

**DEPARTMENT OF SCIENCE**  
**COURSE OUTLINE – Winter 2023**

**MI1330: 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.

<b>INSTRUCTORS:</b>	Dr. Sean Irwin Ph.D. (Section A3/B3)	Miss Nicoletta Harabor M.Sc. (Section C3)
<b>PHONE:</b>	780-539-2860 (office)	780-539-2794 (office)
<b>OFFICE:</b>	HEC and J224	HEC and J222
<b>OFFICE HOURS:</b>	T 13:00 – 14:20; W 14:30 – 15:50	T/R 13:30 – 14:20
<b>EMAIL:</b>	<a href="mailto:sirwin@gprc.ab.ca">sirwin@gprc.ab.ca</a>	<a href="mailto:nharabor@gprc.ab.ca">nharabor@gprc.ab.ca</a>

**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: None.**

## REQUIRED TEXT/RESOURCE MATERIALS:

Totora, G.J. et al., Microbiology: An Introduction (13<sup>th</sup>ed.), Pearson Education, Inc., San Francisco, CA, 2019.

MI1330 Study Aid (Available at the bookstore)

**DELIVERY MODE(S):** Lectures – A3: Mon. and Wed. 16:00 – 17:20, HEC203  
B3: Tues. and Thurs. 11:30 – 12:50, HEC203  
C3: Tues. and Thurs. 16:00 – 17:20, HEC201

## COURSE OBJECTIVES:

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.

## LEARNING OUTCOMES:

Upon successful completion of this course, a student will have a working knowledge of the structure and function of the human body.

## TRANSFERABILITY:

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

**\*\* 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
Midterm II -	30%	illness you will require a medical note.
Online Activities –	5%	
Study Aid -	5%	
Winter Final Exam -	35%	

## GRADING CRITERIA:

Please note that most universities 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	90-100	C+	2.3	67-69
A	4.0	85-89	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:

### MI 1330 A3/B3 Winter 2022

Week 1 Introduction to Microbiology Ch. 1: 2 - 15.

Week 2 Prokaryotes Ch. 4: pgs. 73 –93; 94 –102 (Review).

Microbial Metabolism Ch. 5: pgs. 110-115 and 120-131.

Week 3 Growth/Control of Growth Ch. 6: pgs. 152-158; 165-168 and Ch. 7.

Microbial Genetics Ch. 8: pgs. 208 - 217; 221-223; 229 - 236.

Week 4 Viruses Ch. 13.

Lab

Week 5 Catch up/Review

**Midterm I (A3/B3 Wed. Feb. 1<sup>st</sup>; C3 Thurs. Feb. 2<sup>nd</sup>)**

Week 6 Principles of Disease Ch. 14.

Pathogenesis Ch. 15.

Week 7 Innate Immunity Ch. 16.

Adaptive Immunity Ch. 17.

Week 8 Winter Break (Feb. 20<sup>th</sup> – 24<sup>th</sup>)

Week 9 Vaccines Ch. 18: pgs. 500 - 503.

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

Week 10 Antimicrobials II Ch. 20: pg. 574 – 577; 579 – 582.

Lab

Week 11 Catch up/Review

**Midterm II (A3/B3 Wed. Mar. 15<sup>th</sup>; C3 Thurs. Mar. 16<sup>th</sup>)**

Week 12	Diseases of the Skin and Eyes	Ch. 21.
	Diseases of the CNS	Ch. 22.
Week 13	Diseases of the Cardiovascular and Lymphatic System - Ch. 23.	
	Diseases of the Respiratory System	Ch. 24.
Week 14	Diseases of the Gastrointestinal System	Ch. 25.
	Diseases of the Genitourinary System	Ch. 26.
Week 15	Lab	
	Catch up/Review	

**Final Exam scheduled by the Registrar's office**

**STUDENT RESPONSIBILITIES:**

The College Policy on Students Rights and Responsibilities can be found at <https://www.gprc.ab.ca/about/administration/policies/>

**STATEMENT ON PLAGIARISM AND CHEATING:**

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the Northwestern Polytechnic Calendar at <https://www.nwpolytech.ca/programs/calendar/> or the Student Rights and Responsibilities policy which can be found at <https://www.nwpolytech.ca/about/administration/policies/index.html>.

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