

Machinery Safety

Instructor Guide

This Machinery Safety worker training program was written and developed by the Community Services Agency, Inc. (CSA) of the New Jersey State AFL-CIO.

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Machinery Safety

Learning Objectives

By the end of this lesson, participants will be able to:

1. Identify the important OSHA regulations applicable to machine safety
2. Discuss worker rights and whistleblower protections
3. Explain the general requirements for guarding the hazards of machines
4. Describe precautions to be taken around machinery
5. Identify important terms associated with guarding machinery
6. Describe the requirements of Lockout/Tagout

Suggested Activity Plan

Instructor Guide Instructional Methods/Learning Activities	Approximate Time (in minutes)
<p>Introduction (6 Slides) – Worksheet and Discussion</p> <ol style="list-style-type: none"> 1. Explain that you will be looking at the hazards of machines and how to prevent worker injury. (Slide 1) 2. Divide the class into groups and have them complete the Machinery Safety Worksheet. Then discuss their results and summarize their findings. As an option, lead a discussion asking the class the questions on the worksheet. Again summarize the class responses as you work through the questions. (Slide 2) <p style="text-align: center;">Worksheet Questions</p> <ol style="list-style-type: none"> 1. List the machines present in your workplace. 2. What hazards are associated with these machines? 3. Which machines in your list have guards, protective devices and/or require the use of lockout/tagout and personal protective equipment? 4. What work activities places workers at the greatest risk of harm from these machine? <ol style="list-style-type: none"> 3. Discuss the nature of machine hazard problem and general concepts associated with prevention. 4. Ask the class to describe any incident they know about that is associated with machinery. (Slides 3-6) 	15-30
<p>Applicable OSHA Standards (8 Slides) – Discussion</p> <ol style="list-style-type: none"> 1. Review the OSHA standards applicable to machinery. (Slides 7-9) 2. Discuss the responsibilities of employers to provide a safe and healthful workplace. (Slide 10) 3. Discuss worker rights and how they are protected from whistleblowing. (Slides 11-14) 	10
<p>Machine Guarding Basics (50 Slides) – Discussion</p> <ol style="list-style-type: none"> 1. Discuss the different areas of a machine that require safeguarding. (Slides 15-18) 2. Discuss the different types of hazardous motions and actions that can cause injury. Slide 19 summarizes the different motions and actions and slides 20-31 provide more detail. The detailed slides could be shortened or eliminated depending on the need for time and/or the background of the class attendees. (Slides 19-31) 3. Discuss the different types of safeguards (guards, devices, location/distance, automatic/semiautomatic feed or ejection, and miscellaneous). Skip specific safeguards and examples if not relevant to the workers being trained. (Slides 32-58) 4. Discuss the general requirements for safeguards. (Slide 59) 5. Discuss the general safety principles and responsibilities for machinery safety. (Slides 60-64) 	30-60

<p>Machinery Safety Checklist (1 Slide) – Handout, worksite inspection or discussion</p> <ol style="list-style-type: none"> 1. The use of this checklist is optional. Pass the checklist out as a resource, have the attendees use it at the worksite, or discuss it asking attendees to comment on any item of the checklist that is of interest. (Slide 65) 	0-20
<p>Machinery Safety Case Studies (1 Slide) – Group Activity</p> <ol style="list-style-type: none"> 1. These case studies are optional. Divide the class into groups and have them complete the Machinery Safety Case Studies. Then discuss their results and summarize their findings. (Slide 66) 	0-30
<p>Control of Hazardous Energy -LOTO (15 Slides) – Discussion</p> <ol style="list-style-type: none"> 1. Provide an overview of the OSHA LOTO requirements. Include as an option the actual steps used at the facility for shutdown and startup of machines requiring LOTO. (Slides 67-81) 	20
<p>Machinery Examples (22 Slides) - Discussion</p> <ol style="list-style-type: none"> 1. Review specific examples of machinery and their safeguards that are applicable to the attendees' workplaces. (Slide 82) The following machinery have been included as part of the PowerPoint presentation: <ol style="list-style-type: none"> a. Fan Blades (Slides 83-84) b. Abrasive Wheels (checklist is included as an option) (Slides 85-89) c. Portable Circular Saws (Slide 90) d. Table Saws (Slides 91-95) e. Radial Arm Saws (Slide 96) f. Meat Cutting Band Saws (Slide 97) g. Jointers (Slides 98-100) h. Food Slicers (Slides 101-102) i. Meat Grinder (Slide 103) 	15
<p>Resources (2 Slides) – Discussion</p> <ol style="list-style-type: none"> 1. Review resources that are available. (optional) 	0-5
<p>Quiz (1 Slide) – Assessment - Optional</p> <ol style="list-style-type: none"> 1. Have attendees complete quiz and then review. 	15
<p>Materials:</p> <ul style="list-style-type: none"> • Flip chart paper • Flip chart pens • White Board and White Board pens • Machinery Safety PowerPoint Slides • Machinery Safety Worksheet (optional) • Machinery Safety Checklist (optional) • Machinery Safety Case Studies (optional) • Abrasive Wheel Grinders Checklist (optional) • Machinery Safety Quiz (optional) • Machinery Safety Instructor Guide • Machinery Safety Student Manual (notes page) 	
<p>Assessment:</p> <ul style="list-style-type: none"> • Oral Feedback • Written test (optional) 	