

**SOUTHEAST COMMUNITY COLLEGE
HEALTH SCIENCES DIVISION
MEDICAL LABORATORY TECHNOLOGY
Revision Date: 04/2026**

I. CATALOG DESCRIPTION

Course Number: MEDT 1190
Course Title: Medical Microbiology 1
Prerequisites:

Catalog Description: The study of routine procedures in Medical Microbiology, emphasizing the isolation and identification of common pathogenic bacteria. Course includes the advanced study of Medical Microbiology theory and procedures. Skills and laboratory techniques corresponding to theoretical information presented in the lecture. Laboratory is concurrent with lecture.

Credit Hours: 2
Class Hours: 15
Lab Hours: 45
Total Contact Hours: 60

II. COURSE OBJECTIVES: *Course will:*

1. Apply the MLT program safety policies and aseptic technique during all laboratory procedures.
2. Outline cell structure and function.
3. Outline prokaryotic metabolism.
4. Introduce microbial genetics and resistance mechanisms.
5. Correlate the role of microbes on humans and the environment.
6. Familiarize students with microbes of clinical importance.
7. Discuss concepts for proper specimen collection, transport, processing and rejection.
8. Perform and interpret microscopic techniques, including Gram stain and direct specimen examinations.
9. Utilize appropriate culture media, incubation conditions and biochemical and automated testing to isolate, differentiate and identify clinically significant microorganisms.
10. Differentiate common pathogens from normal flora.
11. Identify organisms of bioterrorism concern and hazardous pathogens and understand when to use enhanced safety precautions.
12. Apply the concept of quality control to microbiology procedures.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

A. STUDENT LEARNING OUTCOMES: *Student will be able to:*

1. Explain foundation microbiology concepts.
2. Apply laboratory safety and specimen management principles.
3. Perform direct examination and microscopic techniques.
4. Isolate and identify clinically significant microorganisms.
5. Recognize hazardous and high-risk pathogens and appropriate safety precautions.

B. GENERAL EDUCATION LEARNING OUTCOMES

1. GELO #3: Critical Thinking & Problem Solving

Collect, identify, interpret and analyze data.

Evaluate the validity of arguments, alternatives, data, outcomes, and/or impacts of actions.

IV. CONTENT/TOPICAL OUTLINE (*course outline may provide more detailed information*)

- A. SAFETY & STERILIZATION**
- B. LABORATORY TECHNIQUES**
- C. CULTIVATION OF BACTERIA**
- D. STAPHYLOCOCCUS & MICROCOCCACEAE**
- E. STREPTOCOCCACEAE & ENTEROBACTERIACEAE**
- F. NEISSERIAEAE & MOXAXELLACEAE**
- G. AEROBIC GRAM-POSITIVE BACILLI**
- H. AGENTS OF BIOTERRORISM: IDENTIFICATION & LABORATORY SAFETY**
- I. ANTIMICROBIAL SUSCEPTIBILITY TESTING METHODS**

V. INSTRUCTIONAL MATERIALS

A. Required text(s):

Delost, Maria Dannessa, *Introduction to Diagnostic Microbiology for the Laboratory Sciences* (current edition)

B. Other Required Resources:

Packet of Handouts

VI. METHODS OF PRESENTATION/INSTRUCTION

A. Methods of presentation typically include a combination of the following:

- 1. In-person and recorded lectures and videos
- 2. In-person and recorded laboratory demonstrations and videos
- 3. Hands-on activities
- 4. Role play
- 5. Online resources
- 6. Guest presentations
- 7. Case studies

VII. METHODS OF EVALUATION

A. Methods of evaluation typically include a combination of assignments, quizzes, exams, projects, laboratory competencies, etc. For grading expectations please see the course information document

SCC STANDARD GRADING SCALE POLICY:

A+	95-100	C+	75-79
A	90-94	C	70-74
B+	85-89	D+	65-69
B	80-84	D	60-64
		F	Below 60

VIII. SPECIFIC COURSE REQUIREMENTS

A. ATTENDANCE

Attendance is crucial to the success of this course. The attendance policy can be found in the MLT Student Handbook.

B. OTHER

Please see the Course Information Document for course policies related to grading, expectations, assignments, assessment, and participation.