



South Central College

MDLT 1810 Laboratory Techniques & Orientation

Course Outcome Summary

Course Information

Description	This course is an orientation course designed to familiarize the student with a career in the medical laboratory field. It covers basic skills in clinical laboratory techniques and provides the student with practice. Topics include: MLT/Phlebotomy program policies; certification; working with various pieces of equipment; safety; infection control; quality control; specimen collection, handling, and processing; good laboratory technique; and maintaining efficiency and accuracy. The practice of phlebotomy is heavily emphasized in this course. Students will continue to enhance their phlebotomy skills in other technical courses where blood samples are needed, and also during the clinical internship.
Total Credits	3
Total Hours	64

Pre/Corequisites

None

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 SCC MLT/Phlebotomy program policies.

Learning Objectives

- List MLT/phlebotomy program policies.
- Explain the significance of laboratory safety.
- Locate student laboratory safety equipment.
- Discuss internship assignments.
- Explain internship augmentation.
- Define confidentiality.

2. Differentiate medical laboratory personnel.

Learning Objectives

List titles of individuals found in a clinical laboratory setting.
Compare/contrast laboratory responsibilities/duties of the different medical laboratory personnel.
Discuss educational differences amongst medical laboratory personnel.
List professional organizations.
Explain certification process.

3. Practice Standard (Universal) Precautions and laboratory safety.

Learning Objectives

Explain the role of OSHA in the medical laboratory.
Explain the significance of laboratory safety.
List the three classifications of laboratory hazards.
Locate student laboratory safety equipment.
Explain appropriate course of action if an accident occurs in the laboratory.

4. Use blood collection terminology appropriately.

Learning Objectives

Define terminology related to blood collection procedures.
Use terminology related to blood collection procedures.
Discuss importance of good communication skills among healthcare workers.

5. List blood collection equipment needed for various blood collection techniques.

Learning Objectives

Identify, list, and differentiate the anticoagulants used in the medical laboratory.
List common evacuated (vacutainer) tubes, and correlate their appropriate usage within the laboratory setting.
Explain how to use a tourniquet.
List common microtechnique (capillary) collection devices used within the laboratory.
List common microtechnique (capillary) receiving devices used within the laboratory.
Describe the features of the common types of needles used for blood collection procedures.
Describe the personal protection equipment available for phlebotomy collections procedures.

6. Perform various blood collection techniques.

Learning Objectives

Explain patient sample types.
Perform correctly a syringe blood collection procedure.
Perform correctly a vacutainer blood collection procedure.
Perform correctly a microtechnique (capillary) blood collection procedure.
Explain arterial blood collection technique.
Explain blood culture collection technique.

7. Identify sources of blood collection complications.

Learning Objectives

List common blood collection complications that involve uncooperative patients.
List technical problems that can be encountered during blood collection procedures.
Describe physical complications from blood collection procedures.
Describe some of the situations which would be cause for specimen rejection by the laboratory.

8. List legal and medical issues pertaining to patient contact as a phlebotomist/medical laboratory technician.

Learning Objectives

Define confidentiality, negligence, liability, rights of privacy, and informed consent.
Discuss importance of confidentiality, negligence, liability, rights of privacy, and informed consent.
List the patients' rights that pertain to phlebotomy and the medical laboratory.
List medical laboratory personnel rights.
Discuss importance of patient/medical laboratory personnel rights.

9. Identify the appropriate glassware/plasticware used in the medical laboratory.

Learning Objectives

List glassware/plasticware used in the medical laboratory.
Describe glassware/plasticware used in the medical laboratory.

Explain importance of proper usage of glassware/plasticware used in the medical laboratory.
List the steps used in the glassware/plasticware cleaning procedure.
Explain significance of clean glassware/plasticware in the medical laboratory.

10. Demonstrate how to correctly use a centrifuge.

Learning Objectives

Identify the parts of a centrifuge.
Identify the different types of centrifuges found in the laboratory.
Explain how to "balance" a centrifuge for correct operation.
Explain the importance of a "balanced" centrifuge.
Discuss safety precautions observed when using a centrifuge.
Explain maintenance of centrifuges.

11. Demonstrate how to correctly use a balance.

Learning Objectives

Identify the different parts of a balance.
Discuss the different types of balances used in the laboratory.
Explain the significance of correctly measuring substances in the laboratory.
Discuss maintenance of balances.

12. Demonstrate how to correctly use manual and semi-automatic pipettes.

Learning Objectives

Explain the significance of using the proper pipette in the laboratory.
Identify the different types of manual and semi-automated pipettes.
Discuss volumetric/transfer pipette usage.
Discuss graduated/measuring pipette usage.
Discuss semi-automated pipette usage.
List the proper procedure for manual pipette usage.
List the proper procedure for semi-automated pipette usage.
Describe the technique used for washing pipettes.
Explain significance of having clean pipettes in the medical laboratory.

13. Use microscopes appropriately.

Learning Objectives

List the different parts of brightfield microscope.
Identify the function(s) of the different parts of brightfield microscope.
List the different types of microscopes used in the laboratory.
List the correct steps to use the bring an object into focus under the microscope lenses.
Explain proper maintenance of the microscope.
Explain proper storage of the microscope.

14. List the components of quality assurance/control programs.

Learning Objectives

Define quality assurance and quality control.
Explain how quality control ranges are established.
Discuss the significance of quality control measurements.

15. Apply quality assurance/control program rules.

Learning Objectives

List quality control elements.
Discuss significance of quality control measurements.
Calculate quality control 2 SD ranges.
Graph 2 SD quality control ranges.
Interpret quality control results.

16. Apply appropriate corrective action for failed quality control measurements.

Learning Objectives

Identify examples of failed quality control measurements and explain the steps necessary to correct them.
Explain significance of identifying and "correcting" failed quality control measurements.

17. List general rules for proper patient specimen collection, handling, processing and transporting.

Learning Objectives

Define proper patient specimen collection.

Define proper patient specimen handling.

Define proper patient specimen processing.

Define proper patient specimen transporting.

List safety precautions used in patient specimen collection, handling, processing and transporting.

Discuss the significance of patient specimen collection, handling, processing and transporting.

18. List the implications of preanalytical testing variables on laboratory results.

Learning Objectives

Define the terms "preanalytical testing variables".

List examples of preanalytical testing variables.

Discuss the significance of preanalytical variables on laboratory results.

19. Apply appropriate action for correction of preanalytical testing variables.

Learning Objectives

Identify preanalytical testing variables and perform appropriate corrective action(s).

Document appropriate corrective action taken for preanalytical testing variables.

SCC Accessibility Statement

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