

CASE Safety Detailed Course Outline

Unit 1 General Safety

Lesson 1.1 Safety Starts with You

1. Emergency equipment is essential in a laboratory and has specific uses.
 - Locate and determine the purpose of emergency equipment items located in the classroom, laboratory, and shop facilities.
2. Understanding and following procedures and rules are essential to maintaining a safe work environment.
 - Work with classmates to draft a list of ten safety rules.
3. Personal protective equipment is the last line of defense against injury.
 - Identify types of PPE and their uses in the shop.
4. Working in a mechanical shop requires diligence when following safety procedures and expectations.
 - Identify near misses and complete an example near-miss report.

Lesson 1.2 The Hazards Around You

1. Safety Data Sheets (SDS) contain important information on the proper use and health hazard information provided by the DOT Emergency Response Guide (ERG).
 - Use SDS forms to determine the proper use and ERG for clean hazards of common chemicals used in the agriculture industry.
2. The purpose of first aid is to treat injuries or accidents to sustain life until professional medical attention can be received.
 - Prepare an emergency first aid booklet.
3. Safety must be planned and systematic for effective identification and management in a laboratory or shop.
 - Develop a standard set of safety requirements for agricultural education workspaces.
4. The three components of the fire triangle are heat, fuel, and oxygen.
 - Identify the components of a fire triangle.
 - Demonstrate proper understanding of fire extinguishers usage and properties in various settings.
5. The Occupational Safety and Health Administration (OSHA) sets standards for noise protection, intensity, and duration.
 - Examine hearing protection devices and the duration and intensity each covers.
 - Take sound level meter readings of common activities in laboratory settings.
6. The Occupational Safety and Health Administration (OSHA) sets space requirements for workplace spaces.
 - Examine and calculate room occupancy load ratings using a checklist based on the given square footage requirement per person.
 - Compare gross square footage and net square footage calculations.

Unit 2 Shop Safety

Lesson 2.1 Safe Setting

1. Site-specific safety policies and procedures are in place for agricultural mechanic shops and labs.
 - Identify workplace hazards and the causes of accidents.
 - Develop a standard set of safety requirements for an agricultural shop.
2. Safety must be planned and systematic for effective identification and management in a laboratory or shop.
 - Assess a shop to determine if safety standards are being met and make recommendations for changes.

Lesson 2.2 Understanding Safety by Doing

1. Guarding and shielding agricultural equipment prevent injury to an operator.
 - Identify the safety hazards found in the internal motions of equipment.
2. Equipment operators use safe practices to protect themselves and those around them.
 - Complete a *Tool Operation Template* and *Tool Safety Checklist* for a drill.
3. Operating procedures for machines and tools keep the operator safe and the machine or tool in good working order.
 - Research a tool or equipment in the school's agricultural education program and Complete a *Tool Operation Template* and *Equipment Safety Checklist*.
4. Lockout tagout systems alert workers when equipment is out of service or undergoing maintenance.
 - Ensure that the lockout tagout system is properly demonstrated on a piece of equipment.

Unit 3 Lab Safety

Lesson 3.1 Lab Safety and Measurement

1. Laboratory equipment has specific uses in scientific experiments.
 - Identify and describe the uses of common laboratory equipment.
 - Collect data using laboratory equipment.
2. Reading and understanding laboratory procedures are essential to conducting a laboratory experiment safely.
 - Complete a laboratory exercise by following written procedures.
3. Mass, volume, temperature, and density are common laboratory measurements.
 - Measure distance, volume, mass, temperature, and density using the appropriate tools and scale.
4. Students reduce biological hazards by properly using PPE, disposal, and post-lab cleaning.
 - Disposal of Petri dishes, Petri film, cleaning, sanitizing (wipe or a sanitizing solution).

Lesson 3.2 Food Safety

5. Food safety begins with identifying biological, chemical, and physical hazards.
 - Identify biological, chemical, and physical hazards in a kitchen.
 - Diagram and describe the location of emergency equipment and safety hazards.
 - Publish and present a sign for display that outlines proper protocols for a personal hygiene topic.
 - Demonstrate knife safety skills while cutting fruits and vegetables for salsa.

6. Personal hygiene is a critical Current Good Management Practice (CGMP).
 - Publish and present a sign for display that outlines proper protocols for a personal hygiene topic.
7. Knife safety is critical to maintaining a safe kitchen.
 - Demonstrate knife safety skills while cutting fruits and vegetables for salsa.

Unit 4 Immersion SAE

Lesson 4.1 Safety in your SAE

8. Agricultural employees follow workplace health, safety, and environmental procedures to comply with regulatory and safety standards.
 - Describe and identify safety skills and practices applied at the workplace.