



DEPARTMENT OF SCIENCE

COURSE OUTLINE – Winter 2026

MI1330 (A3/B3/C3): Medical Microbiology for Health Care Professionals – 3 (3-0-0) 45 Hours for 15 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.

INSTRUCTORS:	Dr. Sean Irwin Ph.D. (Sec. A3/B3)	Mrs. Nicoletta Pan M.Sc. (Sec. C3)
PHONE:	780-539-2860 (office)	780-539-2794 (office)
OFFICE:	J224/HEC	C201/HEC
OFFICE HOURS:	T/ R 11:30 – 1 pm	T/R 10:00 – 11:30 am
EMAIL:	sirwin@nwpolytech.ca	npa@nwpolytech.ca

CALENDAR DESCRIPTION:

MI1330 3 (3-0-0) 45 Hours 15 Weeks

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

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

MI1330 Study Aid (Available at the bookstore)

DELIVERY MODE(S): Lectures – A3: Fri. 8 :30 – 11:20, A208
B3: Fri. 13:00 – 15:50, A208
C3: Mon. 14:00 – 16:50, A208

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 -	30%	
Online Activities –	5%	
Study Aid -	5%	
Winter Final Exam -	35%	

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).
Week 2	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 3	Microbial Genetics - Ch. 8: pgs. 208 - 217; 221-223; 229 - 236. Viruses - Ch. 13.
Week 4	Principles of Disease - Ch. 14. Review
Week 5	Midterm I: Weeks 1-3 (A3/B3 Fri. Feb. 6 th ; C3 Mon. Feb. 9 th) – Study Aid Due Pathogenesis - Ch. 15.
Week 6	Innate Immunity - Ch. 16. Adaptive Immunity - Ch. 17.



Week 7 Winter Break (Feb. 16th – 20th)

Week 8 Vaccines - Ch. 18: pgs. 500 - 503.

Antimicrobials I - Ch. 20: pg. 559 - 573.

Week 9 Antimicrobials II - Ch. 20: pg. 574 – 577; 579 – 582.

Class activity

Week 10 Diseases of the Skin and Eyes - Ch. 21.

Review

Week 11 Midterm II: Weeks 5-9 (A3/B3 Fri. Mar. 20th; C3 Mon. Mar. 23rd) – Study Aid Due

Diseases of the CNS - Ch. 22.

Week 12 Diseases of the Cardiovascular and Lymphatic System - Ch. 23.

Diseases of the Respiratory System - Ch. 24.

Week 13 Diseases of the Gastrointestinal System - Ch. 25.

Diseases of the Genitourinary System - Ch. 26.

Week 14 Catch up/Review

Final Exam scheduled by the Registrar's office – Study Aid Due

STUDENT RESPONSIBILITIES:

The College Policy on Students Rights and Responsibilities can be found at

<https://www.gprc.ab.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.