

*Sample Lesson Plan  
Construction Training Program (10-hour)*

**Topic: Stairways and Ladders**

**Overview of OSHA Standard**

The OSHA rules apply to all stairways and ladders used in construction, alteration, repair (including painting and decorating), and demolition of work sites covered by OSHA's construction safety and health standards. They also specify when stairways and ladders must be provided. They do not apply to ladders that are specifically manufactured portable ladders intended for general purpose use and which are then used for scaffold access and egress. Rules for ladders used on or with scaffolds are addressed in Subpart L - Scaffolds (29 CFR 1926.451).

**Step 1: Planning the Lesson**

• **Instructional Materials.**

1. PowerPoint presentation.
2. Instructor notes.
3. Other materials.

• **Instructional Objectives.**

1. Complete the required topics for the OSHA 10-hour course.
2. Complete the following optional topics:
  - a.
  - b.
  - c.
3. Present *Stairways and Ladders* to [number] participants.
4. Incorporate active participation in each lesson.
5. Provide a quiz or short evaluation at the end of the course.
6. Ensure feedback from participants at various points in the training.

• **Guest Speakers/Presenters and Topics/Responsibilities.**

**Step 2: Presenting the Lesson**

• **Lesson Introduction.**

Introductory remarks or transition from previous lesson.

• **Learning Objectives/Outcomes.**

Upon completion of the lesson, participants will be able to:

• **Learning Objectives/Outcomes. (Continued)**

1. Name the three types of hazards that are predominant when using stairs or ladders at a construction site.

*Possible responses.*

- Trips
- Slips
- Falls

2. List or describe at least four safety guidelines or requirements that reduce or eliminate slipping, tripping or falling hazards on stairs in use at a construction site.

*Possible responses.*

- Install handrails that are at least 3” from the wall or other objects and can withstand a force of 200 pounds at the top of the rail.
- Install handrails on stairways of 4 or more steps, and stairrails when there is a fall hazard of 6 feet or more.
- The overall angle of the stairs should be between 30 and 50 degrees.
- Stairs should have uniform riser height and tread depth variation of less than ¼ “.
- Fill temporary pan stairs to the top edge of each pan, and replace temporary treads and landings when worn below the top edge.
- Stairway landings must be 30” deep and 22” wide at every 12” or less of vertical rise.
- Where doors or gates open directly on a stairway, provide a platform that extends at least 20” beyond the swing of the gate.
- Fix slippery conditions before using stairs.
- Ensure stairway parts are free of projections that may cause injury or snag clothing.

3. List or describe at least four safety practices or requirements that reduce or eliminate slipping, tripping or falling hazards when ladders are in use at a construction site.

*Possible responses.*

- Keep the area around the top and bottom of the ladder clear.
- Ensure rungs, cleats and steps are level and uniformly spaced.
- Keep ladders free from slipping hazards.
- Use ladders for the purpose for which they were designed.
- Don’t load ladders beyond their maximum intended load.
- Secure ladders to prevent accidental movement, use on level surfaces, and barricade to keep traffic away.
- Be sure ladders are used at the correct angle.

*Possible response to objective 3, continued.*

- Ensure the side rails of ladder extensions are at least 3' above the upper landing surface.
- Exercise caution when ladders are in use around energized electrical equipment. Where ladders may come in contact with energized electrical equipment, ensure side rails are wood or fiberglass.

• **Planned Activities, Discussion, or Participant Interaction**

**Step 3: Evaluating Student Learning and Instruction**

• **Lesson Evaluation and Comments.**

**References**

**OSHA Standard:** 29 CFR 1926 Subpart X (1926.1050 to 1926.1060)

**OSHA Publications**

- [www.osha-slc.gov/OshDoc/Additional.html](http://www.osha-slc.gov/OshDoc/Additional.html)
- 3124 Stairways and Ladders

**OSHA References/Resources**

- Construction Safety and Health Outreach Program - Stairways and Ladders
  - [www.osha-slc.gov/doc/outreachtraining/htmlfiles/stairlad.html](http://www.osha-slc.gov/doc/outreachtraining/htmlfiles/stairlad.html)
- OSHA Construction eCAT - Misuse of Portable Ladders
  - [www.osha-slc.gov/SLTC/construction\\_ecat/falls/ladders.html](http://www.osha-slc.gov/SLTC/construction_ecat/falls/ladders.html)
- OSHA Construction eCAT - Portable Ladder Safety
  - [www.osha-slc.gov/SLTC/construction\\_ecat/falls/4ladders.html](http://www.osha-slc.gov/SLTC/construction_ecat/falls/4ladders.html)
- OSHA Technical Links - Construction: Walking/Working Surfaces
  - [www.osha-slc.gov/SLTC/constructionwalking/index.html](http://www.osha-slc.gov/SLTC/constructionwalking/index.html)
- Overview for Subpart X - Stairways and Ladders
  - [www.osha-slc.gov/Publications/Const\\_Res\\_Man/1926sub-x-overview.html](http://www.osha-slc.gov/Publications/Const_Res_Man/1926sub-x-overview.html)