MEDICAL MICROBIOLOGY

BIOL4350.001 TR; 10:00 AM - 11:15 AM SLC 2.304

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Office Hours Monday (M) & Thursday (R): 1:00 pm - 3:00pm

Course Pre-Requisite, Co-Requisite, and/or Other Restrictions:

Pre-requisite: Classical Molecular Genetics (BIOL3301) or General Microbiology (BIOL3V20).

Required Textbook:

Medical Microbiology, sixth edition, by Patrick R. Murray, PhD, Ken S. Rosenthal, PhD and Michael A. Pfaller, MD (ISBN: 978-0-323-05470-6).

Description:

Course objectives: Medical Microbiology, BIOL 4350, will familiarize students with the disease and health relationship between microorganisms and humans. The goals of the course is to have students understand, especially from a molecular point of view, the process by which microorganisms can cause disease, virulence factors they possess, portals of entry and the consequences, host response to disease conditions, the signs and symptoms of a disease, chemical means by which diseases can be treated, methods used for identification of pathogenic organisms, and current information on pathogens and infectious diseases. Thus, this course will focus on why the biologic properties of organisms are important to disease in humans, and will examine etiology, epidemiology, host defenses, identification, diagnosis, prevention, and control for each microbe. Bacterial will comprise a large percentage of the pathogens studied and some viruses will also be included. There may be a short introduction to fungal pathogens.

Student Learning Outcomes:

1. Categorize emerging vs. established diseases, describe molecular approaches to diseases diagnoses and explain the first and second lines of defense against diseases by the human body.
2. Explain how we combat diseases via vaccination and use of antibiotics as well the recurring problems of antibiotic resistance.
3. Describe the features, virulence factors, characteristics of the causative organism, symptoms and progression, resistance to antibiotics and other specific, especially molecular, reasons which contribute to the success of an organism as a human pathogen with regard to airborne, water and food borne, sexually transmitted, and vector and animal/insect borne diseases.

Grading Policy:

1. Grades for lecture will be calculated as follows:
   a. Lecture Exams (4) 90% (22.5% each exam score)
   b. Quizzes 10%

2. Grading scale:

Grade	Score	Grade	Score
A+	100-96	C+	77-75
A	95-92	C	74-72
A-	91-88	C-	71-68
B+	87-85	D+	67-65
B	84-82	D	64-62
		F	57 and below

3. Final grade will be rounded to the nearest integer, e.g., a final grade of 87.5 will round up to 88.00, thus letter grade "A-"; while a final grade of 87.49 will round down to 87.00, thus letter grade "B+". No points or faction of a point (regardless how small) will be awarded to increase to the next letter grade up (**No Exceptions**).

4. Grades are determined based only on performance. Grades are <u>not based on need, effort, or attendance</u>.

5. I do not curve grades (do not ask, beg, cry or plead).

Lecture Examinations:

Exam I - T, 2/4 at SLC 2.304 (Chapters 2-3, 7-8)

Exam II - R, 2/27 at SLC 2.304 (Chapters 9-13, 20)

Exam III - T, 4/1 at SLC 2.304 (Chapters 21-24, 26, 28, 39)

Exam IV - R, 5/1 at SLC 2.304 (Chapters 29-32, 35, 42, 44-46)

Makeup Exam due to bad weather, or other unexpected event - Pending date/room

Course Policy:

1. **Exams**: Four exams will be given during the semester. There will be <u>no</u> final exam. Graded exams will <u>not</u> be reviewed in class. Exams will be kept on file in the instructor's office and will be available for review for 1 week, starting the next day after the exam grades are posted in blackboard. The student is responsible for scheduling time to review. All issues regarding exam questions and grades must be resolved within this week. After this week, grades will be considered final.

2. The average of four lecture exams will count 90% of final overall grade (each lecture exam is 22.5% of final overall grade). No lecture exam will be dropped.

3. The structure of the exams will be multiple choice, true/false, and matching questions. There will be 80 questions and the time allowed to complete the exam will be 1 hour. There may be bonus points on all exams. You will need a Scantron (ParSCORE, SCORE SHEET, Form No. F-1712-PAR-L) for all exams.

4. Everything in the textbook is fair game for exams, regardless whether or not it is presented in class. You are responsible to use the information contained in the entire chapters to prepare for exams (regardless it is presented or not in class).

5. For exam purposes only, when there are conflicts between the information contained in textbook (or any other outside source) and the material presented in class, material presented by the professor in class will rule over what is written in textbook/outside source.

6. Do not miss exams! (If exams are missed you must be able to verify your reason for missing)

7. Make-up lecture exams are usually not given - if there are circumstances that warrant a make-up the instructor will determine the criteria for such an exam at the appropriate time. The structure of make-up exams will be different than that specify in #3 above.

8. Legitimate Reasons to make-up missed exams are as follows: death of an immediate family member, bona fide medical emergencies, and military orders. Proper documentation must be presented in writing – no exceptions.

9. **Quizzes**: There will be a **maximum** of 10 unannounced quizzes posted for in eLearning. The average of all quizzes minus the lowest two scores will count 10% of final overall grade.

   Quizzes will be taken in eLearning. You will have 1 week (168 hours) to take the quiz (due date and time will be shown in eLearning). Thus, do not procrastinate, because there will be no make-up for missing quizzes (**absolutely no exceptions**). A missed quiz will receive a zero (0). Read the instructions prior to taking the quiz. Quizzes are timed and only two attempts are allowed (you will get the highest score out of the two attempts).

10. **Assignments**: There **may** be unannounced in-class assignments. In-class assignments may be comprised of either group or individual exercises, which may include case studies, review crossword puzzles, review worksheets, and perhaps other activities. Points (not to exceed 5 points per exam) earned in these assignments will be added only to the pertaining exams (not to the final overall grade).

11. **Bonus Points**: Bonus points (maximum 5 points) will be made available during all exams. No bonus/extra points for the final grade.

12. **You will need a UTD photo ID to get into lecture exams. If you do not have an UTD photo ID presently, please make arrangements to get one before the first exam (photo ID on Driver Licenses/Cards/Badges are not considered substitute of UTD photo ID – we need your UTD number next to your photo in the same document, not just your photo). No exam or grade will be given to students without UTD photo ID (no exceptions).**

13. In keeping with the spirit of the Privacy Act, grades and/or grade information will not be given to anyone other than the student and will not be discussed over the phone.

UT Dallas Syllabus Policies and Procedures:

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to http://go.utdallas.edu/syllabus-policies for these policies.

These descriptions and timelines are subject to change at the discretion of the Professor.

Lecture Schedule:

Week	Day	Topic	Required Reading
1	1/14	Course Introduction and Overview	
	1/16	Bacterial Classification, Structure, and Replication	Chapter 2
2	1/21	Bacterial Metabolism and Genetics	Chapter 3
	1/23	"	"
3	1/28	Commensal and Pathogenic Microbial Flora in Humans	Chapter 7
	1/30	Sterilization, Disinfection, and Antisepsis	Chapter 8
4	2/4	**Exam I**	**Chps 2-3, 7-8**
	2/6	Immune Responses to Infectious Agents and Complement System	Chapters 12 (10)
5	2/11	Elements of Host Protective Responses	Chapter 9
	2/13	Humoral Immune Response	Chapters 10
6	2/18	Cellular Immune Response	Chapters 11
	2/20	Antimicrobial Vaccines	Chapter 13
7	2/25	Antibacterial Agents	Chapter 20
	2/27	**Exam II**	**Chps 9-13, 20**
8	3/4	Pathogenic Gram Positive Bacteria: Staphylococcus	Chapter 21
	3/6	Streptococcus, Enterococcus	Chapters 22, 23
9	3/11	*****3/10 – 3/15 SPRING BREAK*****	**NO CLASS**
	3/13		
10	3/18	Streptococcus, Enterococcus	Chapters 22, 23
	3/20	Bacillus, Corynebacterium	Chapters 24, 26
11	3/25	Mycobacterium, Clostridium	Chapter 28, 39
	3/27	"	"
12	4/1	**Exam III**	**Chps 21-24, 26, 28, 39**
	4/3	Pathogenic Gram Negative Bacteria: Neisseria	Chapter 29
13	4/8	Enterobacteriaceae	Chapter 30
	4/10	"	"
14	4/15	Bordetella, Rickettsias/Coxiella	Chapters 35, 44, 45
	4/17	Vibrio & Campylobacter/Helicobacter	Chapters 31, 32
15	4/22	Spirochetes	Chapter 42
	4/24	"	"
16	4/29	Chlamydia/Chlamydophila	Chapter 46
	5/1	**Exam IV**	**Chps 29-32, 35, 42, 44-46**

NOTE: The professor has the right to change the syllabus at any point during the semester.

*****3/28 LAST DAY TO WITHDRAW*****