

**Common Course Outline**  
MLTC 131  
**Mycology, Virology, & Parasitology**  
1 Credit

**Community College of Baltimore County**

**Description**

**MLTC 131 – Mycology, Virology, & Parasitology** introduces the clinical aspect of infectious diseases, including mycology, clinical virology, and parasitology. The course examines the pathogenesis, clinical syndromes, epidemiology, treatment and laboratory identification of each microorganism. The course introduces practical application of laboratory procedures, safety, specimen collection and handling.

**1 Credit**

**Prerequisites:** MLTC 150; MLTC 151; MLTC 200

**Corequisite:** MLTC 231

**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. recognize factors that affect procedures and results;
4. explain the life cycle and pathogenicity of parasites and fungi;
5. correlate symptoms, risk factors, medical history and laboratory data to diagnose infectious diseases;
6. compare and contrast the transmission, pathogenesis, and epidemiology of infectious bacterial, fungal, viral, and parasitic diseases;
7. differentiate common yeasts and molds from bacteria on routine mycology media;
8. interpret microscopic observation of fungi according to set guidelines;
9. describe the basic structure/components of viral agents;
10. identify concepts of disease transmission for disease prevention; and
11. describe the distinguishing characteristics of parasites and their structures (adults, larvae, ova, cysts, trophozoites).

**Major Topics**

I. Mycology

- A. Characteristics of fungi
  - i. Classification, taxonomy
  - ii. Eukaryotic cells

- iii. Reproduction
    - iv. Growth requirements
    - v. Morphologic structures
  - B. Laboratory examination
    - i. Collection methods
    - ii. Isolation media
    - iii. Microscopic observations
  - C. Laboratory identification of significant organisms
    - i. Yeasts
    - ii. Dimorphic molds
    - iii. Hyaline molds
    - iv. Zygomycetes
    - v. Dermatophytes
- II. Clinical Virology
  - A. Characteristics of fungi
    - i. Structure and components of viral agents
    - ii. Classification or grouping viruses
  - B. Laboratory examination
    - i. Collection methods
    - ii. Direct detect methods
  - C. Infection prevention and control
- III. Diagnostic Parasitology
  - A. Characteristics of parasites
    - i. Classification, taxonomy, terminology
    - ii. Characteristic structures
  - B. Laboratory examination
    - i. Collection methods
    - ii. Microscopic observations
    - iii. Concentration methods and stains
  - C. Laboratory identification of significant parasites
    - i. Nematodes
    - ii. Cestodes
    - iii. Trematodes
    - iv. Protozoa
    - v. Sporozoa
    - vi. Ciliates

### **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 quizzes and assignments

- A minimum of three (3) exams
- 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.

Date Revised: 01/09/2018