

Carpenter Skills Training

TOTAL STATION 2

Course length: 16 hours

Participants will gain additional hands-on practice using a commercial print to assign point names and coordinates, enter information into data collectors, then lay out a building core with the equipment. *Prerequisite: Total Station 1*

Carpentry: Trade Shows

TRADE SHOW INSTALLATION AND DISMANTLING

Course length: 24 hours

Focuses on the protocol, tools and techniques of working in the Trade Show industry. Hands-on projects include floor layout; installing and dismantling several exhibits, a pop-up and a Moss sign; pipe and drape installation; table skirting; and laying and seaming of carpeting.

TRADE SHOW RIGGING

Course length: 32 hours

Addresses safety regulations and practices related to rigging, rigging hardware, and safe rigging practices inside a convention hall. Covers calculation of sling angles and lengths, stress on slings, and load calculation for slings.

Participants must have completed Aerial Lift training as a prerequisite for this class.

Carpenter Skills Training

Self-Directed Study

Short training films and shop exercises are available to provide members a short, quick opportunity to learn a new skill or brush up on something they haven't done in a while. Members can get credit for self-directed study by watching the DVD, building a project, and completing a worksheet. Time to complete the project (and hours granted for training) vary depending on the project and the member's level of expertise.

For a complete explanation of each project, or to reserve shop time, call the training center near you. (Not all modules are available in all training centers.)

CONCRETE (also for Pile Drivers)

2B1	Basic Footings
2B2	Monolithic footings
2B6	Pilasters and anchor bolts
2C2	Column pads
2D1	Symons forms
2D2	Gates systems
2D3	Pencil rod
2G1	Columns
2H1	Exterior beam
2H2	Monolithic beam and slab
2J1	Stairs with landing
2K1	Precast and tilt-up

WOOD FRAMING

3A1	Floor framing
3B1	Wall layout
3B2	Wall framing: details
3C1	Roof framing: gable
3C2	Roof framing: hip
3C3	Roof framing: valley

EXTERIOR FINISH

4A1	Window installation
4B1	3-tab shingles
4C1	Vinyl siding

INTERIOR FINISH

5A1	Cabinet installation
5B1	Wood stairs
5#1	Trim box
5F1	Wood doors and jambs
5F2	Latchset
5F4	Panic hardware
5F6	Door closers
5K1	Plastic laminate countertops
5L1	Solid surface countertops

INTERIOR SYSTEMS

6A1	Metal framing: tools, materials
6A2	Metal framing: track, layout
6A3	Metal framing: walls, corners, columns
6A4	Metal framing: windows, doors
6A5	Metal framing: soffits
6B1	Drywall cutouts
6F1	Acoustic ceilings

SITE DEVELOPMENT (also for Pile Drivers)

7C1	Transit and level: elevations
7C3	Transit and level: angles

Millwright Skills Training

Basic Skills

LASER SHAFT ALIGNMENT

Course length: 8-16 hours

Participants learn the techniques in the classroom, then practice the set-up and application to demonstrate understanding and operation of dial-indicator equipment.

A scientific calculator is required.

MACHINERY ALIGNMENT

Course length: 40 hours

Topics include: rim-and-face and vertical alignment; thermal expansion; elimination of soft foot; and techniques for calculating and graphing shim changes.

A scientific calculator is required.

OPTICAL ALIGNMENT

Course length: 16 hours

Participants will learn to use an optical level, jig transits, and a theodolite to level and align machinery. They will learn to solve specific alignment calculations and the standard practices to correct them. A scientific calculator is required.

VALVE MAINTENANCE

Course length: 40 hours

Participants will learn specific procedures for removal, repair and installation of motor-operated valves, and are required to meet established written and manual performance criteria.

UBC International Qualification Programs

The UBC and industry partners have developed qualification programs that mean additional skills and jobs for members nationwide. The qualification training takes place at the UBC International Training Center in Las Vegas, Nev.

The UBC International Training Fund picks up the cost of air travel, meals and housing for participants in the qualification programs. Participation in the Las Vegas portion of the qualification is restricted to Millwrights who are members in good standing and have completed all of the prerequisite training.

HUMAN PERFORMANCE

Course length: 8 hours

Requirement to work for Siemens-Westinghouse.

Millwright Skills Training

FLOWERVE PUMP TECH LEVEL 1 QUALIFICATION

Course length: 40 hours

This course, taught at Regional Council training centers, covers single-stage, over hung centrifugal pumps, and mechanical seals.

Participants learn theory, operation and pump curves, troubleshooting, setting impellers, and complete pump rebuilding. Participants must pass shop and class proficiency tests to obtain certification, including machinery alignment.

A scientific calculator is required.



GE GAS TURBINE FAMILIARIZATION

Course length: 16 hours

This is a required course to participate in UBC/GE Gas Turbine Qualification training at the International Training Center in Las Vegas.

The course, taught locally, includes identification of GE gas turbine components, new gas turbine installation procedures, and bolting procedures in the turbine industry.

GE GAS TURBINE QUALIFICATION

Course length: 40 hours

The course, taught in Las Vegas, includes 16 hours of disassembly, 16 hours of reassembly, and 8 hours of inspection courses.

Prerequisites:

- UBC Rigging Qualification
- Millwright 16-Hour Safety Course
- GE Gas Turbine Familiarization Course
- Hytorc Bolting Technician

Millwright Skills Training

STEAM TURBINE QUALIFICATION

Course length: 40 hours

This training program, taught in Las Vegas, includes a mix of classroom instruction and hands-on exercises designed to evaluate the proficiency of participants.

Prerequisites:

- UBC Rigging Qualification
- Millwright 16-Hour Safety Course
- UBC/Hytorc Bolting Technician Qualification
- GE Gas Turbine Qualification

HYTORC BOLTING TECHNICIAN

Course length: 8 hours

This is a required course to participate in UBC/GE Steam Turbine Qualification training at the International Training Center in Las Vegas.

This course, taught locally, includes elements of bolting theory, various bolting methods, proper removal and installation of gaskets and compression fittings, proper operation of hydraulic tools, and hands-on use of hydraulic torquing and tensioning tools.

Participants who successfully complete the training will receive a Hytorc Bolting Technician qualification card.

SIEMENS-WESTINGHOUSE COMBUSTION TURBINE

Course length: 16 hours

The class takes participants step-by-step through the manufacturer's required maintenance and repair procedures.



INSTALL is the floor covering industry's most comprehensive training program for installers of residential, commercial, and institutional floor covering throughout the United States and Canada. INSTALL is an acronym for "International Standards and Training Alliance."

INSTALL's exhaustive curriculum combines classroom and hands-on training that covers every relevant issue and segment of the industry. Content includes theory and practice in proper installation procedures for:

- Carpet
- Linoleum, vinyl and other resilients
- Hardwood
- Laminate

Curriculum is based on the manufacturers' recommendations and guidelines. During apprenticeship, every installer must show competency at each level before advancing to the next. To receive official INSTALL certification, active journey-level members and graduating apprentices must demonstrate skills, quantitatively, through a formal assessment process using written examinations and hands-on projects.

MISSION

INSTALL's mission is to ensure the continued health and prosperity of the North American floor covering industry, to demonstrate commitment to quality installations, and to enhance the industry's reputation.

INSTALL's industry-wide standards include:

- Fundamental, core installer skills
- Graduated levels of skill competence and experience
- Written proof of theoretical knowledge and hands-on skill testing
- External educational accreditation for trainers and trainees

Our standards are reviewed regularly by the U.S. Labor Department, the labor departments of Canadian provincial governments, and our 70-plus INSTALL alliance members. This helps us maintain a national standard and help businesses compete in a global marketplace.

FOCUS

INSTALL focuses on meeting the needs of contractors and specifiers as each group functions within the floor covering industry. Increasingly, architects, facility managers and end users are specifying INSTALL-certified installers on construction projects. In these alliances, we seek both to learn the needs and desires of industry partners, as well as to

INSTALL

teach what it is we do every day to enhance the level of technical floor covering installation skills. We believe this comprehensive outreach demonstrates our full commitment to quality installations.

INSTALL professionals take pride in their training and work. They are trained to maximize productivity so that contractors remain profitable and competitive in the industry.

PROFESSIONALS

More than 13,000 INSTALL-certified, UBC floor covering professionals are working in the United States and Canada. That number will grow as INSTALL apprentices complete their training.

The end result is a workforce of INSTALL professionals who can effectively install any kind of floor, in any configuration, for residential, commercial, and institutional settings. Work is done right the first time, which saves time and money for the contractor and preserves the integrity of the specification for the project manager.

UNPARALLELED FACILITIES

There are dozens of state-of-the-art training facilities throughout North America, including several that conduct INSTALL apprenticeship training and journey-level skill advancement classes in the North Central States Regional Council of Carpenters. Facilities include the 178,000-square-foot UBC International Training Center in Las Vegas, where INSTALL instructors must pass a rigorous certification process before they can train others.

INSTALL Certification

Certification of experienced journey-level workers is available for both carpet and vinyl applications. Many of the classes offered in this catalog cover the topics needed to sharpen the skills required to become an INSTALL-certified professional.

INSTALL CERTIFICATION OVERVIEW

Course length: 4 hours

The skill sets involved in INSTALL certifications are designed to elevate the trade by insuring that every journey-level floor covering installer possesses the ability to meet the standards that contractors demand. Architect specifications, manufacturer qualifications and end-user expectations are driving the industry to require that only certified professionals are performing their installations. INSTALL certification is rapidly becoming the industry standard in floor covering installation.

INSTALL CARPET CERTIFICATION

Course length: 6-8 hours

The instructor uses standardized criteria to assess the individual's skill level and ability to work independently using work orders. Categories tested include:

- Stretch carpet

INSTALL Certification

- Direct glue carpet
- Upholstered stairs

INSTALL CARPET REFRESHER

Course length: 3 hours

Outlines the skills necessary to complete the INSTALL carpet certification. Three segments of skills will be reviewed: glue-down carpet installation, stretch carpet installation, upholstered step with a baluster.

INSTALL RESILIENT CERTIFICATION

Course length: 6-8 hours

The instructor will assess your skill level using standardized assessment criteria. A participant must pass all segments of the assessment to be certified.

Categories tested include:

- Diagonal installation
- Heat welding and installing cove base
- Direct scribing
- Pattern scribing

INSTALL RESILIENT REFRESHER

Course length: 3 hours

Reviews the skills needed to complete the Install Resilient Certification. Covers industry standards, flat lay pattern scribing, direct scribing, heat welding, and diagonal tile layout and installation.

The course consists of classroom instruction and hands-on practice.

Manufacturer Certifications

ARMSTRONG CERTIFIED INSTALLER PROGRAM (ACIP)

Course length: 4 days

ACIP is a manufacturer certification issued to installers who demonstrate skill and proficiency when installing Armstrong flooring products.

Hands-on training for certification includes pattern scribing, direct scribing, flash coving, seaming and heat welding for commercial sheet flooring and linoleum products, and free-hand knifing, pattern matching and seaming for residential sheet flooring.

Certification training for laminate and wood flooring includes layout, installation methods and board replacement.

Benefits of Certification

If an installation fails due to installer error, and the product was installed by an Armstrong Certified Installer using Armstrong Guaranteed Installation System recommendations, Armstrong will supply all of the Armstrong flooring materials and Armstrong installation products for its repair or replacement. This guarantee is up to a retail value of \$1,000 for residential and laminate installations, and up to \$2,500 for commercial,

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linoleum, and wood installations. (The retailer's cost will be used to determine the material portion of the adjustment.)

For residential sheet, residential rotogravure, commercial, linoleum, and laminate, Armstrong will pay a Certified Installer \$125 not to install obviously defective material. (This does not apply for wood certification.)

What is covered?

Laminate: Faulty installations caused by installer error involving layout, use of 2 in 1 Foam Underlayment, expansion zones, joint integrity, bond problems caused by error in applying an Armstrong adhesive, and transition moldings.

Wood: Faulty installations caused by installer error involving layout, use of 2 in 1 Foam Underlayment, expansion zones, bond problems caused by error in applying an Armstrong adhesive, transition moldings, improper nails and nailing patterns.

Commercial/linoleum/residential: Faulty installations caused by installer error involving layout, improper handling, improper fitting, seaming failure, pattern matching.

FORBO ASSOCIATE MECHANIC CERTIFICATION

Course length: 4 days

This certification class gives an overview of Forbo products and recommended installation techniques. Participants must have a minimum 2 years of experience in resilient floor covering before taking the class. Certification is recommended by the manufacturer before installing its floors.

The course combines classroom instruction with hands-on training. Hands-on projects include pattern scribing, direct scribing, heat welding, and inset work. All work is flat lay; there is no flash coving.

Participants are tested on the hands-on portion, and must take a written test at the end. Grading is Pass/Fail. Certification is a prerequisite to taking the Forbo Master Mechanic Class.

KOOL GLIDE PRO CARPET SEAMING CERTIFICATION

Course length: 2 hours

The Kool Glide carpet seaming system is new technology in hot-melt tape seaming. In contrast to traditional seam irons, the Kool Glide rests on the surface pile of the carpet as it melts the seam tape below.

This certification consists of classroom and hands-on instruction that demonstrate the various uses and applications of the tool for seaming carpet, carpet repairs, and bonding other floor covering products and materials.

Basic Skills

BLUEPRINT READING

Course length: 3 hours

Combines classroom demonstrations and hands-on assignments to teach how to extract needed information from construction prints.

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Carpeting

COMMERCIAL CARPET LAYOUT

Course length: 3 hours

Covers methods for squaring the work space for material. Plots horizontal and vertical grid lines by swinging arcs and 3, 4, 5 methods. Hands-on shop time gives participants practice with actual tools and techniques.

CUSTOM RUG-MAKING

Course length: 3 hours

Involves making and transcribing patterns and designs to carpet, then finishing the look with rug carving tools. Individuals start with their initials and increase the intricacy as cutting and carving skills develop. The participants will finish each rug by hand binding the raw edges.

DIRECT GLUE STAIRS

Course length: 4 hours

Covers the most common styles of stair nosing.

DOUBLE GLUE CARPET INSTALLATION

Course length: 4 hours

Discusses installation that creates a bonding system that laminates the carpet, cushion and substrate.

GLUE GUN UPHOLSTERED BULL NOSE STEP

Course length: 3 hours

With today's carpet backings, installing a bull nose waterfall step has become increasingly more difficult using the hand-sewing method. This class will demonstrate the thermal plastic glue gun technique for this specific installation.

HAND-SEWN SEAMS

Course length: 3 hours

Discusses where and when this procedure is needed, and demonstrates basic stitches such as cross and overcast. Participants then cut, sew and latex a length seam and head seam.

HAND-SEWN UPHOLSTERED BULL NOSE STEP

Course length: 3 hours

Teaches the layout and material planning necessary for estimating carpet material for these steps. Hands-on shop time includes tack strip, cushion, carpet positioning, seam placement, hand sewing, and completion.

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HEAT TAPE SEAMING

Course length: 3 hours

Includes classroom and workshop exercises for cutting, preparing, and heat-seaming carpet with thermal plastic materials. Seam sealing procedures, junctions, temperature settings and stretching methods are covered.



SEAM-CUTTING METHODS

Course length: 4 hours

Different factors determine which method of seam-cutting to use. The course examines variables such as carpet face pile style, method of yarn dyeing, whether the carpet is woven or tufted, and secondary backing systems.

STRETCH BORDERS

Course length: 3 hours

Focuses on methods and techniques to meet industry tolerance standards. Time will be spent on seam junctions, miters, and direction options for layout.

STRETCH CARPET FUNDAMENTALS

Course length: 3 hours

Outlines stretch fundamentals, carpet composition and variables for creating more than one applicable stretching sequence. Participants will complete full-scale stretching projects.

TACK STRIP STAIRS INSTALLATION

Course length: 3 hours

Covers fundamental methods such as spacing, pin direction, gully space and tooling of steps.

THERMAL PLASTIC SEAM SEALING

Course length: 3 hours

Instructors demonstrate this innovative method of both edge-sealing carpet materials using a glue gun and reducing the "peaking seam". Participants then get hands-on practice.

UPHOLSTERED STEP WITH BALUSTER

Course length: 3 hours

Details the methods used to install carpet materials on and around a cap step with

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spindles or balusters. Tack strip installation of riser, tread, and posts, and other methods of fastening and sealing of carpet materials will be demonstrated.

WINDER STAIRS

Course length: 4 hours

Teaches techniques for when treads are shaped wider on one side than on the other, creating a circular format that turns the direction of a staircase.

Resilient

CUSTOM RADIUS LAYOUT AND INSTALLATION TECHNIQUES

Course length: 3 hours

Architects are becoming more and more creative with their flooring designs. In this course participants review several scenarios as they would appear on a print, then experiment with several types of radial layouts using patterns, strings, PVC piping, transparent grid paper, tape measures, yardsticks, and algebra to create the architect's desired look.

DIAGONAL TILE INSTALLATION

Course length: 4 hours

Topics include using the proper tools, substrate preparation, moisture and alkalinity, selecting and applying adhesive, layout, installation sequence, fitting techniques, templates, and housekeeping.

DIAGONAL TILE LAYOUT

Course length: 3-4 hours

Topics include establishing a diagonal layout from perpendicular lines, adjusting control lines to balance the layout, and laying out patterns.

DIRECT SCRIBING

Course length: 3-4 hours

Teaches the fitting technique also known as the three-wall scribe, jump scribing, and slip scribing. Participants learn to accurately scribe and cut various types of flooring.

FLASH COVE: FULL PATTERN METHOD

Course length: 3 or 8 hours

Flash-coved resilient installation is one of the most challenging aspects of resilient flooring installation. Using this method, participants learn to use scribing material to create a pattern covering the entire surface that will receive the resilient material. This includes drawing an outline of the cap metal and corners on the material, so it can be transferred to the material, cut out, and installed with a modified v-plug outside corner.

FLASH COVE: TEMPLATE METHOD

Course length: 3-8 hours

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Flash-covered resilient installation is one of the most challenging aspects of resilient flooring installation. Using a combination of custom-made templates and pattern material, participants make a pattern of the area. They then transfer this pattern to the material, cut it out, and install a boot plug outside corner.

HEAT WELDING: ADVANCED

Course length: 3 hours

Covers the specialized job of heat welding flash cove. It teaches heat welding up vertical walls, outside and inside corners, and the use of specialized welding tips.

HEAT WELDING: BASIC

Course length: 3 or 8 hours

Covers the specialized task of using heat-welded seams to fuse sheets of resilient to produce a seamless, water-tight installation. Topics include manufacturing and extruding processes; different sizes, shapes and composition of welding rods; welding tips and equipment; skiving methods; and repairs. Hands-on work is flat-lay only.

HEAT WELDING: ROBOTIC (AUTOMATIC)

Course length: 3 hours

Heat welding long seams can be physically demanding. The use of a robotic welder can increase productivity and improve consistency. This course concentrates on set-up and use of an automatic heat welding machine.

LINOLEUM INSTALLATION TECHNIQUES

Course length: 3 hours

Teaches the manufacturing process, fitting concerns, seam cutting, repairs, and heat welding methods needed to successfully install linoleum.

PATTERN SCRIBING: BASIC (also known as FLAT LAY PATTERN SCRIBING)

Course length: 3-4 hours

Pattern scribing is the process of transferring the wall lines or other vertical surface lines onto pattern material to make a template. Pattern scribing can be used to accurately cut tile, sheet goods, wood, or countertops, especially in difficult areas where a tight fit is necessary.

This basic course uses classroom presentations, videos, and hands-on demonstrations to teach technique, proper tools, and how to use them correctly. The class helps develop the skills needed for advanced flash cove pattern scribing and INSTALL Resilient certification.

RESILIENT REPAIRS

Course length: 3 hours

Covers tips and tricks for many types of repairs, from patching damaged areas to fixing minor gouges, burns, scratches, tears, and bubbles.

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RUBBER STAIR TREADS AND STRINGERS

Course length: 3 hours

Develops hands-on skills by installing a flight of stairs with a rubber skirt board, followed by rubber stair treads and stair risers.

SANITARY BASE AND COLD WELD

Course length: 3 hours

Sanitary base, used mostly in health care settings, combines vinyl base with flash coving to produce an integral flooring system that is easily sterilized. This course covers installation techniques, including the cold welding process used to seal all seams between flooring and molded base sections.

VINYL WALL BASE INSTALLATION

Course length: 3 hours

Teaches proper installation techniques for vinyl wall base, including millwork and specialty base.

Wood

BOARD REPLACEMENT

Course length: 3 hours

Shows proper techniques for successfully removing a damaged board and replacing it with a new one. Covers three types of wood flooring; engineered, solid, and laminates.

ENGINEERED HARDWOOD INSTALLATION

Course length: 3 hours

Covers the three methods of installing engineered hardwood flooring: floating, nail or staple down, and full spread adhesive. The course explores different layout procedures, marking and cutting techniques, and helpful installation tips for trouble areas.



