

MACHINE GUARDING

INSTRUCTOR'S GUIDE

MODULE OVERVIEW

This module provides an overview of general machine safety and machine guarding. Students will identify machine movements, actions, and work tasks that are potentially dangerous. Students will learn about the types of injuries that occur in machine shops. Safe practices and procedures for various work tasks, will be highlighted. Students will learn to evaluate safety features of a machine using checklists. Students will be able to demonstrate safe work procedures and safe operation of shop machinery.

OBJECTIVES

When students have completed this module, they will be able to:

- Identify different types of machine movements
- Identify different energy sources in a machine
- Identify machine safety problems and discuss safe work practices
- Demonstrate correct use of machine guards and restarting a machine after an E-stop

CLASSROOM (15 min + 15 min + 15 min)

PowerPoint presentations:

- **Machine Guarding – Part 1- General Machine Safety.pptx** - 15 min
- **Machine Guarding – Part 2 – Machine Movements and Actions.pptx** - 15 min
- **Machine Guarding – Part 3 – Types of Machine Guards.pptx** - 15 min

Handouts:

- **Machine Guarding – Part 1 - Handout.pdf**
- **Machine Guarding – Part 2 – Handout.pdf**
- **Machine Guarding – Part 3 – Handout.pdf**

Instructor Tool Kit: **none**

LAB (15 min)

Machine Guarding – Part 3 – Lab Activities – Types of Machine Guards.pdf – Students evaluate shop machines using provided checklist.



HOMEWORK

- **Machine Guarding – Part 1 – Homework - General Machine Safety.pdf** – Read about the fundamentals of machine guarding. Read a fatality report – machinist dies after being struck by object thrown by turning lathe. Watch a video on how improper use of a tool lead to a fatality.
- **Machine Guarding – Part 2 – Homework - Machine Movements and Actions.pdf** – Read about machine guarding to prevent amputations. Complete machine checklists for a lathe and a pedestal grinder.
- **Machine Guarding – Part 3 – Homework - Types of Machine Guards.pdf** – Read about safeguarding devices. Complete machine checklists for CNC lathe and CNC milling machine.
- **Quiz**

ADDITIONAL RESOURCES

“I want to know more” folder – machine checklists, fatality reports, information on machine guarding, video on misuse of equipment, solutions for machine guarding.

