

TRAINING PROGRAM

Journey-Level
Skill Advancement
Course Catalog

Carpenters
Floor Coverers
Lathers
Millwrights
Pile Drivers

Wisconsin
Minnesota
North Dakota
South Dakota



NORTH CENTRAL STATES

Regional Council of Carpenters

North Central States Regional Council Training Programs

Journey-Level Skill Advancement Program

The Journey-Level Skill Advancement Program provides our Journey-Level Carpenters, Millwrights, Floor Coverers, Lathers and Pile Drivers with ongoing training opportunities to develop and enhance their skills.

Members of Carpenters Union crafts are well-known throughout the construction industry for their high-quality workmanship and productivity. These skill advancement classes provide our members a way to hone their existing skills, develop new skills, and adapt to rapidly changing construction technology and workplace requirements.

**Journey-Level Skill Advancement
... It's Your Future!**



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Training Centers



Wisconsin

Fox Valley

- Eastern Training Center
N2218 Bodde Road
Kaukauna, WI 54130
Phone: 920-766-1515
Fax: 920-766-7050
Email: aguyette@ncsrcc.org

Madison

- Southern Training Center
5202 Monument Lane
Madison, WI 53704
Phone: 608-241-0960
Fax: 608-241-0930
Email: hhoemke@ncsrcc.org

Wausau

- Central Training Center
1630 County Road XX
Rothschild, WI 54474
Phone: 715-355-0800
Fax: 715-355-0807
Email: llienard@ncsrcc.org

Minnesota

Twin Cities

- North Central States Training Center
740 Olive Street
Saint Paul, MN 55130
Phone: 651-646-7337
Fax: 651-646-7395
Email: pam@uniontrainingmn.org

- L.J. Shosten Union Training Center
1295 N. Hunting Valley Rd
Saint Paul, MN 55108
Phone: 651-233-2353
Fax: 651-287-1522
Email: mama@uniontrainingmn.org

- INSTALL Training Center
680 Olive St.
Saint Paul, MN 55130
Phone: 651-221-1304
Fax: 651-221-1306
Email: rstewart@tctraining.org

Duluth

- Jerry Alander Training Center
5238 Miller Trunk Highway
Hermantown, MN 55811
Phone: 218-729-9003
Fax: 218-729-9357
Email: mhill@mncarpenter.org

Rochester

- Rochester Training Center
10th Ave SW
Rochester MN
Phone:
Fax:
Email: LU1382@mncarpenter.org

Training Centers (continued)

North Dakota

Bismarck

• Bismarck-Mandan Training Center
603 Industrial Drive
Center, ND 58530
Phone: 701-255-3700
Fax: 701-255-3701
Email: Carp1091@qwestoffice.net

South Dakota

Sioux Falls

Sioux Falls Training Center
4208 N Nainje Ave
Sioux Falls SD 57104
Phone:
Fax:
Email: LU587@mncarpenter.org

Fargo

• Fargo Training Center
513 36th St N
Fargo ND 58102
Phone:
Fax:
Email: lu1176@mncarpenter.org

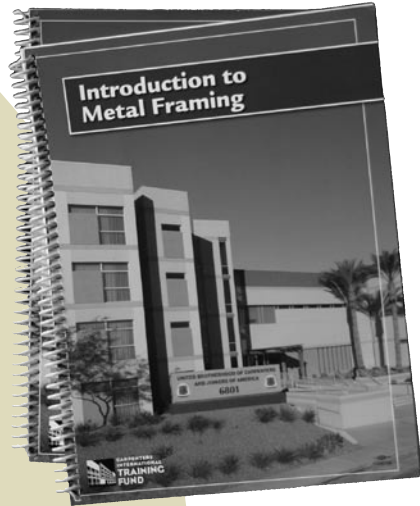
Turn Your Training into a College Degree

Journey-level workers who have completed a state-certified apprenticeship in the jurisdiction of the North Central States Regional Council can apply that craft training directly toward a two-year college degree.

Northeast Wisconsin Technical College (in Green Bay, Wis.) and Hennepin Technical College (in Eden Prairie, Minn.) both award credits for the classroom work and hands-on training that members perform during their apprenticeship. When all is said and done, members will have about two-thirds of the credits they need toward a two-year degree. Both colleges structure their programs so that the degree can be applied later toward a four-year degree at another institution.

The colleges' two-year associate degrees respond to the growing role that formal education plays in the workforce. They also give North Central States Regional Council members a head-start toward pursuing a managerial role later in their career.

In Wisconsin, journey-level workers who completed their apprenticeship can automatically receive 39 college credits toward an Associate Degree in Individualized Technical Studies/Journeyworker. To receive their degree, they will need to complete seven required courses at NWTC, for a total of 21 additional credits. (Some of the required courses do have pre-requisites, so members may have to take additional courses before they are eligible to take the required degree classes.)



In Minnesota, apprentices who graduate to journey-level status will receive 47 credits for the instruction they receive during their Regional Council apprenticeship. They will need 19 more credits to complete an Associate in Applied Science degree in Apprenticeship Technology. Thirteen of the credits come from four required classes; the remaining six credits are electives. (Again, some of the required classes have pre-requisites.)

Both colleges offer options for taking the required classes. NWTC has a variety of Flexible Learning Options, including online, weekend, video and self-paced study. Hennepin Tech offers some of the courses online, and will allow members to take the required courses at any campus in the Minnesota State Colleges and University System.

How to Enroll in Classes



For Members

- A.** Check the calendar of currently scheduled classes. A current schedule can be found at each Training Center, in the Training section on the Regional Council's website: www.northcountrycarpenter.org, and in North Country Carpenter magazine

If a class is scheduled, follow the sign-up procedure for that class and location.

- B.** Classes will be added on demand. If there is no class scheduled for the training you want, contact the Training Center near you to have your name put on their sign-up list for that class. If there is no active list for that class, ask the Training Center to start a new list.

When a sufficient number of members pre-enroll for a particular class, a specific class date will be set. The Training Center will contact you by phone, or mail you a notice, with details about the class. You will be asked to make a commitment to attend. If you reserve a spot in that class, please follow through and attend the class as scheduled.

For Signatory Contractors

Contact the Training Center in your area for information on customized training for your UBC employees. We will work with you to develop a training plan that fits your needs.

Options include classes at the Training Center just for your crews, or on-site training at the jobsite or at your facility on a date that works for you. This training is provided to our Signatory Employers at no charge for UBC members in good standing.

Enrollment Qualifications

To enroll in training classes:

1. You must be a Journey-Level or Apprentice Carpenter, Millwright, Floor Coverer, Lather or Pile Driver,

AND

You must be a Member in good standing, with a current dues card from a UBC Local Union.

OR

2. You must be an Employer signatory to a North Central States Regional Council of Carpenters Labor Agreement.

OR

3. You must be a specifically identified, "pre-qualified" employee of a Signatory Employer.

- Before you enroll in any class, please make sure you can verify that you have fulfilled any pre-requisites or prior training.
- Cross-training in a different craft is permitted.

Class Cost

With rare exception, courses are offered free of charge to UBC members in good standing and to Signatory Employers. (For some courses, members may have to pay a fee and for books.)

North Central States Regional Council

Journey-Level Skill Advancement Program

Class Participation Guidelines

1. Personal Protection. All participants in shop activities are required to wear:
 - Work shoes (Gym shoes, soft rubber-sole shoes, sandals, etc. are not allowed)
 - Eye protection
 - Other personal protective equipment as required
 2. Smoking is not permitted in the Training Center.
 3. Alcohol and/or substance abuse will not be tolerated. Any person suspected of alcohol or substance use or abuse will be asked to leave the premises for safety reasons.
 4. Attendance at the first class session is mandatory. Participants who do not attend the first class session will not be allowed to attend subsequent class sessions.
 5. Be on time! Late arrivals disrupt both the class and the instructor. All members should be present and prepared at the start of each class.
- Classes pre-enrolled by a Local Union or Signatory Employer will have scheduling priority.



Safety Training

CONFINED SPACE

Course Length: 16 Hours

Addresses planning and preparing for the most common hazards found in confined spaces. Participants learn about safe access, monitoring methods, preparing permits, identifying the role of the attendant, and identifying the role of the worker making the entry.

Utilizing a chamber mock-up with several entry points, the participant is guided through safe, step-by-step working and emergency rescue procedures.

Participants who successfully complete the course will receive Certification Card 29 CFR 1910.146

CONFINED SPACE REFRESHER

Course length: 4 hours

Covers current procedures and safety regulations. *(This is a required class for the Millwrights Local 548 safety raise.)*

FALL PROTECTION

Course Length: 4 Hours

Falls are the leading cause of injury and death among construction workers. Every year, falls kill between 150 and 200 construction workers, and injure 100,000 others. Among construction trades, Carpenters have the second highest number of falls. Falls cost the construction industry \$2.5 billion per year, and cost workers and their families real costs in terms of pain, suffering, loss of quality of life – and even loss of life.

This class trains participants:

- To recognize working conditions that lead to falls
- What can and should be done to prevent falls
- What can be done to keep a worker who falls from being hurt badly

The class reviews personal fall-arrest systems and personal protective equipment.

FIRST AID/ADULT CPR/AED

Course Length: 8 Hours

Covers bleeding, broken bones, burns, seizures, heat- and cold-related emergencies, and the critical actions that comprise the Chain of Survival.

The CPR and AED portion covers basic life support skills to address airway, rescue breathing, and cardiac emergencies in adults, including how to use an automated external defibrillator.

The skills learned here are consistent with OSHA regulations for first-aid training in the workplace..

FIRST AID/CPR REFRESHER

Course length: 2.5 hours

Certification needs to be renewed each year to meet American Red Cross standards.

Safety Training

HAZARD COMMUNICATION/MATERIAL SAFETY DATA SHEETS (MSDS)

Course Length: 8 Hours

All employers are required by law to provide workers access to information that identifies the individual composition of materials and chemical used on jobsites.

After completing this course, the participant should be able to:

- Explain the purpose for Material Safety Data Sheets
- Identify chemical hazards
- Explain the importance of the Hazard Communication Standard
- Explain Hazard Recognition (how chemicals react)
- Read a chemical label
- Read a Material Safety Data Sheet

This course expands upon the basic hazard communication concept introduced in OSHA 10; it covers training requirements of OSHA standard 1926.59 and 1910.1200 (g), except for those dealing with the employer's job-specific chemical hazard information.

MILLWRIGHT 16-HOUR SAFETY COURSE

Course Length: 16 Hours

The class is an intense, fast-paced but thorough course in OSHA and construction safety standards. It covers 16 subjects, presented in a combination of hands-on manipulative training and interactive lecture.

This is a required course to participate in UBC/GE Steam Turbine or Gas Turbine Qualification training at the International Training Center in Las Vegas (See Page 24).

MILLWRIGHT HEALTH AND SAFETY REFRESHER

Course length: 4 hours

Required every 4 years to keep current with the Millwright 16-Hour Safety qualification.

MSHA (NEW MINER) TRAINING

Course length: 8 hours

Designed for workers new to surface mining. Cover statutory rights, work environment, transportation controls, communication systems, fire and emergency warnings and evacuations, ground control, hazard recognition, explosives, respiratory devices, and first aid.

MSHA REFRESHER

Course length: 8 hours

Required every year for members working in mine environments.

OSHA 10

Course Length: 10 Hours

The certification gained from completing this class is required before you can work on many jobsites. The class is an intense, fast-paced but thorough course in OSHA and construction safety standards. It covers 10 subjects, including how to locate and read

Safety Training

standards in the CFR book. The class combines hands-on manipulative training and interactive lecture.

Participants who successfully complete the course will receive an OSHA 10 card.

OSHA 10+

Course Length: 16 Hours

This course is required by the Wisconsin Paper Council. It includes OSHA 10. A refresher is required every 5 years.

OSHA 30

Course length: 30 hours

Provides in-depth instruction on OSHA health-and-safety standards for the construction industry. The course covers all OSHA 10 topics, plus many subparts not covered by OSHA 10 requirements.

Participants who successfully complete the course will receive an OSHA 30 card.

General Skills Training

AERIAL LIFT

Course Length: 8 Hours

Classroom presentations combine with hands-on training with scissors and boom lifts.

Participants maneuver through an obstacle course and practice operating at extended heights.

[The course addresses federal requirements for workers performing work from boom-supported working platforms or self-propelled platform lifts. The Title 29 Code of Federal Regulations 1926.453, Subpart "L" (Scaffolds), mandates statutes for "Vehicle Mounted Rotating Aerial Devices" and references the ANSI standards contained in ANSI 92.2 (1990). The Federal standard also refers to ANSI 92.5 (1992): "Boom-Supported Platforms" and ANSI 92.6 (1999): "Self-Propelled Platforms.]

Participants who successfully complete the course will receive a UBC Certification Card

BLUEPRINT READING – BASIC

Course Length: 16 Hours

Topics include using an architect's scale, line identification, recognizing symbols and abbreviations, and interpreting information in section and elevation views..

BLUEPRINT READING – ADVANCED

Course Length: 16 Hours

Provides additional hands-on experience and confidence for the Carpenter who has had some exposure to actual plans and specifications. It includes specification books and dealing with addendums and mistakes on plans.

Completion of Construction Math is highly recommended before taking this course. See course description on next page.

General Skills Training

CONSTRUCTION MASTER PRO CALCULATOR

Course Length: 8 hours

Teaches operation of the Construction Master Pro Calculator.

The Construction Master Pro Calculator sets the industry standard for advanced construction math. This class teaches how to operate the calculator and accurately work in and convert between fractional inches and decimal inches.

Participants will learn how to:

- Calculate area, volume, cubic yards, square-up, and perimeter
 - Do complete stair layouts, including treads, risers, stringers and stairwell openings
 - Get immediate framing solutions for common rafters, valleys, hips, jacks and rake walls
 - Complete circular calculations, including arcs, area, circumference, segments and more.
- Participants must bring their own Construction Master Pro Calculator (Model #4065) to class.

Completion of Construction Math is highly recommended before taking this course. See course description below.

CONSTRUCTION MATH

Course Length: 8 Hours

Reviews the basics of algebra, plane and solid geometry, conversions, and other mathematical skills you'd like to regain. After all, an inaccurate estimate can be costly.

A fun and useful class for refreshing basic arithmetic skills related to our trade. Calculators are allowed!

HEALTH CARE CONSTRUCTION

Course length: 24 hours

Combines classroom and hands-on simulations to teach big-picture awareness and best-practice skills for infection prevention during demolition and construction in hospitals and clinics. Participants learn to assess and reduce risks of spreading potentially fatal infections among patients, staff and themselves. Training focuses on containment, airflow, specialized equipment, and the different work procedures required in health-care settings.

POWERED INDUSTRIAL TRUCK (FORK LIFT): HARD TIRE

Course Length: 8 Hours

The classroom and hands-on training meets all current state and federal OSHA standards for the safe operation of a powered industrial lift truck. To receive certification, participants must demonstrate the ability to safely operate the lift truck. Successful completion of the course does not replace an employer's onsite review of safe operating procedures for specific lift or material-handling equipment.

Participants who successfully complete the course will receive certification.

General Skills Training

POWERED INDUSTRIAL TRUCK (FORK LIFT): ROUGH TERRAIN

Course Length: 8 Hours

Covers the safe operation of lift trucks designed for use off pavement, and typically outdoors. Through a combination of classroom and hands-on training, each participant will have the opportunity to inspect and operate a lift.

The course covers the key components of a lift truck, its capabilities and limitations, general maintenance, and operator responsibilities.

Participants who successfully complete the course will receive a UBC certification card, good for 3 years.

POWERED INDUSTRIAL TRUCK REFRESHER (HARD TIRE OR ROUGH TERRAIN)

Course length: 4 hours

Required every three years to keep current with Powered Industrial Truck qualification.

STEPPING UP TO FOREMAN

Course length: 12 hours

Teaches ideas, skills and techniques to become an effective – or more effective – foreman. Improves participants' understanding and ability to supervise crews and deal with responsibilities and problems they face in their daily work.

Rigging

RIGGING FOR CARPENTERS

Course Length: 16 Hours

Required for apprentices and recommended for all members. It includes instructions in tying knots, wire rope, rigging, hand-signalling and crane safety.

RIGGING: UBC QUALIFICATION

Course Length: 32 Hours

This detailed course in material handling, more commonly known as rigging, is highly recommended for millwrights, bridge work and pre-cast work. It covers rope, sling, and connection capacities. Participants learn how to determine the right size sling or choker, and learn the effects of sling angle on the capacity of rigging hardware.

Hands-on training with an overhead crane is combined with interactive lecture sessions. This is a required course to participate in UBC/GE Steam Turbine or Gas Turbine Qualification training at the International Training Center in Las Vegas.

Participants who successfully complete the course will receive a rigging qualification card.

RIGGING: REFRESHER

Course Length: 8 Hours

Refresher training is required every 4 years to maintain UBC certification. It includes updates in equipment and regulations since participants took their previous course.

General Skills Training

TRADE SHOW RIGGING

See course description on Page 21

Scaffolding

SCAFFOLD TRAINING

OSHA construction regulations require that any person using a scaffold receive training for that type of scaffold and have knowledge of related OSHA standards. Erectors and Dismantlers of scaffold must receive additional safety training.

OSHA has identified Welded Frames and Mobile Towers, Tube and Coupler, and Systems scaffolding as the most prominent types of scaffolding in construction.

Because Carpenters erect the majority of scaffolding on construction sites, the UBC, in cooperation with OSHA and others, has developed the following series of classes to comply with OSHA mandates, protect the safety of members, and protect the jurisdiction of this important part of our craft.

UBC-issued certificates are awarded to participants who successfully complete these scaffold classes.

SCAFFOLD USER

Course Length: 8 Hours

Participants cover topics listed in OSHA 1926.454 Training Requirements for Scaffold Users, including hazards, fall protection systems, falling object protection and load capacity.

SCAFFOLD ERECTING: FULL SCAFFOLD QUALIFICATION

Course Length: 32 Hours

Designed to familiarize experienced Journey-Level Carpenters with OSHA safety regulations for scaffolding, and to provide hands-on experience in the procedures necessary to safely erect scaffold.

This accelerated workshop is for Carpenters who have had recent experience building Welded Frame Scaffolds, Mobile Tower Scaffolds, Tube & Coupler Scaffolds, and Systems Scaffolds.

In the classroom, participants will learn to extract information from the 12 codes and do scaffold calculations.

SCAFFOLD ERECTING: SYSTEMS

Course Length: 16 Hours

Designed to train the participant in systems scaffold erecting and dismantling. No prior experience is required.

SCAFFOLD ERECTING: TUBE & CLAMP

Course Length: 20 Hours

Designed to train the participant in tube and clamp scaffold erecting and dismantling. No prior experience is required.

General Skills Training

SCAFFOLD ERECTING: WELDED FRAME/MOBILE TOWER

Course Length: 16 Hours

Designed to train the participant in welded frame and mobile tower scaffold erecting and dismantling. No prior experience is required.

SCAFFOLD ERECTING: REFRESHER

Course Length: 8 Hours

Designed for the Carpenter who has already completed a UBC Full Scaffold Qualification Course. Members must complete Scaffold Refresher Training every four years to maintain their qualification.

This refresher course covers the regulations that apply to scaffold erection and includes any updates to the training program or changes in regulations.

Participants who successfully complete the course will receive UBC certification.

Welding

WELDING: BASIC

Course Length: 24 Hours-36 Hours (varies by Training Center)

Covers both oxy-acetylene torch work and arc (stick) welding. Includes discussion on theory, safety, and practical uses of welding. E-6010, E-6013, and E-7018 electrodes, and various joint and joint preparations, will be used for the arc-welding portion.

Designed primarily for the beginner, but can accommodate more-advanced welders looking to hone their skills for certification.

WELDING: ADVANCED

Course Length: 16-24 Hours (varies by Training Center)

Places greater emphasis on out-of-position carbon steel welding with shielded-metal arc process. Covers some theory and various joint and joint preparations.

WELDING: AWS CERTIFICATIONS

There are a number of welding certifications available, including 1-inch plate unlimited all position, and light gauge 18 to 11 gauge. Contact the Training Center near you for details.

Carpenter Skills Training

Carpentry: Concrete

CONCRETE FORMS

Course Length: 16 Hours

Focuses on the Symons Steel-Ply form, the most-common patented system in use. Topics include footings, foundation walls, and gang-forming.

CONCRETE STAIRS

Course Length: 16 Hours

Covers stairs poured between two walls and free-standing steps. It teaches the same skills used in forming amphitheater seating and landscaping steps.

INSULATED CONCRETE FORMS

Course Length: 8 Hours

Participants will gain hands-on experience with at least one patented system of ICFs, and examine different ICFs, learn how they connect, and study the advantages of each design.

REBAR: INTRODUCTION

Course Length: 4 Hours

Teaches Carpenters and foremen the basic skills needed to read prints to determine the correct use of reinforcing steel needed in concrete forms. Topics include types of bar, sizing, ties and where they are used, bending diagrams, placement, and basic safety and quality issues.

Carpentry: Framing and Exterior Finish

BARREL CEILING FRAMING

Course Length: 16 Hours

Presents the theory, layout and installation of segmental barrel ceilings, using 1-1/2-inch CR channel, drywall channel and drywall grid. Alternate methods of barrel ceiling construction will be discussed.

Related blueprint reading for ceiling information is included.

RAFTERS/ROOF FRAMING

Course Length: 16 Hours

Custom-cut roof framing and the safe setting of trusses are essential skills for a Carpenter. The course looks at different styles of roofs, including gable, hip, intersecting, gambrel and trussed. Discussion includes roofing materials, fall-protection issues, and safe-rigging procedures for trusses. A framing square, speed square and construction calculator are recommended.

Carpenter Skills Training

VINYL SIDING INSTALLATION

Course Length: 8 Hours

Topics include the proper installation of exterior insulation, building wrap, the starter strip, horizontal and vertical siding, and trim components.

Carpentry: Interior Finish

CABINET INSTALLATION

Course Length: 8 Hours

Participants learn the proper steps and procedures for setting upper and lower cabinetry. Topics include finding the high point in the floor, scribing wall cabinets, and developing jigs for shelving and door hardware.

COMMERCIAL DOOR HARDWARE

Course Length: 8 Hours

Teaches a participant who lacks experience in door hardware the basics of hanging a door and installing controlling hardware and accessories. Participants will learn how to use a hardware schedule to select the proper door, frame and hardware for a specific application. The hands-on training will include installing a wood door frame and trim, and installing and troubleshooting a hollow metal door and frames in masonry and framed walls.

COMMERCIAL DOOR HARDWARE CERTIFICATION

Course Length: 32 Hours

This is a “hands-on” and instructional course for members who have some experience in door hardware installation. It was developed by the UBC and Ingersoll-Rand. Topics include:

- Classroom discussions on hardware terminology, door handing, hardware schedules, and interpreting installation templates.
- A certification test of actual installations, including cylindrical, full mortise, and hospital locksets; closers; and cross bar, touch pad, vertical rod, and electronic exit devices.

Participants who successfully complete their projects within the required time frame will be factory authorized installers through the Ingersoll-Rand Architectural Hardware Division.

PLASTIC LAMINATE COUNTERTOPS

Course Length: 16 Hours

Covers the proper procedures for building and installing a plastic laminate countertop.

Each participant will construct three countertops using various edge treatments and back splashes. Sink cutouts and radius tops also will be discussed and applied. Please bring your own hand tools.

SOLID SURFACE CERTIFICATION

Course Length: 12 Hours

This UBC workshop certifies Carpenters to install the solid surface materials Gibraltar®.

Carpenter Skills Training

Surell®, Avonite®, Corian®, and Pionite®. The class includes:

- Identification of types of solid surface material
- Safe work practices including procedures, rules and regulations for working with solid surface material
- Following manufacturer's recommendations for the handling and proper use of solid surface material, adhesives, fasteners, and hand and power tools used for cutting, sanding, and polishing
- Identifying basic warranty requirements of solid surface materials



Participants who successfully complete the course will receive a UBC certification card

SOLID SURFACE REFRESHER

Course Length: 4 Hours

This UBC class keeps you up to date so you can keep your card valid. Classroom discussion includes new techniques, new materials and new tools for solid surface fabrication and installation. No tools are required.

STAIRS: INTERIOR

Course Length: 8 Hours

Participants learn basic theory, code requirements, the math needed to calculate rise and run, and how to cut stringers. As time allows, it will cover circular construction and layout, as well as the basics of constructing a finished set of stairs, including finish pieces such as newel posts, balustrades, rails and bull-nosing. Participants will use framing squares to make their calculations for stair building.

Carpentry: Interior Systems

FIRE STOP INSTALLATION

Course Length: 8 Hours

This UBC-designed workshop demonstrates the correct techniques for installing fire stop materials, which are increasingly required by building codes.

GRID CEILING INSTALLATION

Course length: 8-14 Hours (varies by Training Center)

Covers basic theory, layout, and installation of an acoustic, suspended grid ceiling. Focuses primarily on 2-foot-by-4-foot and 2-foot-by-2-foot exposed grid ceilings. Includes

Carpenter Skills Training

laser level setup, print reading and material estimating.

INTERIOR LAYOUT

Course Length: 8 Hours

Examines geometric construction in commercial layout. Classroom topics include changing finish wall dimensions to rough wall or track lines; layout of octagons, circles and segments of circles; and establishing and following gridlines and perpendicular lines.

INTERIOR LAYOUT: ADVANCED

Course Length: 8 hours

Today's architecture is filled with elaborate designs, curved walls and ceilings, and geometric shapes. Do you get stumped when you have to lay out a certain shape or an odd-angle wall? This class is invaluable for a foreman, layout carpenter and others who want to learn geometrical layout.

It teaches how to easily and accurately layout radiuses, segments, elliptical bulkheads, serpentine walls, odd-angle walls, octagons, hexagons, and more. Materials include a book, written specifically for Carpenters, that is loaded with mathematical formulas and geometrical layout methods for just about any shape or angle you will encounter on the job.

METAL STUD FRAMING

Course Length: 16 Hours

Includes instruction in tools, materials, and basic layout from blueprints. The hands-on portion includes framing walls, columns, corners, soffits and shaft walls. Drywall installation will also be explained and discussed.

Carpentry: Site Development

TRANSIT AND LEVEL

Course Length: 16 Hours

Develops skills using the David White transit-level, including:

- Setting up the transit and reading elevations
- Turning angles and reading the Vernier scale
- Establishing and transferring elevations from a benchmark
- Building a layout from a blueprint and plat plan

TOTAL STATION I

Course Length: 8-16 Hours

Combines classroom and hands-on training to cover the basics of total station usage.

Topics include how the station works, setting up a job, proper handling and set-up of equipment, coordinate geometry, use of data collectors, establishing control points, good layout practices, and some advanced functions, such as offsets and restrictions.

Pre-requisite: Transit and Level (above). Also, completion of Construction Math is highly recommended before taking this course. See course description on Page 13

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. *Pre-requisite: 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 rigging 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

Carpentry: Self-Directed Study

Short training films and shop exercises are available to provide members a short, quick opportunity to learn a new skill or just 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

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

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

Millwright Skills Training

Basic Skills

LASER SHAFT ALIGNMENT

Course Length: 8 Hours-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 the. 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, then be 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 the prerequisite training.

CONVEYOR AND MONORAIL QUALIFICATION

Course Length: 40 Hours

Focuses on conveyors and monorails in package-handling and automobile manufacturing applications. The course, taught in Las Vegas, includes the United States Postal Service Bulk Mail Qualification. Pre-requisites:

- UBC Rigging Qualification
- Powered Industrial Truck
- Aerial Lift

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. A scientific calculator is required.



GE GAS TURBINE FAMILIARIZATION

Course Length: 24 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. *Participants who successfully complete the training will receive a Hytorc Bolting Technician 16 qualification card.*

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. Pre-requisites:

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

GE 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. Pre-requisites:

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

Millwright Skills Training

HYTORC BOLTING QUALIFICATION

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.

(This certification is included in the 24-hour GE Gas Turbine Familiarization Course.)

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

WESTINGHOUSE COMBUSTION TURBINE

Course Length: 24 Hours

This course, taught locally, is required to work on Westinghouse projects. The class takes participants step-by-step through the manufacturer's required maintenance and repair procedures. It includes Hytorc Bolting Qualification. (A 16-hour course without Hytorc is available.)

Pre-requisites:

- UBC Rigging Qualification
- Millwright 16-Hour Safety Course



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 floorcovering 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+ 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

INSTALL

as to 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.

UNPARALLED 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 their own 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 ensuring 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 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, linoleum,

Floor Coverers Training

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' 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 KoolGlide carpet seaming system is new technology in hot-melt tape seaming. In contrast to traditional seam irons, the KoolGlide 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.

Floor Coverers Training

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 hour

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 Hour

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.

Floor Coverers Training

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 spindles

Floor Coverers Training

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 off of 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 Hours or 8 Hours

Flash-covered 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

Floor Coverers Training

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 Hours 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 you need 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.

Floor Coverers Training

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 the 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.



