

**SOUTHEAST COMMUNITY COLLEGE
HEALTH SCIENCES DIVISION
MEDICAL LABORATORY TECHNOLOGY**

Revision Date: 12/2023

I. CATALOG DESCRIPTION

Course Number: MEDT 1150
Course Title: Laboratory Methods
Prerequisite(s): Admission into the Medical Laboratory Technology Program

Catalog Description: Introduction to medical laboratory procedures and laboratory mathematics. Basic laboratory techniques and skills required in the field of medical laboratory technology. Laboratory safety, HIPPA, departments of the laboratory, equipment, quality assurance, and mathematical applications used in the medical laboratory. Laboratory is concurrent with lecture.

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

II. COURSE OBJECTIVES: *Course will:*

1. Introduce the departments of the medical laboratory.
2. Review the knowledge and skills for the medical laboratory.
3. Introduce laboratory safety and laboratory testing.
4. Provide practice using mathematical calculations in the medical laboratory.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

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

1. Identify and discuss each department in the medical laboratory.
2. Identify the various levels of medical laboratory personnel and their educational requirements.
3. Identify the type of knowledge and skills necessary for a career in the field of Medical Laboratory Technology.
4. Recognize the importance of quality assurance in determining the accuracy and precision of laboratory test results.
5. Complete all safety training required in the medical laboratory.
6. Use safety precautions in the laboratory.
7. Complete HIPPA training.
8. Understand HIPPA guidelines and follow them appropriately.
9. Identify, analyze, and perform basic laboratory testing procedures in the areas of Hematology, Microbiology, Medical Chemistry, Serology, Immunohematology, and Urinalysis.
10. Explain the principle of each laboratory procedure performed.
11. Perform calculation for dilutions.
12. Solve problems using ratio and proportion.
13. Use Beer's Law to calculate concentration of unknowns.
14. Define the basic terms related to fundamental descriptive statistics.
15. Calculate the mean, standard deviation and coefficient of variation for a group of numbers.

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 IN THE MEDICAL LABORATORY**
- B. HIPPA IN THE MEDICAL LABORATORY**
- C. OVERVIEW OF THE CLINICAL (MEDICAL) LABORATORY**
- D. DEPARTMENTS OF THE LABORATORY**
- E. QUALITY ASSURANCE**
- F. LABORATORY MEASUREMENTS**
- G. LABORATORY PROCEDURES**

V. INSTRUCTIONAL MATERIALS

A. Required Text(s):

Estridge, Barbara, and Anna Reynolds. *Basic Clinical Laboratory Techniques* (current edition)
Johnson, Catherine W., Daniel L. Timmons and Pamela E. Hall. *Essential Laboratory Mathematics* (most 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. Lecture activities and tasks (both self-guided and with a partner or group)
4. Laboratory activities and tasks (both self-guided and with a partner or group)
5. Discussions
6. Points-based activities

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.