ORIGINAL COURSE IMPLEMENTATION DATE: January 2014
REVISED COURSE IMPLEMENTATION DATE: September 2022
COURSE TO BE REVIEWED (six years after UEC approval)**:** January 2028
Course outline form version: 05/18/2018

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

Course Code and Number: BIO 425	**Number of Credits:** 4 Course credit policy (105)

Course Full Title: Introductory Medical Microbiology
Course Short Title:
(Transcripts only display 30 characters. Departments may recommend a short title if one is needed. If left blank, one will be assigned.)

Faculty: Faculty of Science	**Department (or program if no department):** Biology

Calendar Description:

Focuses on the relationship between human health and microbes. The functioning of the immune system, the normal human flora, and diseases caused by microbial pathogens will be studied.

Prerequisites (or NONE):	BIO 309.
Corequisites (if applicable, or NONE):	
Pre/corequisites (if applicable, or NONE):	

Antirequisite Courses *(Cannot be taken for additional credit.)*
Former course code/number: **BIO 325**
Cross-listed with:
Dual-listed with:
Equivalent course(s): **BIO 325**
(If offered in the previous five years, antirequisite course(s) will be included in the calendar description as a note that students with credit for the antirequisite course(s) cannot take this course for further credit.)

Typical Structure of Instructional Hours

Lecture/seminar hours	45
Tutorials/workshops	
Supervised laboratory hours	45
Experiential (field experience, practicum, internship, etc.)	
Supervised online activities	
Other contact hours:	
Total hours	**90**

Labs to be scheduled independent of lecture hours: ☐ No ☐ Yes

Special Topics *(Double-click on boxes to select.)*
This course is offered with different topics:
☒ No ☐ Yes *(If yes, topic will be recorded when offered.)*

Independent Study
If offered as an Independent Study course, this course may be repeated for further credit: *(If yes, topic will be recorded.)*
☒ No ☐ Yes, repeat(s) ☐ Yes, no limit

Transfer Credit
Transfer credit already exists: *(See **bctransferguide.ca**.)*
☒ No ☐ Yes
Submit outline for (re)articulation:
☒ No ☐ Yes *(If yes, fill in transfer credit form.)*

Grading System
☒ Letter Grades ☐ Credit/No Credit

Maximum enrolment (for information only): 24

Expected Frequency of Course Offerings:
(Every semester, Fall only, annually, etc.) Every other year.

Department / Program Head or Director: Gregory Schmaltz	**Date of meeting:**	October 1, 2021
Faculty Council approval	**Date of meeting:**	November 5, 2021
Undergraduate Education Committee (UEC) approval	**Date of meeting:**	January 28, 2022

Learning Outcomes:

Upon successful completion of this course, students will be able to:

1. Describe the function of the human immune system, strategies that microbes use to evade host defenses, ways microbial infections are detected, and microbial mechanisms of infections.
2. Discuss the relationship between the environment, microbial growth, and human health.
3. Use concepts from cell biology and genetics to clarify the relationship between microbial growth and human immunological responses.
4. Critique current literature reports pertaining to diseases influenced by microbial infections.
5. Interpret biological data from scientific figures and experiments.
6. Connect the concept of immunization with outbreaks of human diseases in various world populations.

Prior Learning Assessment and Recognition (PLAR)

☒ Yes ☐ No, PLAR cannot be awarded for this course because

Typical Instructional Methods *(Guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion.)*

Lecture, small group discussions, project and oral presentations, lab exercises.

NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.

Typical Text(s) and Resource Materials *(If more space is required, download Supplemental Texts and Resource Materials form.)*

	Author (surname, initials)	Title (article, book, journal, etc.)	Current ed.	Publisher	Year
1.	Bauman RW	Microbiology with Diseases by Body System, 5th ed.	☒	Pearson	2018
2.			☐		
3.			☐		
4.			☐		
5.			☐		

Required Additional Supplies and Materials *(Software, hardware, tools, specialized clothing, etc.)*

Typical Evaluation Methods and Weighting

Final exam:	40%	Assignments:	5%	Field experience:	%	Portfolio:	%
Midterm exam:	25%	Lab exam:	15%	Practicum:	%	Other:	%
Quizzes/tests:	5%	Lab reports:	10%	Shop work:	%	Total:	100%

Details (if necessary):

Typical Course Content and Topics

Lecture topics:

Course content / Introduction to medical microbiology
Review of infection, infectious disease and epidemiology
Nonspecific lines of defense
Specific defense: The humoral immune response
Immunization / Vaccine development
Disorders of the immune system and HIV
Diseases of the respiratory system
Diseases of the digestive system
Diseases of the urinary and reproductive systems
Diseases of the circulatory system

Labs:

ELISA/Immunology
Normal flora
Antibiotic sensitivity
Food microbiology
Biofilms
Bacteriophages