

DEPARTMENT OF SCIENCE

COURSE OUTLINE – Spring 2026

MI1330 EC: Medical Microbiology for Health Care Professionals – 3 (3-0-0) 45 Hours for 6 Weeks

Northwestern Polytechnic acknowledges that our campuses are located on Treaty 8 territory, the ancestral and present-day home to many diverse First Nations, Metis, and Inuit people. We are grateful to work, live and learn on the traditional territory of Duncan's First Nation, Horse Lake First Nation and Sturgeon Lake Cree Nation, who are the original caretakers of this land.

We acknowledge the history of this land, and we are thankful for the opportunity to walk together in friendship, where we will encourage and promote positive change for present and future generations.

INSTRUCTOR: Nicoletta Pan

OFFICE: C201

OFFICE HOURS: M/W 11:30 - 1 PM

PHONE: 780 539 2794

E-MAIL: NPan@nwpolytech.ca

CALENDAR DESCRIPTION:

Introductory course in medical microbiology designed for students enrolled in health care related programs. This course begins with basic information on microorganisms (bacteria, viruses, fungi, parasites and prions), the immune system, infection control, transmission of infection, epidemiology, antimicrobials, disinfection and sterilization. The later part of the course concentrates on infectious diseases caused by pathogenic microorganisms. Notes: Students not enrolled in the Nursing Program require consent of the department. Transfer: UA, UL, AU, AF, CU*, KUC, CUC

PREREQUISITE(S)/COREQUISITE(S): None

REQUIRED MATERIALS:

Tortora, G.J. et al., Microbiology: An Introduction (13thed.), Pearson Education, Inc., San Francisco, CA, 2019.

Students are responsible for all fees associated with ProctorU, a live proctoring service for online exams. Fees are paid when you schedule your exams through ProctorU.

Pricing per exam is as follows:

60 minutes or less - \$16 USD

61-120 minutes - \$25 USD

121 - 180 minutes - \$31 USD

DELIVERY MODE(S): Distance.

LEARNING OUTCOMES:

1. To gain an understanding of microbe structure and function.
2. To gain knowledge of human infectious diseases and how they are transmitted.
3. To gain an understanding of human infectious disease that will facilitate future work in the medical field.
4. To develop critical thinking skills with respect to infectious diseases of the human body.

TRANSFERABILITY:

Please consult the Alberta Transfer Guide for more information. You may check the transferability of this course at the Alberta Transfer Guide main page <http://www.transferalberta.alberta.ca>.

Please note that a grade less than C+ is not accepted for transfer to the U of A for MMI 133. A minimum grade of C+ is required to receive credit in MI1330.

**** For courses with alpha (letter) grading, a grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability.**

EVALUATIONS:

Midterm I -	25%	- In order to defer an exam due to illness you will require a medical note.
Midterm II -	25%	
Forum Posts –	5%	
Quizzes -	5%	
Presentation	10 %	
Final Exam -	30%	

Midterm I Exam- 25 %

Date: May 20, 2026; Time 12 PM

Midterm II Exam- 25 %

Date: June 3, 2026; Time 12 PM

Final Exam- 30 %

Date June 16, 2026; Time AM (TBD)

On-line forum posts- 5 %

This portion of the mark is based on the instructor's perception of the student's active participation in class/online discussions and online activities associated with various unit activities.

Presentation- 10 %

Due June 8, 2026

GRADING CRITERIA:

Please note that most institutions will not accept your course for transfer credit **IF** your grade is less than C-.

Alpha Grade	4-point Equivalent	Percentage Guidelines		Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	95-100		C+	2.3	67-69
A	4.0	85-94		C	2.0	63-66
A-	3.7	80-84		C-	1.7	60-62
B+	3.3	77-79		D+	1.3	55-59
B	3.0	73-76		D	1.0	50-54
B-	2.7	70-72		F	0.0	00-49

COURSE SCHEDULE/TENTATIVE TIMELINE:

Week 1	Introduction to Microbiology - Ch. 1: 2 - 15. Prokaryotes - Ch. 4: pgs. 73 –93; 94 –102 (Review). Microbial Metabolism - Ch. 5: pgs. 110-115 and 120-131. Growth/Control of Growth - Ch. 6: pgs. 152-158; 165-168 and Ch. 7.
Week 2	Microbial Genetics - Ch. 8: pgs. 208 - 217; 221-223; 229 - 236. Viruses - Ch. 13. Principles of Disease - Ch. 14.
Week 3	Pathogenesis- Ch.15. Innate Immunity - Ch. 16. Adaptive Immunity - Ch. 17.
Week 4	Vaccines- Ch.18: pgs. 500-503. Antimicrobials I- Ch.20: pg. 559-577; 579-582. Diseases of the Skin and Eyes - Ch. 21.
Week 5	Diseases of the CNS - Ch. 22. Diseases of the Cardiovascular and Lymphatic System - Ch. 23. Diseases of the Respiratory System - Ch. 24.
Week 6	Diseases of the Gastrointestinal System - Ch. 25. Diseases of the Genitourinary System - Ch. 26.

STUDENT RESPONSIBILITIES:

Refer to the Northwestern Polytechnic Policy on Student Rights and Responsibilities at:
<https://www.nwpolytech.ca/about/administration/policies/>

STATEMENT ON ACADEMIC MISCONDUCT:

Academic Misconduct will not be tolerated. For a more precise definition of academic misconduct and its consequences, refer to the Student Rights and Responsibilities policy available at <https://www.nwpolytech.ca/about/administration/policies/index.html>.

****Note:** all Academic and Administrative policies are available on the same page.

Additional Information:

Northwestern Polytechnic provides various academic support services to support your journey to success. Please be aware that personal counseling, peer tutoring, learning library services, Elders and mentors, and disability services are provided at your campus. Please inquire about contact details or locations at the Information desk.

USING PROCTORU:

This course uses ProctorU Live for online exams. To utilize this service, you are required to complete the following steps:

- Create a ProctorU account by clicking the ProctorU link in the course.
- Download and install the Guardian Web Browser, Google Chrome, and the ProctorU extension.
- Schedule each exam at least 3 days (72 hours) in advance. If you miss this deadline, you cannot take the exam.
- Pay for the proctoring service. The fees are exclusively your responsibility and in no event shall be the responsibility of Northwestern Polytechnic.

For more detailed instructions [click here](#), and for video instructions [click here](#).

Before each exam, you must complete a room scan with your web camera, during which you will show your surroundings to a live proctor.

The invigilator will ask to view (but not collect or store) your student identification to verify your identity and will remotely access your computer to unlock the exam. When monitoring your actions via video streaming, the invigilator may possibly record your actions if they suspect academic integrity behavioural issues. You will be verbally notified if/when recording begins.

The collection of and access to the personal information listed above is permitted under subsection 33(c) of the *Freedom of Information and Protection of Privacy Act*, RSA 2000, c F-25, which states, “No personal information may be collected by or for a public body unless that information relates directly to and is necessary for an operating program or activity of the public body.” In addition, subsection 39(4) states, “A public body may use personal information only to the extent necessary to enable the public body to carry out its purpose in a reasonable manner.”

Records Retention: Any video records of you created by ProctorU will be kept by ProctorU for a maximum of 7 days in order to make a decision about any possible academic integrity

infraction, after which time it shall be permanently deleted. All other personal information collected and stored by ProctorU within your profile account will be permanently deleted if the account has not been used after one year.

Consent to Store Personal Information Outside Canada

ProctorU is an American company. An agreement is in place between ProctorU and Northwestern Polytechnic by which ProctorU will take reasonable steps to protect your personal information from unauthorized access and disclosure. Information about how ProctorU protects your privacy can be found in their [Privacy Policy](#).

By using the ProctorU service via Northwestern Polytechnic, you consent to the storage of and access to your personal information outside of Canada.

This consent is in effect from the day you register with ProctorU and expires one year after completion of your exam.

Additional privacy and liability information regarding the use of ProctorU is available on the NWP website.