

Course Syllabus: MICR 2330-001 Microorganisms and Diseases (CRN#11380)

Classroom: Physical Science Building, Room 208

Instructor: Jianying Zhang, MD, Ph.D., Professor, Department of Biological Sciences, UTEP

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Class Hours: MW 9:00-10:20 am; **Office Hours:** MW 10:30-11:30 am

Required Materials:

Eugene W. Nester, et al. Microbiology, A Human Perspective, 7th Ed., 2012 (ISBN: 978-0-0-07-337531-1)

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:

Three tests 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 tests, final exam, and participation in class. 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%. Tests: 180 points; Projects: 80 points; Final Exam: 100 points; Class Participation & Attendance: 40 points; Course Total: 400 points

Make-up Policy: For any reason, if you are not able to be in classroom for the quizzes/exams, you have to inform instructor before the quizzes/exams. Then the instructor can reschedule your missed quizzes/exams. Otherwise, it will result in a grade of 0% for the quizzes/exams.

Attendance, Absence and Drop Policy: Attendance in this course is critical to your success. Not only attending lecture aid in your understanding of course material, attendance is mandatory. If missing four class hours, you will be dropped from this class. If you have a serious illness or a legitimate excuse (includes military personnel called to active duty or training) for being out-of-town, make arrangements with instructor before you leave. **November 1** is the last day students may drop with an automatic "W".

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 (Part 1)
Ch 07: The Blueprint of life, from DNA to Protein (Part 2)
- 6th week:
Exam 1 (Chapters 1-7)
Invited Guest Lecture: Bioterrorism and Countermeasures
- 7th week:
Ch 08: Bacterial Genetics
Ch 09: Biotechnology and Recombinant DNA
- 8th week:
Ch 10: Classification and Identification of Prokaryotes
Ch 12: The Eukaryotic Members of the Microbial World
- 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:
Exam 2 (Chapters 8-16)
Ch 17: Immunologic Disorder
- 12th week:
Ch 18: Applications of Immune Responses
Ch 19: Epidemiology
- 13th week:
Ch 20: Antimicrobial Medications
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
Exam 3 (Chapters 17-22, 24, 27, 28)
- 16th week:
Final Examination (December 11th, Wednesday 10:00am-12:45pm)