



South Central College

MDLT 2821 Microbiology II

Course Outcome Summary

Course Information

Description	This course is a continuation of Microbiology I. The students will receive further basic practical instruction in the isolation and identification of clinically significant microorganisms. A short introduction to parasitology/mycology/virology/Mycobacterium species will also be included. (Prerequisite: MDLT 1810 and MDLT 2811 with a grade of C or higher.)
Total Credits	3
Total Hours	48

Types of Instruction

Instruction Type	Credits/Hours
Lecture (online)	1/16
Lab	2/32

Pre/Corequisites

MDLT 1810 and MDLT 2811 with a grade of C or higher.

Institutional Core Competencies

Communication - Students will be able to demonstrate appropriate and effective interactions with others to achieve their personal, academic, and professional objectives.

Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

Course Competencies

1. Apply laboratory safety practices.

Learning Objectives

Explain management and disposal of hazardous and regular waste.

Discuss management of a safe laboratory environment.

Describe the collection, transportation, handling, packaging, and processing precautions for microbiology specimens.

Describe the practice of sterilization and disinfection.

2. Demonstrate standard quality assurance practices to ensure quality patient outcomes.

Learning Objectives

List components of a microbiology QA program.
Interpret QA data.
Discuss using and reporting QA data.
Discuss corrective action measures for QA data.

3. Discuss organism characteristics, clinical significance, cultural characteristics and identification, treatment, habitat, specimen collection and processing, and transmission of Mycobacterium spp.

Learning Objectives

Identify pathogenic, opportunistic and normal flora Mycobacterium organisms.
Correlate clinically significant Mycobacterium organisms with the possible infection they cause, and the nature of the illness.
Explain the pathogenesis of tuberculosis including symptoms, stages of the disease, diagnosis, and treatment.
Describes the modes of transmission and habitats of the most commonly isolated Mycobacterium organisms.
Describe distinguishing features of clinically significant Mycobacterium organisms important to human infections.
List and describe common methods used to differentiate and identify Mycobacterium organisms including rates of growth.
Stain and examine a slide for the presence of mycobacteria.

4. Discuss organism characteristics, clinical significance, cultural characteristics and identification, and antibiotic susceptibility characteristics of the Vibrios and Other Curved Aerobic Gram Negative Bacilli.

Learning Objectives

Identify by name the major organisms that fall within this group.
List and describe the distinguishing features for each of the organisms that are important human pathogens.
Correlate clinically significant Vibrios and Other Curved Aerobic Gram Negative Bacilli with the disease they cause and the nature of the illness.
Describe modes of transmission and habitats of the most commonly isolated Vibrios and Other Curved Aerobic Gram Negative Bacilli.
Discuss major virulence factors, if known, that are associated with Vibrios and Other Curved Aerobic Gram Negative Bacilli, and their importance in the disease process.
Discuss the types of laboratory assays that are useful in identification and differentiation of the Vibrios and Other Curved Aerobic Gram Negative Bacilli.
Discuss the special considerations for immunocompromised hosts.

5. Discuss organism characteristics, clinical significance, cultural characteristics and identification, and antibiotic susceptibility characteristics of the Spirochetes.

Learning Objectives

Identify by name the major organisms that fall within this group.
List and describe the distinguishing features for each of the organisms that are important human pathogens.
Correlate clinically significant Spirochetes with the disease they cause and the nature of the illness.
Describe modes of transmission and habitats of the most commonly isolated Spirochetes.
Discuss the types of laboratory assays that are useful in identification and differentiation of the Spirochetes.
Discuss the special considerations for immunocompromised hosts.
Explain the pathogenesis of syphilis including symptoms, stages of the disease, diagnosis, and treatment.

6. Discuss organism characteristics, clinical significance, cultural characteristics and identification, and antibiotic susceptibility characteristics of the Miscellaneous Bacteria.

Learning Objectives

Identify by name the commonly isolated organisms that fall within this group.
List and describe the distinguishing features for each of the organisms that are important human pathogens.
Correlate clinically significant Miscellaneous Bacteria with the disease they cause and the nature of the illness.
Describe modes of transmission and habitats of the most commonly isolated Miscellaneous Bacteria.
Discuss the types of laboratory assays that are useful in identification and differentiation of the Miscellaneous Bacteria.

7. Discuss organism characteristics, clinical significance, cultural characteristics and identification, and antibiotic susceptibility characteristics of the Gram Positive and Gram Negative Anaerobic Organisms.

Learning Objectives

Identify by name the commonly isolated organisms that fall within these groupings.

List and describe the distinguishing features for each of the organisms that are important human pathogens. Correlate clinically significant Gram Positive and Gram Negative Anaerobic Organisms with the disease they cause and the nature of the illness.

Describe modes of transmission and habitats of the most commonly isolated Gram Positive and Gram Negative Anaerobic Organisms.

Discuss the types of laboratory assays that are useful in identification and differentiation of the Gram Positive and Gram Negative Anaerobic Organisms.

8. Discuss the clinical significance of common parasitic infections including key terminology, parasitic life styles, parasite characteristics, transmission, collection and examination techniques.

Learning Objectives

Define key terminology assigned by the instructor.

Discuss parasitic adaptations and the transmission of parasitic diseases.

Describe parasitic lifestyles and host-parasite relationships.

List and explain techniques used for parasite collection and examination.

List and describe the characteristics of the major protozoans and helminthes.

9. Discuss the clinical significance of the medically relevant fungi to man, including fungal terminology, specimen collection, fungal classifications, fungal characteristics, cultural characteristics and identification procedures.

Learning Objectives

Define key terminology assigned by the instructor.

List the classifications of fungi that contain species of medical relevance to man, and identify the clinical disease associated with the mycoses.

List and discuss general characteristics, reproduction, and general approaches to isolation and identification of the medically relevant fungi to man.

Describe appropriate methods for fungal specimen collection.

10. Discuss the clinical significance of the medically relevant viruses to man including viral terminology, specimen collection and handling, types of viruses, virus characteristics, and the clinical significance of the study of virology.

Learning Objectives

Define key terminology assigned by the instructor.

Discuss general characteristics of viruses.

Explain specimen collection and handling of viruses.

List and discuss the most common viruses causing human illness.

Explain the clinical significance and usefulness of the study of virology.

SCC Accessibility Statement

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Additional information and forms can be found at: www.southcentral.edu/disability

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