

**UNIVERSITY OF LETHBRIDGE**  
**FACULTY OF HEALTH SCIENCES**  
**HLSC 2400 – MEDICAL MICROBIOLOGY**  
**Course Outline – Fall, 2017**

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**Instructor:** Dr. Nimesh Patel  
**Office:** M3054 (Markin Hall)  
**Office hours:** By appointment  
**Contact:** Email: [nimesh.patel@uleth.ca](mailto:nimesh.patel@uleth.ca) (Preferred)  
Phone: 403-329-2299  
**Class time:** Tuesdays and Thursdays, 10:50 am - 12:05 pm  
**Class location:** Turcotte Hall TH204  
**TA:** TBD

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### **COURSE DESCRIPTION**

Medical microbiology course focuses on biology and pathogenesis of bacteria, viruses, prions, and parasites, and their threat to human and animal survival and health. In this course, students will be introduced to the basic concepts of microbiology and diverse microorganisms through medically relevant examples, as well as concepts such as infection vs disease, diagnosis, treatment, prevention, and surveillance of infectious diseases. Current topics such as antibiotic resistance and nosocomial diseases will also be reviewed in the course. This course is designed for students with little knowledge in microbiology; some background in biology will be an advantage. Moodle will be used for this course. This course will follow University Academic Policy as outlined in the 2016-2017 calendar.

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### **LEARNING OBJECTIVES**

By the end of the course, students will be able to

- Describe diverse microorganisms that are important in medical microbiology and diagnosis, treatment, and prevention of these microorganisms.
- Understand and describe body's immune responses to microorganisms.
- Methods and strategies to control microorganisms in the environment and body.
- Better understand the current topics in microbiology such as antibiotic resistance.

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### **REQUIRED TEXTBOOK**

Bauman, R. W. (2014 or 2016). Microbiology with Diseases by Taxonomy (4th or 5th ed.). Toronto, ON: Pearson/Benjamin Cummings.

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### **METHOD OF ASSESSMENT**

<b>Assignment</b>	<b>Weight (%)</b>	<b>Tentative Due Date<sup>a</sup></b>
Test # 1	20	October 3
Test # 2	20	November 2
Test # 3	20	December 5
Oral presentation	20	Scheduled throughout the course
Classroom attendance	10	Ongoing
Participation	10	Ongoing

<sup>a</sup> The due dates are tentative and subject to change.

### Tests:

There will be three tests held during the course. Students will have an option to retake test #1 and test #2 [with different sets of questions], **if they took the first attempt**. In this case, the **higher mark** of the two attempts will be calculated for the test. The window to reattempt the tests will be announced in class. Students will not have an option to reattempt test #3. The tests will be based on the material presented or discussed in the classroom and textbook chapters that students are required to review independently. The instructor will identify the chapters and lectures that will be covered in the test. Tests will not be cumulative **but** knowledge from earlier topics will be needed to better understand the concepts/materials presented at later points in the class. Any course related materials will not be permitted during the tests. Tests will be composed of multiple choice and true/false questions.

### Oral Presentation:

A list of presentation topics for the oral presentation will be provided in class. Students will be asked to work in groups to prepare and deliver an oral presentation. The presentations will be scheduled throughout the course. The presentation should not be longer than the allotted time. Marks will be deducted for presentations not finished in a timely manner. Participation in the group projects in **mandatory**. Each group member may be asked to evaluate the participation of your fellow group members to ensure that everyone has contributed to the preparation and presentation. This is meant to keep you accountable to your group members. If there is a consensus within the group that someone has not contributed, then that group member will be penalized and will receive a lower grade than the other group members.

### Classroom Attendance:

Students are expected to attend all the lectures. Attendance will be tracked and graded at the end of the semester. Each student will be allotted one absence with cause from class without penalty to their attendance marks. After that, half a mark will be deducted for every missed class with the maximum of 10 marks deduction from the allotted attendance grades.

### Participation:

Participation marks will be assessed based on completing **in-class quizzes** and participating **during students' presentations**. The instructor will give short quiz at the end of four lectures. There won't be any prior announcements about on which class day a quiz will be given. The quiz will be from the materials presented in the lecture the day the quiz is given. You will receive participation marks for completing the quiz [2 marks for each quiz, maximum 8 marks]. The remaining two participation marks can be earned by engaging during in-class presentations.

### GRADING BREAKDOWN

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The grading system for this course is consistent with that established in the Faculty of Health Sciences, effective May, 2002.

Letter	GPA	Percent	Letter	GPA	Percent
A+	4.0	95 - 100%	C+	2.3	71 - 74.9%
A	4.0	91 - 94.9%	C	2.0	67 - 70.9%
A-	3.7	87 - 90.9%	C-	1.7	63 - 66.9%
B+	3.3	83 - 86.9%	D+	1.3	59 - 62.9%
B	3.0	79 - 82.9%	D	1.0	55 - 58.9%
B-	2.7	75 - 78.9%	F	0	0 - 54.9%

## CLASS TOPICS (Tentative and subject to change)

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Topic	Chapter(s)
Infection, infectious disease, and epidemiology	Chapter 14
Innate and adaptive immunity	Chapter 15 & 16
Immunization and immune testing	Chapter 17
Classification of microorganisms	Chapter 4, 11, 12, and 13
Pathogenic gram-positive bacteria	Chapter 19
Pathogenic gram-negative cocci and bacilli	Chapter 20
Rickettsias, Chlamydias, Spirochetes, and Vibrios	Chapter 21
Pathogenic Fungi	Chapter 22
Parasitic protozoa, helminths, and Arthropod Vectors	Chapter 23
Pathogenic DNA & RNA Viruses	Chapter 24 & 25
Controlling Microbial Growth <ul style="list-style-type: none"><li>▪ In the environment</li><li>▪ In the body</li></ul>	Chapter 9 & 10
Healthcare epidemiology	-
Applied and Environmental Microbiology	Chapter 26

**\* Note: Topics covered may change and/or the order in which they are covered may be altered.**

## PLAGIARISM STATEMENT

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The University of Lethbridge subscribes to Turnitin.com, a plagiarism detection service. Please be advised that student work submitted for credit in this course may be submitted to this system to verify its originality. Students must be able to submit both electronic and hard copy versions of their work upon request.

## COPYRIGHT STATEMENT

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All University of Lethbridge students, faculty and staff must comply with Canadian law and institutional license agreements pertaining to copyright. At the same time, keeping abreast of our copyright obligations and options is a complex task as copyright matters locally and globally are in flux and are likely to remain so for at least the near future.

The University's Copyright website ([www.uleth.ca/copyright](http://www.uleth.ca/copyright)) is a source of current copyright information that includes:

- answers to common copyright questions (see the [FAQs](#)),
- guidance on whether you need permission or a license to copy a particular work (see the [Copyright Permissions Flow Chart](#)),
- guidance on assessing whether fair dealing may apply to specific instances of copying you wish to undertake (see the [Guidelines for Copying under Fair Dealing](#)), and
- a [permissions look-up tool](#) to help you determine the kinds of copying and other uses permitted by the Library's license agreements covering specific online journals and other online resources.

You are encouraged to contact the University Copyright Advisor ([copyright@uleth.ca](mailto:copyright@uleth.ca)) for assistance with any copyright questions or issues.

## ACCOMMODATIONS FOR STUDENTS WITH A DISABILITY

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Reasonable accommodations are available for students who have a documented disability. If you have been diagnosed with a disability, there is no need to face the challenge of University without support. Please contact the Accommodated Learning Centre at 403-329-2766 to set up an appointment: <https://www.uleth.ca/ross/accommodated-learning-centre/>. After registering with the Accommodated Learning Centre, your instructor will be notified by a formal letter of any accommodations you require. In addition, students are responsible for requesting accommodations from the instructor at least \*two weeks\* in advance of the evaluation date. The instructor and student are jointly responsible for arranging the resources needed for the evaluation process.

## COURSE POLICIES

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- **Makeup examinations:** Only official documented medical emergencies (Doctor's note is required) or family emergencies will be excusable reasons to miss an exam/oral presentation. If an exam is missed due to a documented emergency, the marks will be pro-rated over the other exams.
- **Conduct of Examinations:** During tests, you are permitted to have a pen and nothing else. No cell phones or electronic devices will be permitted. Please see additional examination policies in the 2016/2017 University Calendar pages 82-83 ([www.uleth.ca/ross/sites/ross/files/imported/academic-calendar/2016-17/part04.pdf](http://www.uleth.ca/ross/sites/ross/files/imported/academic-calendar/2016-17/part04.pdf))
- **Student Conduct:**
  - Use laptops and tables for note-taking or participating in Moodle quizzes only. Please check email, watch movies, or access social media (e.g., Facebook, Twitter) outside of class time.
  - Cell phones and other similar devices must be turned off or set to silent/vibrate while in class. Do not take calls or send/receive text messages during class.
  - Earphones are not to be worn during lectures or exams.
  - Arrive to class/return from breaks on time and stay the entire class. If you are late, please enter the room as quietly as possible. If you must leave early, please let me know before class starts.
  - Pay full attention to lectures, oral presentations, and in-class discussion. Please avoid interrupting your classmates when they are speaking.
  - Any behavior that may disturb others (i.e., chatting) may result in a lower grade in the attendance and/or participation component of the evaluation of the course (see Method of Assessment).
  - If you miss a class, you are responsible for material covered, announcements, or materials distributed. Please negotiate with a classmate to obtain the material you missed.
- **Academic Dishonesty and Plagiarism:** Academic Dishonesty and Plagiarism will not be tolerated and will automatically result in a zero grade for the submission. Any student caught plagiarizing may also be subject to additional University sanctions.