



MICROBIOLOGY II

MICR 401

Course Description

Microbiology II is an organ/system approach to infectious diseases. The course begins with a brief description of the major signs and symptoms of infectious diseases that affect a particular organ/system. For each etiologic agent, basic characteristics of the pathogen, its habit and means of transmission, virulence attributes, clinical manifestations, diagnostic methods, vaccine and aspects of the immune response to the pathogen and an indication of accepted antimicrobial or related treatment are discussed.

Credit: 3 semester credits

Repeatable: No

Competencies: At the end of Microbiology I and II, the student will have had the opportunity to practice the following competencies through meeting the objectives of the course:

Medical Knowledge

- MK1 Demonstrate knowledge of normal and abnormal structure and function of the human body on the macroscopic, microscopic and molecular levels.
- MK2 Identify the pathology and pathophysiology of various diseases and correlate them with clinical signs and symptoms.
- MK3 Demonstrate knowledge of common or significant, acute and chronic clinical problems.
- MK5 Demonstrate comprehension of clinical interventions and agents including pharmaceutical, surgical, genetic, complementary and alternative medicines, and other therapies.
- MK6 Demonstrate knowledge and ability to interpret epidemiological and public health contributions to understanding health and disease.

Course Structure

The course is taught primarily using didactic lecture technique. Considerable emphasis is given on the case presentation and discussion. The lectures are recorded for use as a study aid. This gives students an opportunity to review lecture material without the need to take detailed notes in class and it allows them to listen more attentively, focus on the highlights of the lecture, create connections between diverse sections of the course and understand conceptually complex ideas. Nevertheless, students should realize that listening to a recorded lecture cannot be a substitute for attending classes

Objectives

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

1. Recognize the role of normal flora of the human body in health and disease.
2. describe immune mechanisms that protect each system/organ from infection
3. Identify a syndrome based on **major** presenting signs, symptoms and progression
4. Provide a list of possible causative agents (build a differential) of a case.
5. Identify risk factors such as exposures, genetics, age, medical history, travel etc. associated with each possible etiologic agent.
6. Determine a causative agent of a disease based on a patient profile data, epidemiological clues, symptomatic clues, or organism information.
7. Be able to answer distinguishing properties for each pathogen.
8. Identify treatment measures: simply supportive, antimicrobials, and/ or passive immunity
9. Identify control/preventive measures: environmental measures, (hygiene, vector control), prophylactic antibiotics, and immunoprophylaxis.

Schedule

The course schedule is posted at the beginning of the term on the online calendar. Weekly lecture schedule is provided in a separate file. The materials for quizzes and exams may be modified at the discretion of the Course Director when necessary. Students will be notified each time a change is required.

Assignments

Students are asked to regularly read the lecture notes posted in the student drive at least once before attending each of the lectures. This will increase students' concentration on a topic during the lecture and also enhance the understanding of the subject contents during the lecture time.

Students are often asked during lecture time to explore some relevant information of the topic themselves and discuss them in the class during the subsequent lecture time.

Textbooks and Reference Materials

- **Required text book:**
 - Murray, P.R., Rosenthal, K.S., and Pfaller, M.A. Medical Microbiology, 8th edition, 2016, Mosby/Elsevier
- **Recommended text book:**
 - Levinson, W. E. Review of Medical Microbiology and Immunology, 14th edition, 2016, Lange/McGraw-Hill
 - Kaplan: USMLE Step 1 Immunology and Microbiology Lecture Notes 2017

Evaluation

Students are evaluated by two quizzes, a midterm exam and an NBME subject exam. The first quiz comprises of 20 questions and is given at week 3 or 4. The midterm exam is held in week 7 and comprises of 60 questions. The second quiz consists of 40 questions and is given in week 12 or 13. The NBME subject (microbiology and immunology) exam is given on week 14 or 15. The internal grade (quizzes and midterm) carries 80% whereas NBME grade carries 20% of the total grade point average.

Grades

Grades are calculated on the basis of the points obtained by the students in the examination as shown in the following table:

Percent of Points	Letter Grade
95-100%	A(h)
90-94%	A
85-89%	B+
80-84%	B
75-79%	C+
70-74%	C
<70%	F

Attendance

Students are required to attend lectures. Class attendance will be taken regularly. At the end of the term, a total of 10 points will be allocated for adherence to standard professionalism as well as regular class attendance. Absences may be excused on medical grounds or leave of absence approved by the administration.

The points a student will receive will be proportional (see below) to the number of lectures attended throughout the term and degree of professionalism demonstrated (subject to the professor's judgment).

<u>% of lectures attended</u>	<u>Points out of 10</u>
>95%	10
85-94	9
75-84	8
65-74	7
55-64	6
45-54	5
<45	0

Policies: As per the school's policies given in the student handbook.

Faculty

Dr. Wezenet Tewodros, Professor and Course Director of Microbiology

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Contact office hours: Tuesdays and Thursdays 2:00-4:00 PM (subject to change) OR by appointment. Drop-in visits are also welcome.

Dr. Hari Nepal, Assistant Professor of Microbiology

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Contact office hours: Mondays and Wednesdays 2:00-4:00PM (subject to change) OR by appointment. Drop-in visits are also welcome.