

Course Syllabus: MICR 2330-001 Microorganisms and Diseases (CRN#10633)

Classroom: Physical Science Building Room #208

Instructor: Jian-Ying Zhang, MD, Ph.D., Professor, Department of Biological Sciences, UTEP

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Class Hours: MW 4:30pm -5:50pm; **Office Hours:** Appointment by email

More information for the class: 49% or Less Online Instructional Method

Required Materials: Nester, et al. Microbiology, A Human Perspective, 9th Ed., 2019 or 10th Ed., 2022

Course Description:

- Survey of microorganisms important to humans with emphasis on pathogens;
- Diagnostic procedures for pathogenicity and immune responses to the more common pathogens.

Course Objectives:

After the completion of this course, students can understand the basic concepts and information in the science of microbiology, and are able to describe and use the general methods learned from this course to study microorganisms important to humans with emphasis on pathogens.

Evaluation:

One midterm exam and two projects will be given for this course. The final examination will be comprehensive, covering all reading and lectures, and will be given during the last week of this semester. The exercises (Review Questions) that accompany each chapter will be given. The exercises encourage students to immediately use their newly acquired knowledge and, thus, by practice, improve retention.

Grading:

Your grade in this course is based on a combination of projects, midterm exam, final exam. Grades are based on a straight percentage scale; there is no curve and no +/- grades are awarded. So, an A=100-90%, a B=89.9-80%, a C=79.9-70%, a D=69.9-60%, and F=<60%. Midterm: 100 points; Projects: 100 points; Final Exam: 100 points; Course Total: 300 points

Academic Integrity Policy: UTEP's policies regarding academic integrity apply in this course. Information on this policy can be found at <http://academics.utep.edu/Default.aspx?tabid=23785>

Civility Statement: Please be respectful of all students' right to learn without disruptions. In line with this statement please make an active effort to respect the other students in the classroom. Avoid making excessive amounts of noise and try to remember to turn off your cell phone.

Disability Statement: If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass.

Course Schedule (*The following schedule is tentative, and the dates of lectures may be changed.*)

- 1st week:
Introduction
Ch 01: Human and the Microbial World
- 2nd week:
Labor Day Holiday (no class)
Ch 02: The Molecules of Life
- 3rd week:
Ch 03: Microscopy and Cell Structure
Ch 04: Dynamics of Prokaryotic Growth
- 4th week:
Ch 05: Control of Microbial Growth
Ch 06: Metabolism: Fueling Cell Growth
- 5th week:
Ch 07: The Blueprint of life, from DNA to Protein
Invited Guest Lecture: Bioterrorism and Countermeasures
- 6th week:
Ch 08: Bacterial Genetics
Ch 09: Biotechnology and Recombinant DNA
- 7th week:
Ch 10: Classification and Identification of Prokaryotes
Ch 12: The Eukaryotic Members of the Microbial World
- 8th week:
Class Review
Midterm exam
- 9th week:
Ch 13: Viruses, Viroids, and Prions
Ch 14: The Innate Immune Response
- 10th week:
Ch 15: The Adaptive Immune Response
Ch 16: Host-Microbe Interactions
- 11th week:
Ch 17: Immunologic Disorder
Ch 18: Applications of Immune Responses
- 12th week:
Ch 19: Epidemiology
Ch 20: Antimicrobial Medications
- 13th week:
Ch 21: Respiratory System Infections
Ch 22: Skin Infections
- 14th week:
Ch 24: Digestive System Infections
Ch 27: Blood and Lymphatic Infections
- 15th week:
Ch 28: HIV Disease and Complications of Immunodeficiency
Class Review
- 16th week:
Final Examination