BI 234 : MICROBIOLOGY

Transcript title
Microbiology

Credits
4

Grade mode
Standard letter grades

Contact hours total
60

Lecture hours
30

Lab hours
30

Prerequisites
WR 065 (or higher) or minimum placement into WR 121 or WR 121 plus WR 098, and (BI 101, or BI 231 or BI 211).

Description
Learn the characteristics and disease-causing features of microorganisms, especially the bacteria and viruses that cause serious infectious diseases in humans. Covers defense mechanisms against infections and disease, and the development of immunity against future infections. The mechanisms of action of certain classes of anti-microbial drugs are discussed. Also covers some of the historically-common human infections and diseases. Designed especially for students in nursing, pre-pharmacy and other pre-professional health programs.

Learning outcomes
1. Demonstrate skills using current lab techniques to safely and appropriately identify pathogens and apply knowledge to pathogen-caused illness.
2. Analyze and interpret lab results to identify microbes, infections, and/or selected human responses to microbial exposure.
3. Apply principles of microbiology to disease processes.
4. Link pathogens and disease causing entities to disease processes and control.
5. Recognize effects of microbiome on human host.
7. Apply evidence-based concepts to microbial and infectious disease prevention.

Content outline
• History and major discoveries in microbiology.
• The diversity of the microbiome including types of pathogenic and disease-causing entities.
• Human-microbe interactions (beneficial, neutral, detrimental).
• Features of specific microbes (and disease causing entities) that cause pathogenicity and allow for identification.

• Microbial control, including disinfection, antibiotic use, and selection for anti-microbial resistance.
• Basic principles of infection, disease transmission, and risk factors.
• Disease prevention techniques including vaccines and immunization.
• Major features of selected microbial diseases and strategies for decreasing morbidity and mortality.
• Current microbiological and molecular laboratory techniques, including microscopy, aseptic technique, culturing, identification, and microbial control.
• Selected lab tests used to identify pathogens / microbes, diagnose illness, and interpret immune response to microbial exposure.

Required materials
Required course pack and/or textbook.

Grading methods
Grades will be determined by homework assignments, in-class activities/discussions, lecture quizzes, lecture exams, lab quizzes, lab results, lab attendance, and or/lab practical evaluations.

General education/Related instruction lists
• Discipline Studies/Science Lab