


Microbiology and Immunology
2500A: Biology of Infection and Immunity

Course Syllabus for Fall 2024

	<p>Western University is committed to a thriving campus; therefore, your health and wellness matter to us! The following link provides information about the resources available on and off campus to support students: https://www.uwo.ca/health/ Your course coordinator can also guide you to resources and/or services should you need them.</p>
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1. Technical Requirements:



Stable internet connection



Laptop or computer

2. Important Dates:



Classes Begin	Reading Week	Classes End	Study day(s)	Exam Period
September 5	October 12–20	December 6	December 7–8	December 9–22

September 30, 2024, is National Day for Truth and Reconciliation and is a non-instructional day
December 2, 2024: Last day to withdraw from a first-term half course without academic penalty

3. Contact Information

Course Coordinator & Instructor	Contact Information

Instructors	Contact Information
	Use OWL Brightspace Discussion Forums for questions about course content. All other queries should be direct to the Course Coordinator.

Teaching Assistants	Contact Information
	Communication via OWL Brightspace Discussion Forums

4. Course Description and Design

Delivery Mode: in-person

The biology of the human immune system and microbial pathogens including viruses, bacteria, parasites and fungi. Host-pathogen relationships and mechanisms used by microbes to cause disease will be emphasized.

Prerequisite(s): Either [Biology 1001A](#) or [Biology 1201A](#); and one of [Biology 1002B](#), [Biology 1202B](#), [Integrated Science 1001X](#).

Extra Information: 3 lecture hours.

Course Weight: 0.50

Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

Timetabled Sessions

Component	Date(s)	Time	Location
Lectures			

All course material will be posted to OWL: <https://westernu.brightspace.com/d2l/login>. Any changes will be indicated on the OWL site and discussed with the class.

If students need assistance, they can seek support on the [OWL Brightspace Help](#). Alternatively, they can contact the [Western Technology Services Helpdesk](#). They can be contacted by phone at 519-661-3800 or ext. 83800.

Current versions of all popular browsers (e.g., Safari, Chrome, Edge, Firefox) are supported with OWL Brightspace; what is most important is that you update your browser frequently to ensure it is current. All JavaScript and cookies should be enabled.

5. Learning Outcomes

The primary purpose of this course is to familiarize students with infection and immunity, including a basic understanding of how the human immune system responds to different infectious agents and a basic understanding of bacterial, viral, fungal, and parasitic pathogens.

6. Course Content and Schedule

Unit	Lecture	Date	Topic
UNIT A Virology	1	Friday, September 6	Introduction to Virology
	2	Monday, September 9	Viral Infectious Cycle
	3	Wednesday, September 11	Viral Genomes
	4	Friday, September 13	Viral Structure
	5	Monday, September 16	Viral Entry
	6	Wednesday, September 18	Viral Pathogenesis
	7	Friday, September 20	HIV Pathogenesis
	8	Monday, September 23	Koala Retroviruses
	–	Wednesday, September 25	Unit A Q&A
	Midterm Test 1 (in-class)	Friday, September 27	Lectures 1 – 8 (inclusive)
UNIT B Immunology	–	Monday, September 30	NATIONAL DAY FOR TRUTH AND RECONCILIATION (no lecture)
	9	Wednesday, October 2	Introduction to Immunology
	10	Friday, October 4	Innate Immunity
	11	Monday, October 7	
	12	Wednesday, October 9	
	13	Friday, October 11	Introduction to Adaptive Immunity
	–	October 12 – October 20	FALL READING WEEK (no lectures)
	14	Monday, October 21	T cell Immunity
	15	Wednesday, October 23	
	16	Friday, October 25	
	17	Monday, October 28	B cell Immunity
	–	Wednesday, October 30	Unit B Q&A
	Midterm Test 2 (in-class)	Friday, November 1	Lectures 9 – 17 (inclusive)
UNIT C Bacteriology	18	Monday, November 4	Bacteriology Introduction
	19	Wednesday, November 6	The Black Death
	20	Friday, November 8	Antibiotics and Antibiotic Resistance
	21	Monday, November 11	Tuberculosis and Leprosy
	22	Wednesday, November 13	Bacterial Meningitis
	23	Friday, November 15	STDs
	24	Monday, November 18	Lyme disease
	25	Wednesday, November 20	<i>Streptococcus pyogenes</i>
–	Friday, November 22	Unit C Q&A	
UNIT D Other Infectious Agents	26	Monday, November 25	Parasitology Introduction
	27	Wednesday, November 27	Protozoans I
	28	Friday, November 29	Protozoans II and Helminths
	29	Monday, December 2	Mycology Introduction
	30	Wednesday, December 4	Medical Mycology
–	Friday, December 6	Unit D Q&A	
	Final Exam	Scheduled during the Mid-year Examination Period (December 9th – 22nd) by the Office of the Registrar.	Lectures 18 – 30 (inclusive)

7. Participation and Engagement

- Students are expected to keep up with course content
- Students are expected to participate and engage with content as much as possible
- Students can participate by interacting in the forums with their peers and instructors

If you have a question about the lecture material, please follow these steps:

Step 1: Review your lecture notes for the answer.

Step 2: Post your question(s) on the OWL Brightspace Discussion Forum. The TAs and instructors will be answering these questions on a daily basis.

8. Assessment and Evaluation

Below is the evaluation breakdown for the course. Any deviations will be communicated.

Assessment	Format	Weighting	Due Date	Flexibility
Midterm Test 1 (Unit A: Virology)	Multiple Choice (single and multiple answer)	30%		Not applicable
Midterm Test 2 (Unit B: Immunology)		30%		Not applicable
Final Exam (Units C: Bacteriology and Unit D: Other Infectious Agents)		40%		Not applicable

Designated Assessment: Instructors are permitted to designate one assessment per course per term as requiring supporting documentation to receive academic consideration. See below for information on academic consideration policy and missed course work. For this course no assessment has been designated as requiring supporting documentation.

Information about flexibility in assessment

- Flexibility in assessment has not been applied to this course.

General information about assessments

- Any grade appeals on midterm exams must be received within 3 weeks of the grade being posted.
- 15% of your course grade will be evaluated and returned 3 days prior to the drop deadline (statement in policies below).

Click [here](#) for a detailed and comprehensive set of policies and regulations concerning examinations and grading. The table below outlines the University-wide grade descriptors.

A+	90-100	One could scarcely expect better from a student at this level
A	80-89	Superior work which is clearly above average
B	70-79	Good work, meeting all requirements, and eminently satisfactory
C	60-69	Competent work, meeting requirements
D	50-59	Fair work, minimally acceptable
F	below 50	Fail

Information about late or missed assessments:

- There are no make-up midterm tests in this course; rather, you will write an alternative final exam with the weight of the missed test(s) transferred to the final exam (i.e., if you miss a midterm worth 30%, the weight of the final exam will be 70%).
- Students must receive academic consideration or accommodation to be allowed to write an alternative final exam.
- If the make-up final exam is missed with documentation, the student will receive an SPC and complete the final exam the next time the course is offered.
- Students must complete midterm 1, midterm 2, and the final exam to pass the course. If a student misses the midterm(s) with accommodation, an alternative final must be completed to pass the course.

INC (Incomplete Standing): If a student has been approved by the Academic Advising Office (in consultation with the instructor/department) to complete term work at a later date, an INC will be assigned. Students with INC will have their course load in subsequent terms reduced to allow them to complete outstanding course work. Students may request permission from Academic Advising to carry a full course load for the term the incomplete course work is scheduled.

SPC (Special examination): If a student has been approved by the Academic Advising Office to write a Special Examination and the final exam is the only outstanding course component, an SPC will be assigned. If the class has a makeup exam, the student is expected to write the makeup exam. If the class doesn't have a makeup exam or the student misses the makeup exam for reasons approved by the Academic Advising Office, the student will write the exam the next time the course is offered. Outstanding SPCs will reduce the course load for the term the exam is deferred as outlined in [Types of Examinations](#) policy.

9. Communication

- Students should check the OWL Brightspace site every 24–48 hours
- Emails to the Course Coordinator will be monitored daily; students will receive a response in 24–48 hours
- This course will use OWL Brightspace for Discussion Forums
- Students should post all course-related queries on the discussion forum so that everyone can access the questions and responses

10. Office Hours

- Office hours will only be scheduled if requested—please contact the Course Coordinator via Email if you are interested.

11. Resources

- All resources will be posted in OWL Brightspace

12. Professionalism & Privacy

Western students are expected to follow the [Student Code of Conduct](#). Additionally, the following expectations and professional conduct apply to this course:

- All course materials created by the instructor(s) are copyrighted and cannot be sold/shared (e.g., Must Knows Facebook group, Course Hero, Chegg, etc.)
- Recordings are not permitted (audio or video) without explicit permission
- Permitted recordings are not to be distributed
- There is no required textbook, but there may be journal articles to read

Western is committed to providing a learning and working environment that is free of harassment and discrimination. All **students**, staff, and faculty have a role in this commitment and have a responsibility to ensure and promote a safe and respectful learning and working environment. Relevant policies include Western's [Non-Discrimination/Harassment Policy](#) (M.A.P.P. 1.35) and [Non-Discrimination/Harassment Policy – Administrative Procedures](#) (M.A.P.P. 1.35). Any **student**, staff, or faculty member who experiences or witnesses' behaviour that may be harassment or discrimination **must report the behaviour** to the Western's [Human Rights Office](#). Harassment and discrimination can be human rights-based, which is also known as EDI-based, (sexism, racism, transphobia, homophobia, islamophobia, xenophobia, antisemitism, and ableism) or non-human rights-based (personal harassment or workplace harassment).

13. How to Be Successful in this Class

Students enrolled in this class should understand the level of autonomy and self-discipline required to be successful.

1. Invest in a planner or application to keep track of your courses. Populate all your deadlines at the start of the term and schedule your time throughout the course.
2. Make it a daily habit to log onto OWL Brightspace to ensure you have seen everything posted to help you succeed in this class.
3. Follow checklists created on OWL Brightspace or create your own to help you stay on track.
4. Take notes as you go through the lesson material. Keeping handwritten notes or even notes on a regular Word document will help you learn more effectively than just reading or watching the videos.
5. Connect with others. Try forming an online study group and try meeting on a weekly basis for study and peer support.
6. Do not be afraid to ask questions. If you are struggling with a topic, check the online discussion boards or contact your instructor(s) and or teaching assistant(s).
7. Reward yourself for successes. It seems easier to motivate ourselves knowing that there is something waiting for us at the end of the task.

14. Western Academic Policies and Statements

A. Absence from Course Commitments

Students must familiarize themselves with the Policy on [Academic Consideration – Undergraduate Students in First Entry Programs](#)

Students missing course work for medical, compassionate, or extenuating circumstances can request academic consideration by completing a request at the central academic consideration portal. Students are permitted one academic consideration request per course per term **without** supporting documentation. Note that supporting documentation is **always** required for academic consideration requests for examinations scheduled by the office of the registrar (e.g., December and April exams) and for practical laboratory and performance tests (typically scheduled during the last week of the term).

Students should also note that the instructor may **designate** one assessment per course per term that requires supporting documentation. This designated assessment is described elsewhere in this document. Academic consideration requests may be denied when flexibility in assessment has already been included. Examples of flexibility in assessment include when there are assessments not required for calculation of the final grade (e.g. 8 out of 10 quizzes) or there is flexibility in the submission timeframe (e.g. 72 hour no late penalty period).

Please note that any academic considerations granted in this course will be determined by the instructor of this course, in consultation with the academic advisors in your Faculty of Registration, in accordance with information presented in this course syllabus. Supporting documentation for academic considerations

for absences due to illness should use the [Student Medical Certificate](#) or, where that is not possible, equivalent documentation by a health care practitioner.

Accommodation for Religious Holidays

Students should review the policy for [Accommodation for Religious Holidays](#). Where a student will be unable to write examinations and term tests due to a conflicting religious holiday, they should inform their instructors as soon as possible but not later than two weeks prior to writing the examination/term test. In the case of conflict with a midterm test, students should inform their instructor as soon as possible but not later than one week prior to the midterm.

Special Examinations

A Special Examination is any examination other than the regular examination, and it may be offered only with the permission of the Dean of the Faculty in which the student is registered, in consultation with the instructor and Department Chair. Permission to write a Special Examination may be given on the basis of compassionate or medical grounds with appropriate supporting documents. To provide an opportunity for students to recover from the circumstances resulting in a Special Examination, the University has implemented Special Examinations dates. These dates as well as other important information about examinations and academic standing can be found [here](#).

B. Academic Offenses

Scholastic offences are taken seriously, and students are directed [here](#) to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence.

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

C. Accessibility Statement

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Accessible Education (AE) at 661-2111 x 82147 for any specific question regarding an accommodation or review [The policy on Accommodation for Students with Disabilities](#)

D. Correspondence Statement

The centrally administered **e-mail account** provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her official university address is attended to in a timely manner. You can read about the privacy and security of the UWO email accounts [here](#).

E. Discovery Credit Statement

Students are permitted to designate up to 1.0 Discovery Credit course (or equivalent) for pass/fail grading that can be counted toward the overall course credits required for their degree program. The details of this policy and the deadlines can be found [here](#).

F. 15% Rule

According to the [Evaluation of Academic Performance](#) policy, at least three days prior to the deadline for withdrawal from a 1000- or 2000-level course without academic penalty, students will receive assessment of work accounting for at least 15% of their final grade. Generally, students can expect some form of

feedback on their performance in a course before the drop date. In rare instances, at the Dean's discretion, an exemption can be issued, which also must be noted in the course syllabus. Deans should review exemptions on a course-by-course basis each time an exempted course is offered.

15. BMSUE Academic Policies and Statements

Cell Phone and Electronic Device Policy (for in-person tests and exams)

The Schulich School of Medicine & Dentistry is committed to ensuring that testing and evaluation are undertaken fairly across all our departments and programs. For all tests and exams, it is the policy of the School that any electronic devices, e.g., cell phones, tablets, cameras, smart glasses, smart watch or iPod are strictly prohibited. These devices **MUST** be left either at home or with the student's bag/jacket at the front of the room and **MUST NOT** be at the test/exam desk or in the individual's pocket. Any student found with one of these prohibited devices will receive a grade of zero on the test or exam. Non-programmable calculators are only allowed when indicated by the instructor. The program is not responsible for stolen/lost or broken devices.

Copyright and Audio/Video Recording Statement

Course material produced by faculty is copyrighted and to reproduce this material for any purposes other than your own educational use contravenes Canadian Copyright Laws. You must always ask permission to record another individual and you should never share or distribute recordings.

Rounding of Marks Statement

Across the Basic Medical Sciences Undergraduate Education programs, we strive to maintain high standards that reflect the effort that both students and faculty put into the teaching and learning experience during this course. All students will be treated equally and evaluated based only on their actual achievement. **Final grades** on this course, irrespective of the number of decimal places used in marking individual assignments and tests, will be calculated to one decimal place and rounded to the nearest integer, e.g., 74.45 becomes 74, and 74.50 becomes 75. Marks **WILL NOT** be bumped to the next grade or GPA, e.g., a 79 will **NOT** be bumped up to an 80, an 84 **WILL NOT** be bumped up to an 85, etc. The mark attained is the mark you achieved, and the mark assigned; requests for mark "bumping" will be denied.

16. Support Services

- Students who are in emotional/mental distress should refer to Mental Health @Western Health <https://www.uwo.ca/health/> for a complete list of options about how to obtain help.
- To connect with a case manager or set up an appointment, please contact support@uwo.ca.
- Other important links:
 - [Academic Advising \(Science and Basic Medical Sciences\)](#)
 - [Appeal Procedures](#)
 - [Registrarial Services](#)
 - [Student Development Services](#)
 - [Student Health Services](#)

Statement on Gender-Based and Sexual Violence

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at:

https://www.uwo.ca/health/student_support/survivor_support/get-help.html.