MGY277H1 F

Introduction to Medical Microbiology

Fall 2024 Syllabus

Course Meetings

MGY277H1 F

Section	Day & Time	Delivery Mode & Location
LEC0101	To Be Announced	Online Asynchronous

Refer to ACORN for the most up-to-date information about the location of the course meetings.

Each Unit will be released on Mondays (Except October 14th), including videos covering the topic of the week. Concept Maps are typically due one week after the Units are released, while Unit Quizzes are due the Tuesday after the Unit is finished.

Course Contacts

Course Website: https://q.utoronto.ca/courses/355991

Course Instructor: Dr. Ashley Campbell
Email: ashleymarie.campbell@mail.utoronto.ca
Office Hours and Location: Online via Zoom
Additional Notes: Please contact me directly to ask for a meeting at least 24 hours in advance.

Course Overview

An online introductory survey course that explores the agents of infectious disease including bacteria, viruses, and parasites as well as the host immune response. Other topics include the fundamentals of disease diagnosis and epidemiology. This course will use web-based delivery of lectures and tutorials and utilize a range of communication tools equivalent to approximately three lectures per week. The final exam will require student attendance on the St. George campus.

Course Learning Outcomes

By the end of this course, you will be able to:

- Describe the differences between bacteria, viruses, prions, fungi and other eukaryotic pathogens;
- Describe features that make these microbes pathogenic;
- Explain techniques that are applied for the control of microbial growth and for identifying microbes;

- Explain the basis of antimicrobial resistance;
- Describe the role of microbes in the human microbiota, and the role of our immune systems in fending off microbial intruders.

Prerequisites: BIO120H1, BIO130H1
Corequisites: None
Exclusions: None
Recommended Preparation: None
Credit Value: 0.5

Because this is a solely online course, it is recommended to confirm that you have a regular and consistent internet connection. For more information Wifi and computers through the University of Toronto Libraries, please see https://onesearch.library.utoronto.ca/wifi-and-computers

Course Materials

To succeed in MGY277, you will need a basic understanding of the cell (What is DNA? What is a cell? What do proteins do?) and some basic biochemistry and genetics (What is PCR and how does it work?).

If you find you need a refresher on basic biochemistry please look over Chapter 2 of the recommended textbook – we will not be covering it because we assume you already have a basic understanding of the most important concepts.

Recommended Textbook:

“Microbiology: A Human Perspective” (publisher: McGraw Hill). There are a limited number of copies of the 7th and 8th editions and newer 10th edition (pictured) on reserve at the Gerstein library. It is also available through the University of Toronto Bookstore.

The textbook is **recommended** for the course: it can help reinforce course material. Your Exam questions, however, will be based on material from course videos.

Marking Scheme

Assessment	Percent	Details	Due Date
Unit Quizzes	24%	12 x 2%	Review Quercus for individual due dates
Concept Maps	11%	11 x 1%	Review Quercus for individual due dates
Assignment 1	10%		2024-10-04
Assignment 2	20%	(Group and Pathogen = 2%, Rough Draft and Peer review = 3%, Reflections I = 2%, Final Assignment = 10%, Pathogens Quiz = 3%)	Review Quercus for individual due dates
In-Person Final Exam	35%		Final Exam Period

Late Assessment Submissions Policy

In this course, Unit Quizzes and Assignments are due at the dates and times specified on the course Calendar. Please ensure that you submit your Unit Quizzes and Assignments correctly. If you are unable to make the submission deadline for a Unit Quiz or Assignment, please let your TA know prior to the deadline, if possible, so that accommodations may be made, as determined on a case-by-case basis. Barring exceptional circumstances, late submissions of Unit Quizzes without prior notification will receive a mark of 0. Assignments submitted late lose 50% the first day, and a mark of 0 afterwards.

TA Assignment

For questions or help, please contact your designated contact below:

Last name beginning with:	Contact the following:
A -- Ho	Amin Yarmand amin.yarmand@mail.utoronto.ca
Hoa -- Pau	Jonathan Tersigni jonathan.tersigni@mail.utoronto.ca
Pea -- Z	Beata Cohan beata.cohan@mail.utoronto.ca

For issues regarding accessibility services, or other potential sensitive issues, you may contact Ashley Campbell directly (ashleymarie.campbell@mail.utoronto.ca).

Your TA or the course instructor will respond to you within 24 hours (excluding weekends) to let you know your message has been received. However, unless the need is truly urgent, your matter will not be discussed and a decision will not be reached until our weekly TA meeting.

Course Schedule

Week	Description	Important Dates	Support
Week 1 Sep 3-6	Perspectives on Microbiology and Infectious Disease	❍ Complete assignment expectations discussion board	Ashley Campbell
Week 2 Sep 9-13	Bacteria	❍ **Sep 9**: Unit 1 Concept Map due ❍ **Sep 10**: Unit 1 Quiz due (released Sep 18) ❍ **Sep 11**: Assignment 2: Pathogen options released	Jonathan Tersigni
Week 3 Sep 16-20	Viruses	❍ **Sep 16:** Unit 2 Concept Map ❍ **Sep 17**: Unit 2 Quiz due (released Sep 25) ❍ **Sep 20**: Assignment 2: Group and Pathogen Selection Due	Beata Cohan
Week 4 Sep 23-27	Eukaryotic Microbes	❍ **Sep 23**: Unit 3 Concept Map due ❍ **Sep 24**: Unit 3 Quiz due (released Oct 2) ❍ **Sep 24**: Assignment 1 released	Amin Yarmand
Week 5 Sep 30-Oct 4	Control of Microbial Growth	❍ **Sep 30**: Unit 4 Concept Map due ❍ **Oct 1**: Unit 4 Quiz due (released Oct 9) ❍ **Oct 4**: Assignment 1 due	Beata Cohan
Week 6 Oct 7-11	Microbial Classification and Identification	❍ **Oct 7**: Unit 5 Concept Map due ❍ **Oct 8**: Unit 5 Quiz due (released Oct 16) ❍ **Oct 11**: Assignment 2: Rough Draft due	Amin Yarmand
Week 7 Oct 14-18 (October 14th, Thanksgiving Day - No classes)	Antimicrobial Drugs and Antimicrobial Resistance	❍ **Oct 15**: Unit 6 Concept Map due ❍ **Oct 15**: Unit 6 Quiz due (released Oct 23) ❍ **Oct 18**: Assignment 2: Peer Reviews and Reflections I due	Jonathan Tersigni
Week 8 Oct 21-25	Epidemiology and Disease Transmission	❍ **Oct 21**: Unit 7 Concept Map due ❍ **Oct 22**: Unit 7 Quiz due (released Nov 5)	Beata Cohan
October 28 - November 1, Reading Week, No Classes			

Week 9 Nov 4-8	Immunity and Vaccines	❍ **Nov 4**: Unit 8 Concept Map due ❍ **Nov 5**: Unit 8 Quiz due (released Nov 13)	Amin Yarmand
Week 10 Nov 11-15	Principles of Pathogenesis	❍ **Nov 11**: Unit 9 Concept Map due ❍ **Nov 12**: Unit 9 Quiz due (released Nov 20) ❍ **Nov 15**: Assignment 2: Final Draft due	Jonathan Tersigni
Week 11 Nov 18-22	Microbiota	❍ **Nov 18**: Unit 10 Concept Map due ❍ **Nov 19**: Unit 10 Quiz due (released Nov 27) ❍ **Nov 22**: Assignment 2: Pathogens quiz due	Ashley Campbell
Week 12 Nov 25 - Dec 2	Wrap-Up	❍ **Nov 25**: Unit 11 Concept Map due ❍ **Nov 26**: Unit 11 Quiz due (released Nov 29) ❍ **Nov 29**: Assignment 2: Pathogens quiz released ❍ **Dec 2** : Unit 12 “Quiz” and Reflections II due	Ashley Campbell

Policies & Statements

Quercus Info

This Course uses the University's learning management system, Quercus, to post information about the course. This includes posting videos and other materials required to complete class activities and course assignments, as well as sharing important announcements and updates. **New information and resources will be posted regularly as we move through the term.** To access the course website, go to the U of T Quercus log-in page at https://q.utoronto.ca. SPECIAL NOTE ABOUT GRADES POSTED ONLINE: Please also note that any grades posted are for your information only, so you can view and track your progress through the course. No grades are considered official, including any posted in Quercus at any point in the term, until they have been formally approved and posted on ACORN at the end of the course. Please contact Ashley Campbell as soon as possible if you think there is an error in any grade posted on Quercus.

Assignment Submission Method

Assignments are to be submitted electronically through the designation Quercus submission page. The preferred submission format will be stated for each assignment. Concept maps need to be submitted as an embedded image. Instructions can be found here.

MARKING POLICY:

If we have given incorrect information, we will make an Announcement to the entire class at once about what the issue was and how we will resolve it.

Re-marking Policy - Timeline and Protocol

Students have two weeks from when the work was returned to make such a request. The assignment will be re-evaluated by the Course Instructor.

TECHNOLOGY REQUIREMENTS:

You must have access to a computer or a tablet with a Wi-Fi internet connection (or faster) to be able to watch the videos.

This course requires the use of computers, and of course, sometimes things can go wrong when using them. You are responsible for ensuring that you maintain regular backup copies of your files, use antivirus software (if using your own computer), and schedule enough time when completing an assignment to allow for delays due to technical difficulties. Computer viruses, crashed hard drives, spotty Wi-Fi signals, broken printers, lost or corrupted files, incompatible file formats, and similar mishaps are common issues when using technology, and are not acceptable grounds for a deadline extension or late submissions.

GENERATIVE AI:

What an exciting new technology! As we navigate its potential together, here are some guidelines for the course:

- The use of generative AI tools to complete Unit Quizzes is prohibited.
- The use of generative AI tools for assignments will be specified on an assignment-to-assignment basis
- Generative AI tools may be used to enhance your understanding of a topic, but it is strongly recommended that your primary resource for your questions should be the course discussion boards.

If you would like to use AI as a tutor, I suggest you try the following prompt:

You are an upbeat, encouraging tutor who helps students understand concepts by explaining ideas and asking students questions. Start by introducing yourself to the student as their AI-Tutor who is happy to help them with any questions. Only ask one question at a time. First, ask them what they would like to learn about. Wait for the response. Then ask them about their learning level: Are you a high school student, a college student or a professional? Wait for their response. Then ask them what they know already about the topic they have chosen. Wait for a response. Given this information, help students understand the topic by providing explanations, examples, analogies. These should be tailored to students learning level and prior knowledge or what they already know about the topic. Give students explanations, examples, and analogies about the concept to help them understand. You should guide students in an open-ended way. Do not provide immediate answers or solutions to problems but help students generate their own answers by asking leading questions. Ask students to explain their thinking. If the student is struggling or gets the answer wrong, try asking them to do part of the task or remind the student of their goal and give them a hint. If students improve, then praise them and show excitement. If the student struggles, then be encouraging and give them some ideas to think about. When pushing students for information, try to end your responses with a question so that students

have to keep generating ideas. Once a student shows an appropriate level of understanding given their learning level, ask them to explain the concept in their own words; this is the best way to show you know something, or ask them for examples. When a student demonstrates that they know the concept you can move the conversation to a close and tell them you're here to help if they have further questions.

Mollick, Ethan R. and Mollick, Lilach, Assigning AI: Seven Approaches for Students, with Prompts (June 12, 2023). Available at SSRN: https://ssrn.com/abstract=4475995 or http://dx.doi.org/10.2139/ssrn.4475995

Use this prompt in GPT 4.0, which can be accessed for free using Microsoft Bing in Creative Mode.

Religious Accommodations

As a student at the University of Toronto, you are part of a diverse community that welcomes and includes students and faculty from a wide range of cultural and religious traditions. For my part, I will make every reasonable effort to avoid scheduling tests, examinations, or other compulsory activities on religious holy days not captured by statutory holidays. Further to University Policy, if you anticipate being absent from class or missing a major course activity (such as a test or in-class assignment) due to a religious observance, **please let Ashley Campbell know as early in the course as possible, and with sufficient notice (at least two to three weeks)**, so that we can work together to make alternate arrangements.

Students with Disabilities or Accommodation Requirements

Students with diverse learning styles and needs are welcome in this course. If you have an acute or ongoing disability issue or accommodation need, you should register with Accessibility Services (AS) at the beginning of the academic year by visiting https://studentlife.utoronto.ca/department/accessibility-services/. Without registration, you will not be able to verify your situation with your instructors, and instructors will not be advised about your accommodation needs. AS will assess your situation, develop an accommodation plan with you, and support you in requesting accommodation for your course work. Remember that the process of accommodation is private: AS will not share details of your needs or condition with any instructor, and your instructors will not reveal that you are registered with AS.

Academic Integrity

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters (www.governingcouncil.utoronto.ca/policies/behaveac.htm) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

In papers and assignments:

1. Using someone else's ideas or words without appropriate acknowledgement.

2. Submitting your own work in more than one course without the permission of the instructor.

3. Making up sources or facts.

4. Obtaining or providing unauthorized assistance on any assignment.

On tests and exams:

1. Using or possessing unauthorized aids.

2. Looking at someone else's answers during an exam or test.

3. Misrepresenting your identity.

In academic work:

1. Falsifying institutional documents or grades.

2. Falsifying or altering any documentation required by the University.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters (https://governingcouncil.utoronto.ca/secretariat/policies/code-behaviour-academic-matters-july-1-2019). If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, please reach out to the Course Instructor. Note that you are expected to seek out additional information on academic integrity from the Course Instructor or from other institutional resources. For example, 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 A&S Student Academic Integrity (https://www.artsci.utoronto.ca/current/academic-advising-and-support/student-academic-integrity) and the University of Toronto Website on Academic Integrity (https://www.academicintegrity.utoronto.ca).

Specific Medical Circumstances

If you become ill and it affects your ability to do your academic work, consult me right away. Normally, I will ask you for documentation in support of your specific medical circumstances. This documentation can be an Absence Declaration (via ACORN) or the University's Verification of Student Illness or Injury (VOI) form. The VOI indicates the impact and severity of the illness, while protecting your privacy about the details of the nature of the illness. 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). For more information on the VOI, please see http://www.illnessverification.utoronto.ca. For information on Absence Declaration Tool for A&S students, please see https://www.artsci.utoronto.ca/absence. If you get a concussion, break your hand, or suffer some other acute injury, you should register with Accessibility Services as soon as possible.

Accommodation for Personal Reasons

There may be times when you are unable to complete course work on time due to non-medical reasons. If you have concerns, speak to Ashley Campbell or to an advisor in your College Registrar's office; they can help you to decide if you want to request an extension or other forms of academic consideration. They may be able to email your instructors directly to provide a College Registrar's letter of support and connect you with other helpful resources on campus.

Online Communication

Communication throughout this course can occur in multiple ways:

> **Via email (preferred method):** students are required to use their mail.utoronto.ca email addresses for communication. The subject line must begin with the course code "MGY277". Please be mindful of using terms "Urgent", "high importance" in the subject line. No assignments can be submitted via email. The Course Instructor or TAs will respond within 24 hours to acknowledge and/or answer your email.
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> **Via Quercus inbox:** This is not the same as email but can be used to communicate with your Course Instructor or TA. Please do not include attachments in replies to any Quercus system notifications you receive through email; messages with attachments included in replies to these system notification messages are not sent to the instructor.

Mental Health and Well-Being

Your mental health is important. Throughout university life, there are many experiences that can impact your mental health and well-being. As a University of Toronto student, you can access free mental health and wellbeing services at Health & Wellness (https://studentlife.utoronto.ca/department/health-wellness/) such as same day counselling, brief counselling, medical care, skill-building workshops, and drop-in peer support. You can also meet with a Wellness Navigation Advisor who can connect you with other campus and community services and support. Call the mental health clinic at 416-978-8030 ext. 5 to book an appointment or visit **https://uoft.me/mentalhealthcare** to learn about the services available to you.

You can also visit your College Registrar to learn about the resources and supports available: https://www.artsci.utoronto.ca/current/academic-advising-and-support/college-registrars-offices

If you're in distress, you can access immediate support: https://uoft.me/feelingdistressed

Course Materials, including lecture notes

Course materials are provided for the exclusive use of enrolled students. These materials should not be reposted, shared, put in the public domain, or otherwise distributed without the explicit permission of the instructor. These materials belong to your instructor, the University, and/or other sources depending on the specific facts of each situation and are protected by copyright. Students violating these policies will be subject to disciplinary actions under the Code of Student Conduct.

SERVICES AND SUPPORT:

The following are some important links to help you with academic and/or technical service and support

- General student services and resources at Student Life
- Full library service through University of Toronto Libraries
- Resources on conducting online research through University Libraries Research
- Resources on academic support from the Academic Success Centre
- Learner support at the Writing Centre
- Information about Accessibility Services
- What to know if you are taking the course from outside the GTA
- Recommended technology requirements for online learning

IMPORTANT DATES:

Classes Begin	Tuesday, Sep 03, 2024
Drop Date	Monday, Nov 04, 2024
Last Day of Classes	Monday, Dec 02, 2024
Final Exam Period	Friday, Dec 06, 2024 - Sunday, Dec 22, 2024
Labour Day	Monday, Sep 02, 2024 (University Closed - No Classes)
Thanksgiving Day	Monday, Oct 14, 2024 (University Closed - No Classes)
Reading Week	Monday, Oct 28, 2024 - Friday, Nov 01, 2024
Winter holidays	Tuesday, Dec 24, 2024 - Friday, Jan 03, 2025 (University Closed - No Classes)