

Common Course Outline

MLTC 231

Clinical Microbiology

4 Credits

Community College of Baltimore County

Description

MLTC 231 – Clinical Microbiology presents the clinical aspect of infectious diseases, focusing on clinical bacteriology. The course includes specimen collection and handling, normal flora, and expected pathogens for various regions of the body. Students examine the pathogenesis, clinical syndromes, epidemiology, treatment and laboratory identification of each microorganism. Laboratory emphasizes the performance and interpretation of appropriate tests used to identify commonly encountered microorganisms in the clinical microbiology laboratory.

4 Credits: 3 lecture hours per week, 3 laboratory hours per week

Prerequisites: MLTC 150; MLTC 151; MLTC 200

Corequisite: MLTC 131

Overall Course Objectives

Upon completion of this course students will be able to:

1. describe the collection and handling methods of specimens for the diagnosis of infectious diseases;
2. explain the principles and methodologies of diagnostic tests performed in the clinical laboratory for the identification of infectious agents;
3. perform and accurately interpret basic clinical laboratory tests performed in the clinical laboratory for the identification of infectious agents;
4. recognize factors that affect procedures and results;
5. explain the life cycle and pathogenicity of parasites and fungi;
6. correlate symptoms, risk factors, medical history and laboratory data to diagnose infectious diseases;
7. compare and contrast the transmission, pathogenesis, and epidemiology of infectious bacterial diseases;
8. evaluate quality control procedures used in a clinical microbiology laboratory; and
9. demonstrate laboratory safe practices handling biohazardous materials and waste.

Major Topics

- I. Bacterial cell structure, physiology, metabolism and genetics
- II. Control of microorganisms
- III. Antimicrobial therapy
- IV. Infectious processes
- V. Laboratory identification

- A. Staphylococci
 - B. Streptococci
 - C. Non-spore-forming gram positive rods
 - D. Gram negative aerobic diplococci
 - E. Enterobacteriaceae
 - F. Other gram-negative rods
 - G. Anaerobies
 - H. Chlamydia, mycoplasma, and ureaplasma
 - I. Mycobacteria
- VI. New technologies in microbiology

Course Requirements

Grading procedures will be determined by the individual faculty member but will include the following:

Grading/exams

- A minimum of three (3) graded case studies
- Weekly laboratory assignments
- A minimum of three (3) graded laboratory unknowns
- Weekly lecture quizzes and assignments
- A minimum of three (3) lecture exams
- A minimum of two (2) laboratory proficiencies
- Professionalism
- A cumulative final examination

Written Assignments: Students are required to use appropriate academic resources.

Other Course Information

This course is a Medical Laboratory Technology program core course.

This course is part of a program sequence that requires admission to the program.

This course is offered in the spring only.