

DEPARTMENT OF SCIENCE

COURSE OUTLINE - FALL 2015

MI 1330 (MEDICAL MICROBIOLOGY FOR HEALTH CARE PROFESSIONALS) – 3 (3-0-0) 45 HOURS

INSTRUCTOR: Philip Johnson **PHONE:** 780-539-2863

OFFICE: J224 **E-MAIL:** PJohnson@gprc.ab.ca

OFFICE HOURS: Tuesdays 1000-1120 hrs & 1300-1420 hrs

Thursdays 1000-1120 hrs

PREREQUISITE(S)/COREQUISITE: Biology 30

REQUIRED TEXT/RESOURCE MATERIALS:

Tortora, G.J. et al; <u>Microbiology: An Introduction</u> (12th Edition) Pearson Education, 2016

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.

LEARNING OUTCOMES:

- 1. Students should know structure and metabolism of procarotic organisms.
- 2. Students should know the transmission and symptoms of common microbial pathogens.
- 3. Students should be able to apply learned principles to other microbes.

COURSE OBJECTIVES:

- 1. To gain an understanding of microbe structure and function.
- 2. To gain a 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 human infectious diseases.

CREDIT/CONTACT HOURS: 3 Credits (3-0-0) UT

DELIVERY MODE(S): Lectures Section A2: Wednesdays & Fridays 1300-1420 hrs

Section B2: Mondays 1300-1420 hrs; Fridays 1130-1250 hrs

TRANSFERABILITY: UA, UC, UL, AU, AF, CU, KUC

** 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

GRADING CRITERIA:

GRANDE PRAIRIE REGIONAL COLLEGE					
GRADING CONVERSION CHART					
Alpha Grade	4-point Equivalent	Percentage Guidelines	Designation		
A ⁺	4.0	90 – 100	EXCELLENT		
А	4.0	85 – 89			
A -	3.7	80 – 84	FIRST CLASS STANDING		
B ⁺	3.3	77 – 79			
В	3.0	73 – 76	GOOD		
B ⁻	2.7	70 – 72			
C ⁺	2.3	67 – 69			
С	2.0	63 – 66	SATISFACTORY		
C-	1.7	60 – 62			
D ⁺	1.3	55 – 59	MINIMAL PASS		
D	1.0	50 – 54			
F	0.0	0 – 49	FAIL		
WF	0.0	0	FAIL, withdrawal after the deadline		

EVALUATIONS: Exam 1 25%

Exam 2 35% Quizzes (2) 5% Final Exam 35%

STUDENT RESPONSIBILITIES:

Refer to the College Policy on Student Rights and Responsibilities at www.gprc.ab.ca/d/STUDENTRIGHTSRESPONSIBILITIES

STATEMENT ON PLAGIARISM AND CHEATING:

Refer to the College Student Misconduct: Academic and Non-Academic Policy at www.gprc.ab.ca/d/STUDENTMISCONDUCT

**Note: all Academic and Administrative policies are available at www.gprc.ab.ca/about/administration/policies/

COURSE SCHEDULE/TENTATIVE TIMELINE:

<u>Week</u>	<u>Topic</u>	<u>Text readings</u>
1	Introduction to MI 1330	2-20
	Introduction to Microbiology	
2	Functional anatomy of prokaryotic and eukaryotic cells	73-93; 93-102
	Microbial Metabolism	110-117; 119-127
3	Microbial growth and its control	150-157; 162-166;
		Chpt. 7
	Microbial genetics	204-205; 219;
		225-232
4	Viruses and Prions	Chapter 13
	Principles of disease and epidemiology	Chapter 14
5	Mechanisms of pathogenicity	Chapter 15
	EXAM 1 (25%)	WEEKS 1 - 4
6	Innate Immunity	439-456; 459;
		460-463
	Adaptive Immunity	Chapter 17
7	Vaccines	493-500
	Anti-microbial chemotherapy	548-563
8	Anti-microbial chemotherapy (continued)	564-575
	Diseases of the skin and eyes	Chapter 21
9	Diseases of the \nervous System	Chapter 22
10	Diseases of the Cardiovascular and Lymphatic Systems	Chapter 23
11	FALL BREAK	
12	EXAM 2 (35%)	WEEKS 5 - 9
	Diseases of the Respiratory System	Chapter 24
13	Disease of the Digestive System	Chapter 25
14	Disease of the Urinary and Reproductive Systems	Chapter 26
15	Catch-up and Review	
	FINAL EXAM (35%) – Scheduled by Registrar's Office	