

# SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

## ACADEMIC AFFAIRS

Course Number: MLT-112 Department: Clinical Lab Science  
 Course Title: Medical Laboratory Safety Semester: Fall Year: 2021

**COURSE OBJECTIVES:** This course is designed to give the students the knowledge to be safe in all student laboratories to follow during their studies in the Clinical Laboratory Science program, as well as in clinical situations. The student will demonstrate an awareness of the use of laboratory safety equipment and the situations in which they are used. The student will demonstrate and understanding of the rules of the student laboratory and how those rules are designed to keep them safe.

### Objectives/Competencies

Course Objective	Competencies
Upon the completion of each lecture section, the student will be able to fulfill the section objectives as outlined in the assigned text and materials and/or defined by verbal instruction to the level identified in the MLT Program Matriculation Policy.	
<b>Types of Hazards/ Rules of the Lab</b>	<ul style="list-style-type: none"> <li>• List the types of hazards in the Clinical Laboratory</li> <li>• List the rules of safety in the clinical laboratory</li> <li>• Explain how each rule aims to prevent a hazard from becoming a safety issue</li> <li>• Define best practice and relate it to lab rules</li> </ul>
<b>Regulatory Agencies of the Lab</b>	<ul style="list-style-type: none"> <li>• Define OSHA, DOT, NIOSH, CDC, FDA</li> <li>• Identify the specific areas of safety each body is concerned with</li> <li>• Outline the tenets of important laws related to lab safety (OSHA 1970, CLIA '88, Right to Know, Bloodborne Pathogen Standard)</li> </ul>
<b>Biohazards and Infection Control</b>	<ul style="list-style-type: none"> <li>• Define Standard (or Universal) Precautions and explain how they are used in the clinical laboratory</li> <li>• List the most common biological hazards in the clinical laboratory and describe the type of disease/infection they cause</li> <li>• Define the term infection</li> <li>• Define the term nosocomial infection</li> <li>• List the steps in the "chain of infection"</li> <li>• Identify the steps to avoid transmission of bloodborne pathogens</li> <li>• List and explain the purpose of PPE</li> <li>• Identify the basic programs for safety, infection control, and isolation procedures</li> </ul>

	<ul style="list-style-type: none"> <li>• Explain the proper techniques for handwashing, gowning, gloving, and entering and exiting various isolation areas</li> <li>• Explain follow-up procedure for biological and hazardous material spill</li> </ul>
<p>Chemical hazards</p>	<ul style="list-style-type: none"> <li>• Define exposure control</li> <li>• List and describe the components of the chemical hygiene plan</li> <li>• Describe Chemical safety and list appropriate PPE</li> <li>• Define SDS and state the purpose of the SDS</li> <li>• Locate specific information on the SDS</li> <li>• Explain the purpose of chemical identification</li> <li>• Define the labeling system used for chemicals</li> <li>• Interpret NFPA labels</li> <li>• Define and state purpose of OSHA chemical standards</li> <li>• List ways to comply with OSHA standards</li> <li>• Explain follow-up procedure for chemical and hazardous material spill</li> </ul>
<p>Fire and Electrical hazards</p>	<ul style="list-style-type: none"> <li>• List at least 3 types of electrical hazards in the laboratory</li> <li>• Define Lockout/Tagout and explain how it applies to safety in the laboratory</li> <li>• Define the terms induction motor and series-wound motor and explain how these terms apply to laboratory safety</li> <li>• List the 3 elements in the fire triangle</li> <li>• List the types of fire extinguishers available, describe their contents, and determine what type of fire each is used for</li> <li>• Define the acronym P.A.S.S.</li> <li>• Define the acronym R.A.C.E.</li> </ul>
<p>First Aid</p>	<ul style="list-style-type: none"> <li>• Define first aid and describe what type of help a first responder provides</li> <li>• Define the acronym DRABCD and explain its application to first aid</li> <li>• Define CPR</li> <li>• Describe situations that would require CPR</li> <li>• Define AED</li> <li>• Describe situations that would require an AED</li> </ul>
<p>Emergency Preparedness</p>	<ul style="list-style-type: none"> <li>• Define the term Disaster Plan</li> <li>• List at least 3 situations that would lead to the activation of a disaster plan</li> <li>• Describe the laboratorian's role(s) when a disaster plan is activated</li> </ul>