WALKING AND WORKING SURFACES

COURSE OUTLINE

- **You might never have given a second thought to the floor at the entrance to your facility.**
  - But then one stormy day, you discover the "hard way" that rain water can turn it into a skating rink.

- **Water and other liquids will make many surfaces more slippery. Other materials to look out for include…**
  - Grease.
  - Oil.
  - Processed wastes.
  - Sawdust.
  - Metal shavings.
  - Everyday dirt.

- **Just about anything that comes between your shoe and the floor could make you slip.**
  - This can include simple litter like scraps of paper, cardboard or discarded packing material.

- **Trips are caused by things that get in front of your foot unexpectedly, like…**
  - Pallets that people leave on the floor.
  - Extension cords that are stretched across a walkway.
  - Building materials scattered around a construction site.

- **Trips and falls can be avoided by practicing good housekeeping.**
  - An orderly workplace with clean walking and working surfaces will create a safer environment for everyone.

- **Slip, trip and fall hazards that can’t be cleaned up or put away should be covered or surrounded by a railing. This includes…**
  - Open pits.
  - Tanks.
  - Vats.

- **"Guarding" is the process of using actual physical barriers to reduce the risk of a slip, trip or fall.**
  - It's another effective way to keep you and your coworkers safe.

- **Speaking of "floor hazards", do you know how to determine how strong a floor is?**
  - You can't tell just by looking at it.

- **If you're installing large equipment, storing heavy materials, or driving a loaded forklift across a floor, you need to know how much weight is too much for the floor that you're on.**
  - Fortunately, a floor's load-bearing capacity, or "load rating limit", is not something you normally have to guess at.
  - Where "floor-stressing" activities take place, it should be clearly marked and posted conspicuously.

- **With all that's going on at floor level, getting safely from point A to point B in a busy workplace can often be a challenge.**
  - In addition to the folks who are "just passing through", you can have people working, equipment running, and materials being moved.
  - All of which can create a lot of hazards.

- **It's important for aisles and passageways to be clearly marked so everyone knows where it's safe to walk.**
  - Marking off these areas also indicates where there shouldn't be any clutter or other obstacles, and makes it a lot easier to ensure things that "don't belong" are cleaned up or moved out.

- **Large "holes" like openings for stairways or ladders are big enough for you to fall through.**
  - And they have an odd way of appearing at just the wrong time.

- **Guarding large openings with a "standard" railing will help to keep people safe.**
  - This consists of a top rail 42 inches high, with a midrail half that height, and vertical uprights to support them.
  - Installing these types of barriers around the perimeter of an opening will help to keep people safe.

- **Tools and materials can also fall through holes or other openings and injure the people below.**
  - Falling objects that land in machinery or on energized equipment can also become secondary hazards.

- **"Toeboards" should be added to railings wherever falling objects could be a problem.**
  - These barriers along the floor must be at least 3 and a half inches tall, and guard the edges of openings so that tools and materials can't go "overboard".

- **Openings in walls can pose just as great a hazard as those in floors.**
  - In fact, OSHA requires that wall openings which are big enough for someone to fall through and drop more than four feet must have barriers installed across them.

- **"Catwalks" and other open-sided platforms are another potential fall hazard.**
  - If you lose your balance near the edge of one of these, there's nothing to keep you from falling off unless railings have been put up.

- **Regulations require standard railings to be installed whenever platforms and catwalks are four feet or more off the ground.**
  - To protect people or equipment beneath these platforms, toeboards must also be installed.
  - Regardless of their height, all platforms must be fully guarded when they are above or next to dangerous equipment.

- **Slipping, tripping and falling down or off of stairs is always a serious problem.**
  - It can be especially dangerous in the workplace, where you may be carrying tools or materials, or where there might be equipment operating nearby.

- **90% of "stairway falls" result from the unsafe behavior of the people that use them.**
  - If you run on stairs, skip steps or carry things that are so big you can't see where you're putting your feet, you're likely to fall sooner or later.

- **There are some requirements stairs must meet that minimize the risk of a slip, trip or fall.**
  - For example, because most accidents are likely to occur on stairs with uneven steps or other irregularities, riser height and tread depth must be uniform.

- **And all stairways with four or more steps must also be guarded with…**
  - Hand rails fastened to a wall.
  - Stairway rails supported by uprights.

- **To be effective, these railings must be 30 to 34 inches above the surface of the stair tread.**
  - The hand rails must have at least 3 inches of clearance around them, so you can get a good grip.

- **"Heavy duty" permanent stairways that are used routinely by workers in spaces where machinery is installed and other "heavy duty" environments have their own safety requirements.**
  - They have to be able to carry at least 5 times their expected load, with a minimum of 1,000 pounds.

- **Many of these stairs are made of metal, and if they can't carry this much weight, they can bend.**
  - And even a slight bend can create the kind of situation that can cause falls.

- **If you notice damaged treads on these types of stairs, tell your supervisor.**
  - That way, repairs can be made before they cause any problems.

- **"Fixed ladders" are another type of ladder that have special safety requirements.**
  - They are permanently attached to equipment, buildings or to other structures.

- **In the past, fixed ladders had to be guarded by “cages” or “wells” to help keep workers safe.**
  - But in 2017, OSHA decided that those alone weren’t adequate protection.

- **Now, any new fixed ladders that are more than 24 feet long must be installed with a personal fall arrest system or ladder safety system incorporated in their design.**
  - These typically consist of a body harness linked to a ladder-mounted braking mechanism or a self-retracting lifeline.

- **But keep in mind that if you are using an older fixed ladder, it may only have cages or wells as fall protection.**
  - In these cases, you need to use extra caution as you climb.

- **If your facility does have a fixed ladder with a fall arrest system, you'll need to know how to inspect and maintain it.**
  - You also need to know how to put it on correctly and use it safely.
  - If you have questions, talk to your supervisor.

- **When you want to get "up high" sometimes there will be a fixed ladder or stairway that you can use.**
  - But more often than not, they won't really be where you need them.
  - That's why portable ladders are so convenient.
  - You can carry them to the job and climb right up to get it done.

- **You must inspect a portable ladder before you use it to ensure that it is in good condition.**
  - Look it over thoroughly for defects, such as sharp edges or splinters.
  - Make sure that there are no broken, loose or missing steps, rungs, cleats or other components.
  - Check that the feet are in good shape, so the ladder won't slip.
  - Clean off any grease, oil or other materials that may have accumulated on the rungs or rails.

- **If a ladder fails your inspection, it should be taken out of service and marked or tagged with "Dangerous, Do Not Use".**

- **You need to pay attention to setting up a ladder safely too.**
  - First, make sure that both ends are firmly positioned.
  - The feet should be level.
  - If the ground is uneven, use boards or a ladder jack to even out the ladder's base.

- **Power lines or energized equipment can be very dangerous when you're using a ladder.**
  - If you're working near these hazards, make sure to use a ladder made of fiberglass or wood to reduce the risk of an electric shock.
  - Never use a metal ladder around electricity.

- **"Traffic" around your ladder can also be an issue.**
  - A ladder that's set up in a busy area is in danger of being run into and knocked over by passing people or equipment.
  - To prevent this, put up warning cones, caution tape or other barriers to keep people clear.

- **Never set up a ladder in front of a door that opens outward, unless that door is locked, blocked or guarded.**

- **The most stable angle for a straight ladder is 75.5 degrees.**
  - But such precise measurements are almost never practical on site.
  - However, you can get into the right "ballpark" by using the "four-to-one ratio".
  - For every four feet of vertical height, place the bottom of the ladder one foot "out" from whatever it's leaning against.

- **If you're setting up your ladder to climb up to a roof, make sure that the top of the ladder extends at least 3 feet past the roof's edge.**
  - This gives you something to hold onto so you don't lose your balance as you get on and off.

- **Never use a ladder in a way that wasn't intended.**
  - This includes using it horizontally, as a makeshift scaffold or as a work platform.

- **A scaffold is a temporary raised platform that's designed to support you and the tools and materials you need when you're doing a job off the ground.**
  - You should always be very careful when you're working on them.

- **Scaffolds usually fall into two main categories... "supporting" scaffolds and "suspended" scaffolds.**
  - Supporting scaffolds have the work platform supported from underneath.
  - Suspended scaffolds are hung from above.

- **Working up high is risky business.**
  - That's why regardless of the type of scaffold you're on, you must use "fall protection".

- **"Guarding" is one type of fall protection that is used on scaffold work platforms.**
  - Scaffolds more than 10 feet off the ground are required to have their open sides protected by railings with midrails and toeboards.
  - If people work or pass underneath the scaffold, wire mesh must be installed between the toeboard and guardrail as well, to provide added protection from falling objects.

- **Another form of fall protection that is used on scaffolds is "personal" equipment that you wear.**
  - This usually consists of a full-body harness connected to a lanyard.
  - In some situations the lanyard can be anchored to a structural member of the scaffold.

- **In other situations the harness can be connected to a lifeline or deceleration device.**
  - This must be secured directly to an anchor point on the structure that is being worked on, or to a vertical lifeline that is connected to the anchor point.

- **To safely support the weight of a falling worker, OSHA requires that these anchor points be something like a girder or I-beam.**
  - In all cases, they must be able to support a minimum deadweight of 5000 pounds.

- **If you <u>do</u> wear personal fall protection on a scaffold, make sure that you know how to…**
  - Inspect it.
  - Put it on.
  - Work with it safely.

- **In certain weather conditions, it is sometimes safer to stay off a scaffold altogether.**
  - Rain increases your chances of slipping or falling.
  - A strong wind can knock you off balance, especially when you're carrying materials.
  - If there's snow or ice on a platform, stay off until it has been cleared away and the planking is sprinkled with sand for better footing.

- **Never remain on the platform of a scaffold that is going to be moved, altered, loaded or unloaded.**
  - Remember to replace any opened guardrails after these processes are complete.

- **Never climb the frame or braces to get to the platform of a supported scaffold.**
  - Use the attached stairs or a ladder instead.

*** * * SUMMARY * * ***

- **Many slips, trips and falls can be prevented simply by "good housekeeping".**
- **Hazards such as holes in the floor, open-sided platforms and walkways can be guarded effectively with standard railings and toeboards.**
- **Inspect ladders every time you use them. Be sure you know how to set them up properly and use them safely.**
- **Know how to use personal fall protection equipment if you need it when you're working up high.**
- **Never work on a scaffold during stormy or windy weather... or remain on it if it's being moved or altered in any way.**
- **Whatever you're doing, pay attention to the "floor" beneath your feet. It's important! Because avoiding slips, trips and falls begins when you stop taking walking and working surfaces for granted!**