Medical Microbiology Syllabus
MBIO 4300
Lecture: 1:00 - 1:50 PM, M-W-F
Lab: 2:00 – 4:50 PM, M
Room: Naraghi Hall, 331
Fall 2015

Instructor: Dr. Choong-Min Kang

Office: Rm. 262 Haraghi Hall of Science, 667-3484

Email: ckang1@csustan.edu

Office hours: 3:00 PM - 4:00 PM, T & R
Other hours may be scheduled on an individual basis.

Course Description: This course provides learning opportunities in the basic principles of medical microbiology and infectious disease. It covers mechanisms of infectious disease transmission, principles of aseptic practice, and the role of the human body's normal microflora. The biology of bacterial, viral, fungal, and parasitic pathogens and the diseases they cause are covered. Relevant clinical examples are provided. The course provides the conceptual basis for understanding pathogenic microorganisms and the mechanisms by which they cause disease in the human body. It also provides opportunities to develop informatics and diagnostic skills, including the use and interpretation of laboratory tests in the diagnosis of infectious diseases.

Course Credits: This is a 4-credit course

Course Prerequisites: Students are required to have completed MBIO 3010/3032 or equivalent. Those who managed to enroll in this course without satisfying this prerequisite will probably not succeed in this course and for this reason will be required to drop it. Students who have questions about these prerequisites should see the instructor.

Reference for the class:

Medical Microbiology, 5th edition, 2012, Mims *et al*.

Every effort will be made to provide the lecture slides on Blackboard a day or more before class. However, not all the slides from each lecture will be provided on Blackboard and some slides may only be shown in class.

Exams & Grades: A total of 710 points are possible for the course. Each exam will follow a similar format, although the final exam will be twice longer. You will be required to

answer multiple choice, short answer, and short essay-type questions. The final exam will be cumulative.

Grading summary:

7 regular Exams	420 points
Final Exam	90 points
Group presentation	50 points
Written lab exam	100 points
Lab report	50 points
Total points possible	**710 points**

Missed exams due to illness or extenuating family circumstances will require formal written documentation. Make-up exams may be offered on a case-by-case basis.

Exam corrections: When each exam is returned, you will have **ONE WEEK** to correct errors in grading or challenge a question on the exam. Corrections and inquiries about specific exam questions must occur in person during office hours.

Group presentations: Students will be grouped into 8 groups and each group will choose an infectious disease or any current issues related to microbial infections. Examples of the topics are,

Drug-resistant TB
Influenza virus outbreaks
Co-infection of TB and HIV
Chloroquine-resistant malaria
E. coli 0157 H7
Salmonellosis…

Students must consider following questions when they present their study.

1. What is the cause of the infection or problem?
2. What is the mechanism that the infectious agent use when it harms us?
3. What are the pathologies/symptoms of the disease?
4. What kinds of treatment, if any, are available? How does the treatment work? What can we do in the future?

Group presentations will be held during the lab sessions. Each group will be given 25 min plus 5 min of discussion. Pre-presentation practice can be arranged by appointments with the instructor.

Final Course Grade: The final grade for this course will be derived from the total points earned divided by the total number of points possible for the course. This numerical value will be converted to a percentage.

The course grade will be derived from the following scale:
A = 90 - 100%
B = 80 - 89%
C = 70 - 79%
D = 60 – 69%
F = 0 – 59%

Lecture Policy: Every effort will be made to begin and end lectures on time. Please try to be in your seats when class starts and do not leave class prematurely.

Students who insist on talking during class will be asked to leave if they continue to disturb the lecture. Questions and other dialog with the instructor are, of course, encouraged.

Cheating Policy: Any individuals caught cheating will automatically receive a grade of "F" for the course.

You must arrive on time for the exam. Students who arrive after the first student has finished with the exam and left the room will not be allowed to take the exam.

Students will not be allowed to leave the room during an exam. Once a student has left the room, he or she will not be allowed to return.

Absolutely no talking among students will be tolerated during the exam.

Course Outline: The **lecture topics** listed below are tentative and subject to change.

Week	Date	Topic
1	8/24	Introduction to Medical Microbiology
	8/26	Introduction of Viruses, Fungi, Parasites, and Prions
	8/28	Introduction of Viruses, Fungi, Parasites, and Prions
2	8/31	The host-parasite relationship
	9/2	The host-parasite relationship
	9/4	The host-parasite relationship
3	9/7	**Labor Day - no class**
	9/9	**Exam 1** , Mechanisms of pathogenecity
	9/11	Mechanisms of pathogenecity
4	9/14	Mechanisms of pathogenecity
	9/16	Mechanisms of pathogenecity
	9/18	Gram-positive cocci pathogens
5	9/21	**Exam 2**, Gram-positive cocci pathogens
	9/23	Gram-positive cocci pathogens
	9/25	Gram-positive rods pathogens
6	9/28	Gram-positive rods pathogens
	9/30	Grma-negaive cocci pathogens
	10/2	Grma-negaive cocci pathogens
7	10/5	**Exam 3**, Gastrointestinal Gram-negative rods
	10/7	Gastrointestinal Gram-negative rods
	10/9	Gastrointestinal Gram-negative rods
8	10/12	**Columbus Day - no class**
	10/14	Gastrointestinal Gram-negative rods
	10/16	Gastrointestinal Gram-negative rods
9	10/19	**Exam 4**, Clostridia and other anaerobic rods
	10/21	Spirochetes
	10/23	Spirochetes
10	10/26	Mycoplasma
	10/28	Chlamydiae
	10/30	Chlamydiae
11	11/2	**Exam 5**, Mycobacteria
	11/4	Mycobacteria
	11/6	**Exam 3**
12	11/9	**Veteran's Day - no class**
	11/11	Noneveloped DNA viruses
	11/13	Noneveloped DNA viruses
13	11/16	**Exam 6**, Noneveloped DNA viruses
	11/18	Noneveloped DNA viruses
	11/20	Enveloped DNA viruses
14	11/23	Enveloped DNA viruses
	11/25	Enveloped DNA viruses
	11/27	**Thanksgiving**
15	11/30	**Exam 7**, Enveloped DNA viruses
	12/2	Retoviruses
	12/4	Retoviruses
16	12/7	Retoviruses
	12/9	Retoviruses
	12/18	**Final exam (11:15 AM - 1:15 PM)**

Laboratory: Gain hands-on experience with basic methods of culturing, identifying, and handling of pathogenic bacteria. Many experiments will require previous skills you learned during the pre-req Bacteriology class. The tentative lab schedule is shown.

Week	Date	Topic
1	8/24	Introduction, Lab safety, and Check-in
2	8/31	Sterilization techniques & preparing culture media
3	9/7	**Labor Day - no class**
4	9/14	Microbial flora of the Mouth: Determination of susceptibility to Dental caries
5	9/21	Normal microbial flora of the throat and skin
6	9/28	Identification of Human Staphylococcal pathogens
7	10/5	Identification of Human Streptococcal pathogens
8	10/12	**Columbus Day – No class**
9	10/19	Identification of *Streptococcus pneumoniase*
10	10/26	Identification of Enterics
11	11/2	Isolation of your GI tract bacteria
12	11/9	Identification of your GI tract bacteria
13	11/16	Identification of your GI tract bacteria
14	11/23	Identification of your GI tract bacteria
15	11/30	**Group presentations**
16	12/7	**Lab final exam**