/Creativity and editing	Lacks originality, poor quality and selection of images Video does not flow and is not captivating, Presentation is hard to follow, music (if used) is distracting, Lights not well used; audio is poor.	Lacks originality but the quality and use of non-original images is acceptable Video has a decent flow and presentation is not hard to follow but is not exciting, music (if used) is distracting. Acceptable use of lights, audio is good.	Good ideas throughout, some original images created for the video. Good use of non-original images. Good quality altogether Video has a good flow and presentation is captivating, music (if used) complements well the images. Good use of lights, audio is good	Contains innovative ideas, several original images created for the video and great presentation of non-original images. Excellent quality altogether Video presentation flows nicely. Presentation is articulate and enthusiastic. Use of music and images enhances the video quality. Excellent use of lights and perfect audio

3. Tests and Final Assessment

Term Tests 1 and 2, as well as the Final Assessment in the course will take place online via Quercus Quizzes. Test dates and coverage/format are highlighted below:

Test 1 (23%): Test 1 will take place **online on September 28, 2023** from **9am to 11am**. It will cover Lectures 1-3 of the course, 10 questions per lecture, multiple-choice format.

Test 2 (28%): Term Test 2 will take place **online on November 2, 2023** from **9am to 11am**. It will cover Lectures 4-7 of the course, 8-9 questions per lecture, multiple-choice format.

Final Assessment (23%): The date of the Final Assessment will be scheduled by the Faculty of Arts & Science. The Final Assessment will cover lectures 8-10 of the course, 10 questions per lecture, multiple-choice format.

Refer to the "Missed Assessment Policy" section below for information on how to request accommodation for a missed test/final assessment and what accommodations may be possible.

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 prior approval by the course coordinator. 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, 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 no make-ups for missed InQuizitive homework, given the nature of the assessment and since there is a one-week period to complete it.
- *Missed Tests/Final Assessment* – 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.*
- *Group Assignment* – There are no accommodations for individuals/groups for the Group Assignment under any circumstances due to the nature of this assessment. Late videos will not be accepted and there are no accommodations available for individuals' missed contributions to their group's video.

Course Schedule

Lecture Date	Tutorial Date	Lecture	Lecturer
Sept 7	Sept 11	Course business, Overview of the Immune System	L. Clemenza
Sept 14	Sept 18	Innate immunity	L. Clemenza
Sept 21	Sept 25	The inflammatory response and the Complement System	L. Clemenza
Sept 28	N/A	**Test 1**	
Oct 5	**Dec 7***	Antibody structure and diversity	M. Ratcliffe
Oct 12	Oct 16	B cell development	M. Ratcliffe
Oct 19	Oct 23	The MHC complex & antigen presentation	L. Clemenza
Oct 26	Oct 30	T cell development	L. Clemenza
Nov 2	N/A	**Test 2**	
Nov 16	Nov 20	T cell activation, differentiation and functions	J. Singh
Nov 23	Nov 27	Lymphocyte signaling	L. Clemenza
Nov 30	Dec 4	B cell differentiation and functions of Ig classes	L. Clemenza
TBA		**Final Assessment**	

November 6 – November 10: reading week
*Tutorial 4 will take place on make-up day (Dec 7) due to Thanksgiving

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 not able to do so due to health condition.