



2018 REGIONAL TRAINING COURSE CATALOG



AND COMMITMENT TO CONTINUING EDUCATION

United Association Building
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<http://www.ua.org>

December 2017

Dear Brothers and Sisters,

Throughout the year, the Education and Training Department works hard in order to provide a variety of opportunities for instructors to receive advanced industry training. This year, we have enhanced our efforts, resulting in our ability to continue to offer you superior training that will benefit the members of the United Association. Therefore, we are pleased to present to you the 2018 Regional Training Course Catalog.

Similar to last year, there are a large number of courses available for every sector of our trade. You will find that in addition to courses being offered in each of our districts, courses are also available throughout the year at the UA's Great Lakes Regional Training Center located at Washtenaw Community College. Courses are open to instructors at local training centers; however, when an industry specific need is identified, these courses may be offered to non-instructors as well.

This year, new course offerings include a number of HVACR manufacturer-specific courses that are open to instructors, as well as members, space permitting. Additionally, we are offering: *Fall Protection – Competent Person Trainer*, *Daikin Screw Chiller Maintenance Operation and Service*, *Daikin WMC Magnetic-Bearing Service and Repair*, *Quality Control Manager*, *Operation of the Destructive Testing Equipment for UA Weld Test*, and *Understanding the BIM/VDC Workflow in Today's Construction Industry*, which has trade-specific sections. Class sizes are limited and require a minimum number of students in attendance to warrant holding the class, therefore we are encouraging you to register early.

Please take time to review the courses and various training programs that are listed in the catalog. Many of the welding courses will not be offered at the Instructor Training Program. We encourage you to take advantage of the welding related courses offered through regional training.

We welcome your participation in our Regional Training and also look forward to seeing you in Ann Arbor at the 2018 Instructor Training Program.

Fraternally,



Christopher A. Haslinger
Director of Education and Training
International Training Fund

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**IS YOUR WORKFORCE PREPARED FOR A
WHOLE NEW CONSTRUCTION WORLD?**

WE CAN HELP!

**ATTEND ONE OF THESE THREE
VIRTUAL DESIGN AND CONSTRUCTION EVENTS**

March 20-22, 2017, San Francisco, CA (Fire Protection)

April 10-12, 2017, Milwaukee, WI (Plumbing)

May 22-24, 2017, Pittsburgh, PA (Pipefitting)

- We'll provide the resources and support to help you incorporate the concepts presented during the Virtual Design and Construction events into your current training programs
- Identify a career path for training detailers and designers
- Learn about hardware and software being utilized on construction sites today and experience next generation worksite technologies
- Receive valuable information regarding appropriate applications for hardware and software, best practices on installation methods, links for course materials and class lists for instructors interested in attending classes at the UA Instructor Training Program

**Engage in New Innovations
and Technologies**

**Understanding the BIM/VDC
Workflow in Today's Construction
Industry in:**

- Fire Protection
- Plumbing
- Pipefitting



Register for these classes through the Regional Training System on uanet.org today!

Lean construction and automation have already changed the workflow for fabrication and installation! Don't get left behind.



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Our Mission Statement

The mission of the UA Education and Training Department is to equip United Association locals with educational resources for developing the skills of their apprentices and journeymen. By thus facilitating the training needs of the membership, we maximize their employability and prepare them for changes in the industry. We are committed to making training opportunities available across North America, allowing members to acquire new skills and remain competitive in the industry regardless of geography. In this way, we are determined to meet the needs of the piping industry and enhance employment opportunities for our members, while remaining fiscally responsible to the beneficiaries of the fund.

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PREPARING FOR YOUR CAREER

The International Training Fund provides local union instructors with the educational resources they need to maintain the high level of achievement for United Association apprentices and journeyworkers and prepare them for their work in the piping industry.

District No. 1

Connecticut, Delaware, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont

District No. 2

District of Columbia, Indiana, Kentucky, Maryland, Michigan, Ohio, Pennsylvania, Virginia and West Virginia

District No. 3

Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee and Texas

District No. 4

Illinois, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, South Dakota, Wisconsin and Wyoming

District No. 5

Alaska, Arizona, California, Colorado, Hawaii, Idaho, Nevada, New Mexico, Oregon, Utah and Washington

Online Courses

Great Lakes Regional Training Center (GLRTC)

A CLOSER LOOK

The International Training Fund offers a number of regional training opportunities throughout the year. These courses are offered at various local unions within the five districts of the UA; in addition, courses are available online, and at the Great Lakes Regional Training Center. These courses are listed by district for easier navigation, but you may register for courses in any district.

NEW COURSES OFFERED IN 2018

- 2158 Fall Protection – Competent Person Trainer
Prerequisite: Course 2151, OSHA 500, Trainer Course for the Construction Industry
- 3100 Understanding the BIM/VDC Workflow in Today's Construction Industry
- 5023 Clamping, Reforming, and Aligning Pipe
- 5025 Implementing a Gas Distribution Training Program
- 6070 Daikin Screw Chiller Maintenance Operation and Service
- 6071 Daikin WMC Magnetic-Bearing Service and Repair
- 7050 Inspection, Testing, and Maintenance (ITM) of Water-Based Fire Protection Systems
- 8040 Quality Control Manager
- 8041 AWS CWI Preview
- 8042 Operation of the Destructive Testing Equipment for UA Weld Test

COURSE REGISTRATION

Course Registration is available online at <https://uanet.org>. Select the tab, Regional Training Registration to begin the four-step registration process.

Step 1. Contact your local union training coordinator in order to register.

Step 2. Click **Begin Registration** at the bottom of the page. You will then fill in all required fields that are highlighted in red.

Step 3. Select courses using the **Click Here to Add a Class** link. A window will open with a list of courses. You can scroll through the list or search by course number, title, date, location or status (open or closed). Please see the course catalog for descriptions of each course.

Step 4. Enter any special requests that you may have. If there are none, leave this field blank.

Step 5. Review your information and confirm it is correct. If so, proceed to **Register** at the bottom of the page. You will be asked to confirm your registration by clicking **OK**. This will complete the registration process.

CERTIFICATION FEES

All certification course fees are the responsibility of the student. Fees are due prior to the beginning of the class; upon registration for a class, due dates will be provided. Listed below are the fee rates:

Medical Gas Certification Fees:

(Payable to NITC)

Certification = \$116.00

Recertification = \$49.00

UA STAR Exam Fees:

(Payable to NITC)

Certification = \$136.00

Recertification = \$84.00

AWS CWI Certification Fees:

(Payable to American Welding Society)

AWS CWI = \$1,065.00 (non AWS members) /
\$850.00 (AWS members)

CWI/CWE Combo = \$1,205.00 (non AWS
members) / \$990.00 (AWS members)

Re-Exams = \$275.00 per part /\$595.00 all parts

Additional Endorsements = \$275.00 (AWS
members) / \$490.00 (non AWS members)

UA CERTIFICATE PROGRAM REQUIREMENTS

Listed below are the graduation requirements for the two certificate programs offered by the UA. While many of the classes are only offered during ITP, classes on this list marked as 'available' are being offered during our 2018 Regional Training program.

200 hour Instructor Certificate Program

To receive a certificate of completion, UA instructors must successfully complete a total of 200 course hours. This includes 100 hours of professional courses and 100 hours of elective courses. In addition, students must also complete six Reflective Teaching Assignments (RTAs) in order to earn a certificate as a "Certified Instructor of Journeyworkers and Apprentices in the Plumbing and Pipe Fitting Industry."

Professional Courses

Courses in parentheses denote former class numbers that count towards the requirement.

- 1001 (101) Planning, Teaching, and Assessing Effective Lessons: Beginner
- 1002 (102) Planning, Teaching, and Assessing Effective Lessons: Intermediate
- 1003 (103) Planning, Teaching, and Assessing Effective Lessons: Advanced (Available)
- 1004 (104) Course Planning and Problem Solving and 20-hour elective (ITP course)
- 1010 (510) Public Speaking (ITP course)

Plus Five 20-hour Applied and Technical Courses

Note: Students may not register for the next professional course unless all requirements for the previous professional course, including the RTAs, have been completed.

Courses 9000, 9001, 9002, 9003, 9004, 9005, 9006, 9007, 9008, 9100, 9101, and 9102 are ineligible as instructor electives, and credits will not go toward program completion.

120 hour Coordinator Certificate Program

To receive a certificate of completion, attendees will need to complete a total of 120 hours of courses, including three required courses (60 hours) out of the six needed. The title Certified Coordinator of Journeyworkers and Apprentices in the Plumbing and Pipe Fitting Industry will be conferred upon those who satisfactorily complete the program.

Courses in parentheses denote former class numbers that count towards the requirement.

Three Required Courses

- 9001 (705 or 90) Apprenticeship Standard Guidelines
- 9002 (701, or 707, or 91) Administration of a Jointly Managed Training Program
- 9003 (702 or 706) Understanding Legal Issues and Fiduciary Responsibilities

Plus Three Coordinator Electives

- 9000 (700) Administration of a Training Program for New Training Coordinators
- 9004 (703) Managing Financial Operations of a Training Program
- 9005 (704) Enhancing Training Through the Use of UA Applications
- 9006 (710 or 97) Addressing Barriers to Apprentice Success
- 9007 (711) Veterans in Apprenticeship
- 9008 (712) Using the Multi-Craft Core Curriculum (MC3)
- 9100 (708) Apprenticeship Development Canadians
- 9101 Canadian Coordinator Program
- 9102 Canadian Welder Assessment Program
- 1010 (510) Public Speaking
- 2100 (237) Adapting Apprenticeship to the 21st Century Student
- 2101 (372) Financial Literacy for Apprentices
- 2102 (374) Expanding Your Range when Recruiting
- 2103 Utilizing ITF and UA Education and Training Department Resources to Expand your Recruitment Efforts
- 2008 (520) Labor History and the UA Part One: 1800 to 1920
- 2009 (521) Labor History and the UA Part Two: 1920 to the Present
- 2010 (522) Labor History and the UA: 1800 to the Present (Available)
- 3006 (373) Preparing for Digital Literacy

Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) is a Federal law designed to protect the privacy of education records.

The act grants students the right to:

- Inspect and review their education records
- Request a correction to those education records
- Control the disclosure of certain aspects of their education records
- File a complaint with the U.S. Department of Education

FERPA Waivers for UA Students

Every student who takes classes offered by International Training Fund (ITF) should fill out a FERPA waiver, which can be found by contacting the Registrar. The waiver only needs to be filled out once in your lifetime. The FERPA waiver will grant the ITF with the authority to share your transcript with your local JATC and another party of your designation. All first-time attendees to ITP should ensure they sign a FERPA waiver and return it to the Registrar via email or drop off the form to ML 123 during the ITP event.

Transcripts are no longer available online. In compliance with FERPA, all requests for a transcript must be made to the Registrar by contacting Tracey O'Leary at traceyo@uanet.org or Rhonda Stokes at rhondas@uanet.org.

UA University at Washtenaw Community College

UA University at Washtenaw Community College (WCC) is an education partnership between the UA and WCC to provide members with certificate and associate degree opportunities. As a benefit of the United Association-Washtenaw Community College partnership, UA Instructors will receive college credit for their coursework completed at the Instructor Training Program. These credits can be used to earn an associate degree in Industrial Training. Additional degree requirements can be completed through WCC's online classes or transferred in from other higher-learning institutions.

To earn the Industrial Training Applied Science (AAS) or Associate of Science (AS) Degree, instructors will need to complete the following:

- UA Apprenticeship since August 1, 2000 or the UA STAR exam.....45 Credits
- UA Instructor Certification.....15 Credits
- General Education Requirements.....13-31 Credits

The Construction Supervision and Journeymen Industrial are certificate and degree options available to all UA members.

Washtenaw Community College's Online Classes

With more than 150 online classes in the innovative College on Demand™ format, WCC offers you the general education classes that you need to finish your Industrial Training Degree. Most classes are transferrable to a four-year college or university.

College on Demand™ provides you with a complete e-learning experience. You can watch online video lectures from industry professionals and WCC's outstanding faculty when it is convenient for you and as often as you want. Interactive learning activities and online collaborative tools reinforce and apply important course concepts. You can take your test and submit all of your assignments online, saving you time and the expense of driving to campus.

Online learners do need to be independent, motivated, and self-starters. Online classes do have deadlines. But because the virtual classroom is available 24 hours a day, seven days a week, you have the flexibility of scheduling study/class time during different hours than work or family time. Attend class anywhere you have a computer with access to high speed internet to meet your academic goals.

The Introduction to Online Learning class is your first step for taking online classes and prepares you for successful e-learning. Two weeks and completely online, key topics include navigating the virtual classroom, online library research, and test taking strategies. You will also complete the WCC's admissions process in this class. Registration is as simple as filling out a form at <https://www.wccnet.edu/academics/classes/online/forms/secure/introduction>. You can get started upon verification of your UA membership, usually 24-48 hours.

Contacts

Please contact WCC Student Services for any questions about UA University@Washtenaw Community College degree programs.

Brittany Tripp, Manager UA Programs

Telephone: 1-888-232-5476

UA University Website: www.wccnet.edu/uauniversity

The United Association (UA) Education and Training Department is pleased to offer HVACR industry courses, through the 2018 Regional Training System, in an agreement with the major HVACR manufacturers, Carrier Corporation, Daikin, and Johnson Controls. These courses will be taught by authorized-factory instructors, incorporating manufacturer-specific curriculum and have limited availability. It is the goal of the International Training Fund to provide the best possible training for the UA local unions in order to satisfy current HVACR industry requirements for project specifications in high performance buildings. **Admittance into each course is subject to registration policies by each participating manufacturer.** Early registration by UA active instructors is encouraged. Participation by all active UA HVACR technicians is welcome.

6030 C-2102 YK High Pressure Centrifugal Operation and Maintenance (Johnson Controls)

Students will learn about the internal workings of the YK high pressure, centrifugal single-stage compressor oil return system, OptiView Control Center, and other components and subsystems. A comprehensive review of the preventive maintenance schedule and system capacity checkout procedure are also covered. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

<u>Course Date</u>	<u>Location</u>	<u>Instructor</u>
April 17-19	Phoenix, AZ	Johnson Controls

6032 C-2111 YVAA Air-Cooled Screw Chiller (Johnson Controls)

Prerequisites: Working knowledge of the YCAV/YCIV chiller, working knowledge of VSDs, and understanding of basic electronics

This three-day course teaches experienced service technicians about the YVAA chiller. The course will include features of this unit and the differences in installation, operation, and maintenance from the YCAV. **Steel toe, leather shoes, and long pants are required. Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

<u>Course Date</u>	<u>Location</u>	<u>Instructor</u>
May 8-10	Tampa, FL	Johnson Controls

6033 C-2103 YCAV Air-Cooled Rotary Screw Liquid Chillers (Johnson Controls)

This three-day course teaches service personnel about the YCAV chiller features, including the screw compressor, system ancillary components, start-up procedures, unit operation, and maintenance. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

<u>Course Date</u>	<u>Location</u>	<u>Instructor</u>
May 22-24	Tampa, FL	Johnson Controls

6042 SER 270 30 Series Screw and Scroll Chiller Fundamentals (Carrier Corporation)

Learn to operate, maintain, troubleshoot, and service Carrier's complete line of 30 series air-cooled and water-cooled chillers, models include 30GX/HX, RA/RB, XA/XW. This course is a must for any technician whose job it is to service the complete line of 30 series chillers. Studies include chiller refrigeration cycle, compressor theory, cooler heat transfer, water and air-cooled condensers. Learn how to analyze performance by recording and analyzing refrigerant and water pressures and temperatures. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

<u>Course Date</u>	<u>Location</u>	<u>Instructor</u>
March 13-15	Ann Arbor, MI	Carrier Corporation
October 16-18	Ann Arbor, MI	Carrier Corporation

6043 SER 275 23XRV Liquid Chiller Screw Chiller Service and Operation (Carrier Corporation)

This course is targeted at service technicians who operate or service 23XRV chillers. This class will cover the chiller refrigeration cycle, compressor theory, drive theory, cooler heat transfer, and water-cooled condensers. Operation and function of the compressors, muffler, condenser, coolers, economizers, metering devices, oil concentrator, and accessories are covered. Students will learn how to analyze performance by recording and analyzing refrigerant and water pressures and temperatures. Service technicians will be able to distinguish between chiller and system problems and to quickly diagnose problems using service logs. The class also covers the unit controls and how to set-up and adjust the controls for optimum system performance. In addition, recommended pre-start and start-up procedures, and operational and field issues will be covered. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

<u>Course Date</u>	<u>Location</u>	<u>Instructor</u>
March 20-21	Ann Arbor, MI	Carrier Corporation
October 23-24	Ann Arbor, MI	Carrier Corporation

6070 Daikin Screw Chiller Maintenance Operation and Service

The training course is structured to provide basic classroom instruction, demonstrations, and hands-on exercises designed to familiarize the student with the product features, operation, maintenance and service requirements for Daikin Screw chiller products. The standard program for the maintenance, operation and service seminar is four-and-one-half days of intensive training. The products covered in this course will be the AGS, AW and AWW air-cooled screw chillers, and the WGS and WWV water-cooled chiller Screw chiller. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

<u>Course Date</u>	<u>Location</u>	<u>Instructor</u>
March 12-16	Verona, VA	Daiken Corporation

6071 Daikin WMC Magnetic-Bearing Service and Repair

This course is designed to teach the maintenance and service technician how to maintain, operate, troubleshoot, and repair Daikin Magnitude® WMC Magnetic Bearing Chillers. Compressor monitor software is provided. The standard program for the Magnitude® WMC Magnetic Bearing Chiller course is four and one-half days of intensive training. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

<u>Course Date</u>	<u>Location</u>	<u>Instructor</u>
September 10-14	Harmony, PA	Daikin Corporation

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

Review the course requirements carefully. All instructors must take the following classes in the order listed:

2150, OSHA 510 OSHA Standards for the Construction Industry

2151, OSHA 500 Trainer Course for the Construction Industry

2152, OSHA 502 Update for Construction Industry Outreach Trainer

In addition to taking the classes in the order listed, OSHA instructors must also possess five years of safety and health experience in the construction industry.

Each instructor enrolled in 2151, OSHA 500 OSHA Trainer Course for the Construction Industry will receive, upon registration via email, a NPC/CPWR prerequisite verification form. It is essential that the form be submitted by all students as soon as possible.



NINE-YEAR RECERTIFICATION FOR AWS CWI

A minimum of eighty (80) professional development hours (PDHs) must be earned (training received or instruction delivered) during the nine-year certification period and twenty (20) of the eighty (80) PDHs must be earned in the final three-year period of your nine-year certification period.

Instructors who want to substitute teaching hours for the required PDHs shall submit documentation of the hours of training performed. Such documentation shall include a complete syllabus of subjects taught, a copy of the certificates of attendance or completion issued, the number of students attending, the dates of the training provided, and documentation that the training was a formal offering and not personal coaching, tutoring, or individual instruction delivered to meet job requirements.

A maximum of eighty (80) PDHs are allowed for any one course.

Credit for a particular course may only be granted once in a nine-year period. (Example: a single 40-hour course taught any number of times can only be used to fulfill 40 hours of the 80 hours required for recertification without examination.)

Trainers who want to substitute teaching hours for the required PDHs shall submit documentation of the hours of training performed. Such documentation shall include a complete syllabus of subjects taught, a copy of the certificates of attendance or completion issued, the number of students attending, the dates of the training provided, and documentation that the training was a formal offering and not personal coaching, tutoring, or individual instruction delivered to meet job requirements. For more information please visit <http://www.aws.org>.

The following UA courses are acceptable to use as PDHs:

Endorsements

A student can take an endorsement exam to recertify during the six (6) months prior to his or her expiration date. Passing one of these exams meets the requirements for recertification. Endorsements require passing a two-hour exam on one of the following:

Endorsements Eligible for Nine-Year Recertification Credit:

- AWS D1.1 Structural Steel
- AWS D1.2 Structural Aluminum
- AWS D1.5 Bridges
- AWS D15.1 Railroad
- AWS D17.1 Aerospace
- API 1104 Pipelines
- ASME Section IX, B31.1, and B31.3
- Boiler and Pressure Vessel
- ASME Section VIII, Div. 1 and Section IX
- Boiler and Pressure Vessel
- Structural Drawing Reading

Or 80 Hours in the Following:

- Arc Welding Practical Fundamentals and Theory
- Applied Metallurgy
- Piping Codes for Industrial Work
- Orbital Tube Welding
- Oxy-Fuel Cutting and Welding
- Administration of an Authorized UA Weld Test Facility
- Methods in Teaching Advanced Orbital Tube Welding
- Cutting, Severing, and Beveling
- Downhill Welding
- Shielded Metal Arc Welding
- Innovative Welding Techniques
- Emerging Welding Technologies
- Gas Tungsten Arc Welding
- Radiographic Film Interpretation
- ASME Section IX Welding Code
- Advanced Gas Tungsten Arc Welding
- Tip-Tig Wire Feed Welding Process
- Advanced Shielded Metal Arc Welding
- Advanced Gas Metal Arc Welding
- Authorized Testing Representative
- Authorized Testing Representative Refresher
- OSHA 500
- Certified Wire Feed Machine Orbital Welding
- Troubleshooting the Basic Repair of the AMI 207 Orbital Welding Machines
- Orbital Wire Feed Remote Video Welding Systems
- Basic Non-Destructive Testing
- AWS CWI Preparation
- Principles of ARC Welding Processes, Welder, and Weld Process Qualification and Metallurgy
- Weld Metallurgy, Defects and Discontinuities for Process Piping Material
- NDE for Process Piping
- Principles of Welding Design
- Phased Array Ultrasonic Testing of Piping Welds
- AWS CWI Nine-Year Recertification

UA/EPRI INDUSTRIAL RIGGING CERTIFICATION EXAMINATION COURSE

Prerequisites to Registering



The United Association (UA), in association with the Electrical Power Research Institute (EPRI), established the Industrial Rigging Examination/Certification Program. A major emphasis of the program is the UA's commitment to continually improve the methods of training and qualifying its members.

It is with this commitment in mind that members registering to take the UA/EPRI Industrial Rigging Certification Examination Course 5011 must have completed the 40-hour UA training course on Industrial Rigging Technology. This course, 5010 Industrial Rigging Technologies, will ensure that individuals are trained in the planning and precautions required when lifting materials and equipment; proper and safe rigging of loads; proper applications of slings and rigging hardware; advantages and disadvantages of each piece of rigging gear; uses of rigging hardware; determination/calculations of rigging loads and equipment; proper maintenance of rigging equipment, and rigging personal protective equipment.

Only those individuals who have completed Course 5010 Industrial Rigging Technologies are eligible to take the UA/EPRI Industrial Rigging Certification Examination Course. The certification examination consists of a multiple choice written examination and a hands-on performance examination developed under the strict requirements of the EPRI-Standard Task Evaluation Program. A score of 80% or above must be achieved on the written examination. During the performance examination, individuals must plan and execute a critical lift utilizing a complicated piping assembly, and perform a load inversion and load transfer. All elements of the hands-on performance examination must be completed satisfactorily to pass.

The implementation of these changes to the UA/EPRI Industrial Rigging Certification Program is a continuation of the United Association's commitment to ensure that the best trained and qualified personnel are available for all future rigging requirements in the construction industry.



UA/EPRI/IBEW INSTRUMENTATION INTRODUCTION TO TESTING

Level I - The Written Test

To pre-qualify for Level I certification, individuals must have attended and completed an approved UA or IBEW instrumentation class, or the individual must hold a Level II certification and have a minimum of five years of instrumentation calibration experience.

Once pre-qualified, those seeking certification must sit for a written test. This open-book, open-note exam is comprised of 200 questions covering the various aspects of instrumentation, electrical and mechanical theory, and instrument calibration. A three-and-a-half (3.5) hour time period is allowed for completion of this exam. There is no "grandfathering." Anyone requesting to certify is required to take the test.

The UA has developed an online version of the exam which is now available through ASSE. This method will allow a journeyworker to instantly receive feedback with their results for the exam. The same prerequisites apply to this exam and the content will be identical to the written version.

Level II - The Practical Test

Once an individual has successfully completed the written certification test, he or she is eligible to take the Level II - practical exam. The practical exam is a hands-on proficiency test. Students will be required to perform various calibrations on an assortment of different instruments using the test and calibration equipment provided. This portion of the exam is performed on a one-on-one basis with a test administrator. The test administrator will be observing and validating the process that is used to ensure that the procedures are performed according to recognized industry standards. There is no "grandfathering."

Practical Test Format

This test may contain two types of steps: discussion (D) or performance (P). Discussion steps are administered to the examinee simply by asking them the appropriate questions written in the exercise. Performance steps are administered by having the examinee actually perform the steps using the necessary tools and equipment.

The evaluation is a pass/fail test. The calibration equipment and instrumentation listed below will be provided for the test. The examinee will be expected to select the appropriate test equipment from the test equipment listed when performing a calibration on the transmitters and field equipment during the exam. This exam is strictly an evaluation of the calibration process and does not cover the mounting or installation of the devices.

Calibration Equipment:

- Transmation PneuXal IV - Process Calibrator
- Fluke 700P06 - Pressure Module
- Transcat 23232E - DC Power Supply
- Fluke 744 - Process Calibrator
- Fluke 87 - Digital Multimeter
- Altek 334A - Milliamp Calibrator
- Rosemount (HART) Communicator

Transmitters and Field Devices:

- Rosemount 1151 - Differential Pressure Transmitter (Smart and Analog)
- Asco Pressure Switch
- Rosemount I/P (current to pressure) Transducer
- Rosemount 3051 - Differential (Gauge) Pressure Transmitter
- Rosemount 3144P - Temperature Transmitter

Additional information for [UA Instrumentation Certification](http://uanet.org) is available on <http://uanet.org>.

REGIONAL TRAINING COURSE LIST

<u>Course #</u>	<u>Name</u>	<u>Date</u>	<u>Location</u>	<u>District</u>
*1003	Planning Teaching, and Assessing Effective Lessons: Advanced	March 12 – April 23	Blackboard™	Online
*1003	Planning Teaching, and Assessing Effective Lessons: Advanced	October 1 – November 12	Blackboard™	Online
2010	Labor History and the UA: 1800 to the Present	April 16 – June 4	Blackboard™	Online
2150	OSHA 510 OSHA Standards for the Construction Industry	March 5-8	Ann Arbor, MI	GLRTC
2150	OSHA 510 OSHA Standards for the Construction Industry	August 6-9	Ann Arbor, MI	GLRTC
*2151	OSHA 500 Trainer Course for the Construction Industry	April 9-13	Ann Arbor, MI	GLRTC
*2151	OSHA 500 Trainer Course for the Construction Industry	November 12-16	Ann Arbor, MI	GLRTC
*2152	OSHA 502 Update for Construction Industry Outreach Trainer	March 13-15	Ann Arbor, MI	GLRTC
2154	OSHA 7110: Safe Bolting Practices	March 27-29	Ann Arbor, MI	GLRTC
*2158	Fall Protection – Competent Person Trainer	April 9-13	Ann Arbor, MI	GLRTC
3001	Introduction to Teaching Online Using Blackboard™ LMS	March 6-8	Ann Arbor, MI	GLRTC
*3002	Online Teaching Techniques Using Blackboard™	February 26 – April 9	Blackboard™	Online
*3002	Online Teaching Techniques Using Blackboard™	October 1 – November 12	Blackboard™	Online
3020	Introduction to Computer Aided Drafting (CAD)	May 22 – July 12	Blackboard™	Online
3025	Autodesk® Revit® MEP	July 10-12	Ann Arbor, MI	GLRTC
3100	Understanding the BIM/VDC Workflow in Today's Construction Industry – Fire Protection	March 20-22	San Francisco, CA	5
3100	Understanding the BIM/VDC Workflow in Today's Construction Industry – Plumbing	April 10-12	Milwaukee, WI	4
3100	Understanding the BIM/VDC Workflow in Today's Construction Industry – Pipefitting	May 22-24	Pittsburgh, PA	2
*4011	Medical Gas Instructor	May 14-18	Ann Arbor, MI	GLRTC
5010	Industrial Rigging Technologies	March 5-9	Ann Arbor, MI	GLRTC
*5011	Industrial Rigging Certification for Instructors	April 23-27	Ann Arbor, MI	GLRTC
5020	Level I Certification and Implementing a Process Controls Instrument Technician Program	May 7-12	Ann Arbor, MI	GLRTC
5023	Clamping, Reforming, and Aligning Pipe	May 8-10	Tulsa, OK	3
5025	Implementing a Gas Distribution Pipeline Training Program	March 27-29	Ann Arbor, MI	2
6030	C-2102 YK High Pressure Centrifugal Operation and Maintenance	April 17-19	Phoenix, AZ	5
*6032	C-2111 YVAA Air-Cooled Screw Chiller	May 8-10	Tampa, FL	3
6033	C-2103 YCAV Air-Cooled Rotary Screw Liquid Chillers	May 22-24	Tampa, FL	3
6042	SER 270 30 Series Screw and Scroll Chiller Fundamentals	March 13-15	Ann Arbor, MI	GLRTC
6042	SER 270 30 Series Screw and Scroll Chiller Fundamentals	October 16-18	Ann Arbor, MI	GLRTC
6043	SER 275 23XRV Liquid Chiller Screw Chiller Service and Operation	March 20-21	Ann Arbor, MI	GLRTC
6043	SER 275 23XRV Liquid Chiller Screw Chiller Service and Operation	October 23-24	Ann Arbor, MI	GLRTC
6070	Daikin Screw Chiller Maintenance Operation and Service	March 12-16	Verona, VA	2
6071	Daikin WMC Magnetic-Bearing Service and Repair	September 10-14	Pittsburgh, PA	2

<u>Course #</u>	<u>Name</u>	<u>Date</u>	<u>Location</u>	<u>District</u>
7050	Inspection, Testing, and Maintenance (ITM) of Water-Based Fire Protection Systems	January 22-26	Los Angeles, CA	5
7050	Inspection, Testing, and Maintenance (ITM) of Water-Based Fire Protection Systems	April 23-27	Boston, MA	1
*8001	AWS CWI Preparation Course and Exam	January 6-13	Metairie, LA	3
*8001	AWS CWI Preparation Course and Exam	January 20-27	Phoenix, AZ	5
*8001	AWS CWI Preparation Course and Exam	February 3-10	Kansas City, MO	4
*8001	AWS CWI Preparation Course and Exam	Feb. 24- March 3	Van Nuys, CA	5
*8001	AWS CWI Preparation Course and Exam	March 3-10	Harmony, PA	2
*8001	AWS CWI Preparation Course and Exam	March 17-24	W. Palm Beach, FL	3
*8001	AWS CWI Preparation Course and Exam	April 21-28	Tulsa, OK	3
*8001	AWS CWI Preparation Course and Exam	April 28 – May 5	Mokena, IL	4
*8001	AWS CWI Preparation Course and Exam	May 5-12	Dorchester, MA	1
*8001	AWS CWI Preparation Course and Exam	May 12-19	Ann Arbor, MI	GLRTC
*8001	AWS CWI Preparation Course and Exam	June 2-9	Omaha, NE	4
*8001	AWS CWI Preparation Course and Exam	June 16-23	Denver, CO	5
*8001	AWS CWI Preparation Course and Exam	July 14-21	Deer Park, TX	3
*8001	AWS CWI Preparation Course and Exam	August 4-11	Ann Arbor, MI	GLRTC
*8001	AWS CWI Preparation Course and Exam	September 8-15	Meriden, CT	1
*8001	AWS CWI Preparation Course and Exam	September 22-29	Cincinnati, OH	2
*8001	AWS CWI Preparation Course and Exam	October 6-13	Des Moines, IA	4
*8001	AWS CWI Preparation Course and Exam	October 20-27	Tualatin, OR	5
*8001	AWS CWI Preparation Course and Exam	November 3-10	E. Providence, RI	1
*8001	AWS CWI Preparation Course and Exam	November 10-17	Mokena, IL	4
*8001	AWS CWI Preparation Course and Exam	December 1-8	Harrisburg, PA	2
8004	Piping Codes for Industrial Work	March 27-29	Ann Arbor, MI	GLRTC
8009	Teaching Orbital Wire Feed Welding	May 22-24	Ann Arbor, MI	GLRTC
8011	Radiographic Film Interpretation	May 15-17	Ann Arbor, MI	GLRTC
8011	Radiographic Film Interpretation	October 16-18	Ann Arbor, MI	GLRTC
*8013	Methods in Teaching Gas Metal Arc Welding (GMAW)	March 27-29	Ann Arbor, MI	GLRTC
8015	ASME Section IX Welding Code	April 17-19	Ann Arbor, MI	GLRTC
8022	Basic Nondestructive Testing	May 7-11	Ann Arbor, MI	GLRTC
8022	Basic Nondestructive Testing	November 5-9	Ann Arbor, MI	GLRTC
8035	Ultrasonic Thickness (UT) Measurement Technician	April 24-26	Ann Arbor, MI	GLRTC
8035	Ultrasonic Thickness (UT) Measurement Technician	October 23-25	Ann Arbor, MI	GLRTC
8036	Phased Array Ultrasonic Testing (PAUT) of Piping Welds	June 5-7	Ann Arbor, MI	GLRTC
8037	Wire Feed Orbital Mig Welding Systems	June 19-21	Ann Arbor, MI	GLRTC
8040	Quality Control Manager	April 17-19	Ann Arbor, MI	GLRTC
8041	AWS CWI Preview	May 22-24	Lanham, MD	2
8042	Operation of the Destructive Testing Equipment for UA Weld Test	June 12-14	Ann Arbor, MI	GLRTC

GLRTC - Great Lakes Regional Training Center

(*) Prerequisite

The date for the 2018 Instructor Training Program is August 11-17, 2018

REGIONAL TRAINING COURSE REFERENCE LIST

Course Reference	Course #	Name	Page
30 Series Screw and Scroll Chiller	6042	SER 270 30 Series Screw and Scroll Chiller Fundamentals	Page 13, 28
3rd Professional Course	*1003	Planning, Teaching, and Assessing Effective Lessons: Advanced	Page 39
ASME Section IX	8015	ASME Section IX Welding Code	Page 29
AWS CWI Preparation	*8001	AWS CWI Preparation Course and Exam	Page 28, 32, 34, 35, 36, 37
AWS CWI Preview	8041	AWS CWI Preview	Page 34
BIM/VDC Workflow (Fire Protection)	3100	Understanding the BIM/VDC Workflow in Today's Construction Industry – Fire Protection	Page 33
BIM/VDC Workflow (Plumbing)	3100	Understanding the BIM/VDC Workflow in Today's Construction Industry – Plumbing	Page 36
BIM/VDC Workflow (Pipefitting)	3100	Understanding the BIM/VDC Workflow in Today's Construction Industry – Pipefitting	Page 37
Blackboard™	*3002	Online Teaching Techniques Using Blackboard™	Page 39
CAD	3020	Introduction to Computer Aided Drafting (CAD)	Page 39
Clamping, Reforming, and Aligning Pipe	5023	Clamping, Reforming, and Aligning Pipe	Page 35
Daikin Screw Chiller	6070	Daikin Screw Chiller Maintenance Operation and Service	Page 13, 33
Daikin WMC Magnetic-Bearing	6071	Daikin WMC Magnetic-Bearing Service and Repair	Page 13, 33
Destructive Testing Equipment	8042	Operation of the Destructive Testing Equipment for UA Weld Test	Page 31
Fall Protection	*2158	Fall Protection – Competent Person Trainer	Page 26
Gas Distribution Training Program	5025	Implementing a Gas Distribution Training Program	Page 33
GMAW	*8013	Methods in Teaching Gas Metal Arc Welding (GMAW)	Page 29
Instrument Tech Program Level I	5020	Level I Certification and Implementing a Process Controls Instrument Technician Program	Page 28
ITM of Water Fire Protection Systems	7050	Inspection, Testing, and Maintenance (ITM) of Water-Based Fire Protection Systems	Page 32, 37
Labor History	2010	Labor History and the UA: 1800 to Present	Page 39
Liquid Chiller	6043	SER 275 23XRV Liquid Chiller Screw Chiller Service and Operation	Page 13, 28
Medical Gas	*4011	Medical Gas Instructor	Page 27
NDT	8022	Basic Nondestructive Testing	Page 30
Orbital Wire Feed	8009	Teaching Orbital Wire Feed Welding	Page 29
OSHA 500	*2151	OSHA 500 Trainer Course for the Construction Industry	Page 25
OSHA 502	*2152	OSHA 502 Update for Construction Industry Outreach Trainer	Page 25
OSHA 510	2150	OSHA 510 OSHA Standards for the Construction Industry	Page 25
OSHA 7110	2154	OSHA 7110: Safe Bolting Practices	Page 26
Phased Array Ultrasonic Testing	8036	Phased Array Ultrasonic Testing (PAUT) of Piping Welds	Page 30
Piping Codes for Industrial Work	8004	Piping Codes for Industrial Work	Page 29
Quality Control Manager	8040	Quality Control Manager	Page 31
Radiographic Film Interpretation	8011	Radiographic Film Interpretation	Page 29
Revit® MEP	3025	Autodesk® Revit® MEP	Page 26
Rigging Certification	*5011	Industrial Rigging Certification for Instructors	Page 27
Rigging Technologies	5010	Industrial Rigging Technologies	Page 27
Teaching Online with Blackboard™	3001	Introduction to Teaching Online Using Blackboard™ LMS	Page 26
Ultrasonic Thickness (UT)	8035	Ultrasonic Thickness (UT) Measurement Technician	Page 30
Wire Feed Orbi Mig Welding	8037	Wire Feed Orbi Mig Welding Systems	Page 30
YCAV Rotary Screw Liquid Chillers	6033	C-2103 YCAV Air-Cooled Rotary Screw Liquid Chillers	Page 12, 35
YK High Pressure	6030	C-2102 YK High Pressure Centrifugal Operation and Maintenance	Page 12, 37
YVAA Air-Cooled Screw Chillers	*6032	C-2111 YVAA Air-Cooled Screw Chiller	Page 12, 35

(*) Prerequisite

Note: You must bring the required material to class. If you do not have this material, the following items are available for purchase through the [UA/IPT Bookstore](#) or as indicated.

Course # – Description	Required Material
2010 Labor History and the UA: 1800 to the Present	The Rise of the United Association (Martin Segal); The United Association 1924-1989 (Barbara Griffith)
2150 OSHA 510 OSHA Standards for the Construction Industry* . . .	OSHA 510 binder, CFR 1926
2151 OSHA 500 Trainer Course for the Construction Industry* . . .	OSHA 500 binder, CFR 1926
2152 OSHA 502 Update for Construction Industry Outreach Trainer*	OSHA 502 binder, CFR 1926
3020 Introduction to Computer Aided Drafting (CAD)	CADLearning®
3025 Autodesk® Revit® MEP	CADLearning®
3100 Understanding the BIM/VDC Workflow in Today's Construction Industry – Fire Protection	CADLearning®
3100 Understanding the BIM/VDC Workflow in Today's Construction Industry – Plumbing	CADLearning®
3100 Understanding the BIM/VDC Workflow in Today's Construction Industry – Pipefitting	CADLearning®
4011 Medical Gas Instructor	NFPA-99, Edition Health Care Facilities Code, 2015 Edition; NFPA Medical Gas and Vacuum Systems Installation Handbook, 2015 Edition; ASSE Series 6000 Medical Gas Professional Qualifications Standard
5010 Industrial Rigging Technologies	Rigging (R/04), IPT Crane and Rigging Training Manual, Signal Person Training Course Instructor Guide
5011 Industrial Rigging Certification for Instructors	Rigging (R/04), IPT Crane and Rigging Training Manual
5020 Level I Certification and Implementing a Process Controls Instrument Technician Program	Applied Science of Instrumentation
8001 AWS CWI Preparation Course and Exam**	API 1104 (21st Edition) Welding Pipelines and Related Facilities
8013 Methods in Teaching Gas Metal Arc Welding (GMAW)	Welding Practices and Procedures for the Pipe Trades (ATP, F/16)

Notes: *OSHA material is not sold directly to students. It is sent to the course location and the instructor distributes it along with a purchase order which is filled out by students and returned to the instructor, who forwards the purchase order to the International Pipe Trades Bookstore.

**To purchase the API 1104 (21st Edition) Welding Pipelines and Related Facilities book for Course 8001, AWS CWI Preparation Course and Exam, call IHS Global Engineering Documents at (877) 413-5184. The cost is \$286.00.

Purchase Material for all Regional Training Classes at:

International Pipe Trades Joint Training Committee (Bookstore)
687-B Commerce Drive
Upper Marlboro, MD 20774
Telephone: 301-218-1241
Fax: 301-218-8961
E-Mail: iptbookstore@uanet.org
Shop online: shop.iptbookstore.com

SAFETY REQUIREMENTS AND PERSONAL PROTECTIVE EQUIPMENT

Students must bring their own welding hood, welding jacket, and welding gloves. These items will not be supplied. Safety equipment and protective clothing are required for all shop classes. Safety requirements will be strictly enforced. Any student who fails to meet safety requirements will be removed from class.

1. Eye and Face Protection (OSHA-1926.102)

Goggles or spectacles conforming to ANSI Z87.1-1968 shall be used as primary protection. Safety glasses are required and will be provided in all shop classes.

2. Face Shields

Face shields shall be used as secondary protection when the faculty instructor requires it.

3. Welding Shields

Shields and head covering must meet industry standards and be approved by the faculty instructor. You must bring a welding hood for welding classes.

4. Hand Protection

Appropriate gloves used for hot work or working with sharp objects **MUST BE WORN FOR ALL SHOP CLASSES** and approved by the faculty instructor. You must bring gloves for all shop welding classes.

5. Arms and Torso Protection

Long sleeve shirts will be required in all shop classes. Welders must use appropriate protective jackets, sleeves, and/or other protective gear. You must bring your own welding jackets. All protective gear must be approved by the faculty instructor.

6. Foot Protection

Work shoes must be made of leather or other similarly strong materials and are required in all shop classes. (Sneakers or sandals will not be permitted.)

7. Leg Protection

Long pants will be required in all shop classes. (Shorts will not be permitted.)

Facilities

The Great Lakes Regional Training Center (GLRTC) is a 15,000-square-foot facility with classrooms, labs, and equipment used in all aspects of United Association (UA) training. The GLRTC is an essential component of the training program and includes state-of-the-art welding labs with the latest in technology such as training on microturbines. The classrooms provide a flexible environment that can accommodate everything from computer-based learning to the latest equipment and technology that UA members are likely to find on jobsites all across North America.



What We Do

- Answer any questions about Regional Training Center services
- Assists students in web-based classes using Blackboard™
- Help instructors develop online classes
- Facilitate student participation in WCC courses
- Provides academic advising for WCC associate degrees
- Evaluates transfer credits from other academic institutions
- Facilitates various onsite training courses throughout the year

Washtenaw Community College (WCC) is in partnership with the UA to provide associate degree and certificate programs for its members.

All UA apprentices registered with WCC receive 45 college credits upon completion of their apprenticeship in plumbing, pipefitting, sprinkler fitting, or HVACR. These credits can be applied towards an associate degree in industrial training, construction supervision, or journeyworker general studies.

Washtenaw Community College hosts the annual UA Instructor Training Program every August. During this weeklong program, approximately 2,000 selected UA instructors take a variety of college level courses to become certified UA apprentice instructors. These courses are also applicable towards an associate degree in industrial training.

Washtenaw Community College is accredited by the Higher Learning Commission of the North Central Association.

Staff

Marilyn Donham,
Dean, Apprenticeships and
Skilled Traded Training
Anthony Esposito,
Technical Director
Kim Billings,
Logistics Director

Address

**UA Great Lakes Regional
Training Center**
4800 East Huron River Drive
Ann Arbor, MI 48105
(734) 973-3300



In our efforts to serve the United Association on a more year-round basis, the Ann Arbor Area CVB created a Preferred Rate Program for all UA members. The program runs from January 1 to December 31 each year. The program operates as follows:

- The Preferred rate applies to individual transient type reservations and DOES NOT include the UA Instructor Training Program in August.
- Participating hotels will offer special UA discounted rates throughout the year. Every UA member will receive the special Preferred Rate at the time of the reservation. **Blackout dates may apply for hotels during special event dates or at the discretion of the individual hotels.**
- Rates quoted do not include accommodation/sales tax.

Participating Hotel Partners

Ann Arbor Regent Hotel & Suites
2455 Carpenter Rd.
Ann Arbor, MI 48108
Reservations (734) 973-6100
www.AnnArborRegent.com

Ann Arbor Marriott Ypsilanti – Eagle Crest Resort
1275 S. Huron
Ypsilanti, MI 48197
Reservations (734) 487-2000
Contacts: Caitlin Oates and Kerri Nelson
www.eaglecrestresort.com

Holiday Inn & Suites University of Michigan Area
3155 Boardwalk Drive
Ann Arbor, MI 48108
Reservations (734) 213-1900
www.holidayinn.com/annarbormi

Holiday Inn near the University of Michigan
3600 Plymouth Road
Ann Arbor, MI 48105
Reservations: (734) 769-9800
www.hiannarbor.com

Hyatt Place Ann Arbor
3223 South State Street
Ann Arbor, MI 48108
Reservations (734) 995-1234
www.hyatt.com

The Kensington Hotel
3500 S. State Street
Ann Arbor, MI 48108
Reservations (734) 761-7800
www.kcourtaa.com

Residence Inn Ann Arbor North
3535 Green Ct.
Ann Arbor, MI 48105
Reservations (734) 327-0011
www.marriott.com/arbrn code: 7UA

Sheraton Ann Arbor
3200 Boardwalk Street
Ann Arbor, MI 48108
Reservations (866) 716-8134
www.sheratonannarbor.com

Weber's Inn
3050 Jackson Avenue
Ann Arbor, MI 48103
Reservations (734) 769-2500
www.webersinn.com

Special Amenities

Code: UA
\$105.00
Breakfast included
Complimentary Wireless Internet
Complimentary Shuttle to WCC

Code: United Association of Plumbers
\$129.00
Marriott Rewards members can earn 10 Marriott Rewards points or up to two air miles per dollar spent on all qualifying charges.

Online booking: Guests to use www.marriott.com to book either using this link [Book your corporate rate for United Association of Plumbers](#) or entering the corporate code 7UA on www.marriott.com in the drop down box for "corporate or promotional code." Guests calling the property direct should be sure to ask for the United Association of Plumbers rate.

Code: UA Great Lakes Center
\$144.00 Single/Double
Online Corporate ID: 100203393
Complimentary Wireless Internet
IHG Rewards Club Points

Code: Great Lakes UA Rate/Code IL4KR
\$99.00 Single/Double or \$109 Executive Level
Complimentary transportation to/from Great Lakes Regional Training Center (based on availability)
IHG Rewards Club Points

Corporate Online Code: 102630
\$129.00 Single
Rate includes breakfast
Complimentary WiFi, Shuttle within 3 miles

Code: UA LNR Rate
\$119.00 Single/Double
Newly renovated sleeping rooms
Complimentary Wireless Internet

Direct Reservation link: [Book UA rate now](#)
\$159.00 Studio Suite / \$169 One Bedroom Suite
All King suites with kitchens, minutes from WCC
Free hot breakfast buffet daily/Evening Mix: M-W
Complimentary Wireless Internet

Code: <http://www.sheratonannarbor.com/UAP>
\$144.00 Single
20% discount on food and beverage
Complimentary WiFi
Call (866) 716-8134 and mention rate plan SETUA

Code: UA Rate
\$133.00 Single/\$144.00 Double
Online Corporate ID: 0105099

Questions? Call Kristy Poore at the Ann Arbor Area Convention & Visitors Bureau
UA Dedicated Phone Line: (734) 794-0649
1-800-888-9487 or email at ua@annarbor.org

2150 OSHA 510 OSHA Standards for the Construction Industry

This is the prerequisite course for Course 2151, OSHA 500. This course covers the construction safety and health principles and OSHA policies, procedures and standards, as they apply to the construction industry. Topics include scope and application of the OSHA construction standards. Special emphasis is placed on those areas that are the most hazardous, using OSHA standards as a guide. As of September 1, 2011, all new OSHA-authorized instructors must have taken the OSHA 510 course PRIOR to taking the OSHA 500 course. This prerequisite must be met along with the prerequisite that instructors possess five years of safety and health experience in the construction industry.

Required textbooks or resource materials: *OSHA 510 Training Binder; CFR 1926*

<u>Course Date</u>	<u>Instructor</u>
March 5-8	J. Smith
August 6-9	M. Baptista

2151 OSHA 500 Trainer Course for the Construction Industry

Prerequisite: Course 2150, OSHA 510 OSHA Standards for the Construction Industry

Upon successful completion, this course authorizes UA instructors to teach the OSHA 10-hour and OSHA 30-hour construction safety and health outreach programs at their respective locals. Special emphasis is placed on adult learning principles and training techniques to clearly identify, define, and explain construction industry hazards and acceptable corrective measures as required in the programs, using 29 CFR 1926 OSHA Construction Standards as a guide. This course also covers the effective use of electronic visual aids and handouts. Each participant will receive a completion card acknowledging that they have completed the required training to be designated as an OSHA Authorized Construction Trainer in accordance with OSHA Outreach Training Program requirements. Please email a copy of current OSHA 510 card or certificate to traceyo@uanet.org.

Required textbooks or resource materials: *OSHA 500 Manual; CFR 1926*

<u>Course Date</u>	<u>Instructor</u>
April 9-13	R. Neiderheiser/ W. Walker
November 12-16	J. Hendrickson/ J. Young

2152 OSHA 502 Update for Construction Industry Outreach Trainer

Prerequisite: Course 2151, OSHA 500 Trainer Course for the Construction Industry

This course is designed for instructors who have completed the basic instructor course in Occupational Safety and Health Standards for the Construction Industry (OSHA 500). OSHA requires that these instructors stay current on OSHA standards, and they must take the OSHA 502 update course every four years to maintain their status. Course students will be provided updates on such topics as OSHA construction standards, policies, and regulations. Upon successful completion of the course, each student will receive a completion card acknowledging that they have completed the required training to continue to be designated as an OSHA Authorized Construction Trainer in accordance with OSHA Outreach Training Program requirements.

Required textbooks or resource materials: *OSHA 502 Manual; CFR 1926*

<u>Course Date</u>	<u>Instructor</u>
March 13-15	M. Baptista

2154 OSHA 7110: Safe Bolting Practices

Bolted joints are a part of virtually every industrial process. The proper assembly of the essential connections puts UA craftsmen in close proximity with powerful tools, extreme forces, hazardous materials, elevated temperatures, and pressures, often in dangerous places. Perhaps no other piping activity demands a greater degree of safety awareness and basic "best practices" training. The class will include both lecture and a practical hands-on lab. This course is designed to provide students with the knowledge and skills to safely and properly assemble bolted flange joints. The attendee will learn how to inspect, assemble, and tighten bolted joint connections utilizing the industry required controlled bolting procedures, including pressure boundary flanged joint assembly practices; terminology; tooling; and related technical areas, including safety. Additionally, students will learn proficiency in power torquing and tensioning. Course students will receive an OSHA 7110 certificate, providing them with the ability to conduct bolted joint training at the local level. When this training is offered at the local training center, participating UA members will receive a UA/CPWR/Hytorc completion card. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

2154 OSHA 7110: Safe Bolting Practices
(continued)Course Date
March 27-29Instructor
T. Chapdelaine/
C. Krantz**2158 Fall Protection – Competent Person Trainer**

Prerequisite: Course 2151, OSHA 500 Trainer Course for Construction Industry and current authorization credentials.

The course focuses on practical teaching techniques that, upon successful completion, allows the attendees to instruct select fall protection courses. This course incorporates extensive classroom and interactive hands-on training as well as written and practical examinations that are based on the requirements of OSHA regulations and ANSI Z359.2 standard. The course enables the attendee to obtain documented fall protection experience, knowledge, training, and instructional materials to conduct Competent or Authorized Person training at their local training center. The course includes the Competent Person, Competent Inspector, and Dropped Object Prevention Competent Person courses, along with training on how to deliver effective classroom instruction and practical skills of working at heights. Upon successful completion of the course, the attendee will receive a certificate acknowledging they have met or exceeded OSHA, ANSI, and CSA requirements as a Competent Person and Competent Person Trainer. Course requires attendees to participate in hands-on exercises utilizing a scaffold platform while at height. Each attendee will be provided a full body harness for use during the course. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Course Date
April 9-13Instructor
J. Hutter**3001 Introduction to Teaching Online Using Blackboard™ LMS**

This introductory level course is for novice computer users wishing to learn Blackboard™ LMS. Students will learn to effectively navigate various internet sites and will gain an understanding of internet addresses (URLs). Using an assigned Blackboard™ LMS course site, they will learn how to use some of the basic content areas of a Blackboard™ LMS course site. Various file types used on the internet will also be covered. Students will need basic computer experience and an understanding of online tools.

Course Date
March 6-8Instructor
A. Metler**3025 Autodesk® Revit® MEP**

This course will explore the uses of Autodesk® Revit® MEP software as a design, collaboration, coordination, communication, and fabrication tool for the construction industry. Using the latest Autodesk® Revit® software, students will learn hands-on how to utilize a design model for coordination, and will have an opportunity to further develop it into installation drawings and fabrication spool sheets. Additional topics include: utilizing point clouds for as-building, building Autodesk® Revit® families, total station point creation, and useful third-party, add-in software. A working knowledge of personal computers is required.

Required textbooks or resource materials:
CADLearning®

Course Date
July 10-12Instructor
E. Lambrecht/
E. Posey

4011 Medical Gas Instructor

Prerequisite: Current Medical Gas Installer and Medical Gas Brazier certifications

Certification fees apply and are the responsibility of the student. See fee schedule.

This course covers the NFPA 2015 codes and ASSE Series 6000 standards that govern correct medical gas and medical-surgical vacuum piping system installation and testing, requirements for installer qualification, and requirements for brazer qualification in accordance with ASME Section IX. A written exam will be administered at the end of the course. UA instructors who successfully pass the course and exam will receive the certification of a Medical Gas Instructor of the United Association issued by NITC. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Required textbooks or resource materials: NFPA-99, *Health Care Facilities Code, 2015 Edition*; NFPA *Medical Gas and Vacuum Systems Installation Handbook, 2015 Edition*; ASSE Series 6000 *Medical Gas Professional Qualifications Standard*; and UA Online Learning Resources (UAOLR). If you do not currently have access, please go to www.uaolr.org to request an account.

Course Date
May 14-18

Instructor
L. Givens

5010 Industrial Rigging Technologies

Students must bring the Pipe Trades Pro Calculator or equivalent to class.

This course will ensure that individuals are trained in the planning and precautions required when lifting materials and equipment; on the proper and safe rigging of loads; proper applications of slings and rigging hardware; advantages and disadvantages of each piece of rigging gear; uses of rigging hardware; determination/calculations of rigging loads and equipment; and proper maintenance of rigging equipment and personal protective equipment. The Industrial Rigging and Virtual Crane Signaling Training Modules will be demonstrated and used. The Pipe Trades Pro Calculator (with construction functions) or equivalent, will be helpful in understanding many of the math principles which will be covered. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Required textbooks or resource materials: *Rigging (R/04)*, *IPT Crane and Rigging Training Manual*, *Signal Person Training Course Instructor Guide*; and UA Online Learning Resources (UAOLR). If you do not currently have access, please go to www.uaolr.org to request an account.

Course Date
March 5-9

Instructor
J. Vellenga/
W. Marable

5011 Industrial Rigging Certification for Instructors

Prerequisite: Course 5010, Industrial Rigging Technologies

Students must bring the Pipe Trades Pro Calculator or equivalent to class.

This course provides theoretical and practical components that cover the most widely accepted rigging practices including: calculating centers of gravity; sling stress; crane setup; and the use of tuggers, jacks, and rollers. Instructors rigging skills are evaluated by means of a written exam and also a hands-on performance exam that is administered by having the examinee perform a sequence of lifts using the required tools and equipment. The Industrial Rigging and Virtual Crane Signaling Training Modules will be demonstrated and used. The use of this particular type of calculator (with construction functions) is extremely helpful in understanding many of the math principles covered during the class. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Note: Review pages 1 to 163 in the IPT Crane and Rigging Handbook, plus all of the Rigging manual and review the math in both books.

Required textbooks or resource materials: *Rigging (R/04)*, *IPT Crane and Rigging Training Manual*; and UA Online Learning Resources (UAOLR). If you do not currently have access, please go to www.uaolr.org to request an account.

Course Date
April 23-27

Instructor
P. Faley/
S. Parson

5020 Level I Certification and Implementing a Process Controls Instrument Technician Program

This 60-hour course (six, ten-hour days) consists of basic sciences and fundamentals related to instrumentation and controls, as applied to the UA certification. The objectives of this course are to present the principles and operations of industrial instrumentation, and to prepare UA instructors who will teach the class. The course will consist of definitions, symbols and flow diagrams, level, pressure, flow and temperature measuring instruments. It will also introduce the UA instructor to the equipment and information on calibration of transmitters, transducers, valve positioners, and controllers. There will be a review of the *Applied Science of Instrumentation* book and questions from the ISA Instrumentation Program. We will review the four domains of instrumentations: (1) Level, (2) Flow, (3) Pressure, and (4) Temperature. Quizzes will be taken after each section. There will be a final, 200-question, multiple-choice certification exam. This is the Level I UA/IBEW/EPRI certification exam.

Required textbooks or resource materials: *Applied Science of Instrumentation*

Course Date
May 7-12

Instructor
W. Boyd/
B. Perry

6042 SER 270 30 Series Screw and Scroll Chiller Fundamentals

Attendees will learn to operate, maintain, troubleshoot, and service Carrier's complete line of thirty series air-cooled and water-cooled chillers. Models include 30GX/HX, RA/RB, and XA/XW. This course is a must for any technician whose job it is to service the complete line of thirty-series chillers. Studies include chiller refrigeration cycle, compressor theory, cooler heat transfer, and water- and air-cooled condensers. Students will also learn how to analyze performance by recording and analyzing refrigerant and water pressures and temperatures. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Course Date
March 13-15
October 16-18

Instructor
Carrier Corp.
Carrier Corp.

6043 SER 275 23XRV Liquid Chiller Screw Chiller Service and Operation

This course is targeted at service technicians who operate or service 23XRV chillers. Chiller refrigeration cycle, compressor theory, drive theory, cooler heat transfer, and water-cooled condensers will be covered. Operation and function of the compressors, muffler, condenser, coolers, economizers, metering devices, oil concentrator, and accessories are covered. The attendees will learn how to analyze performance by recording and analyzing refrigerant and water pressures and temperatures. Service technicians will be able to distinguish between chiller and system problems and to quickly diagnose problems using service logs. The class also covers the unit controls and how to set-up and adjust the controls for optimum system performance. In addition, recommended pre-start and start-up procedures, operational, and field issues will be covered. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Course Date
March 20-21
October 23-24

Instructor
Carrier Corp.
Carrier Corp.

8001 AWS CWI Preparation Course and Exam

Prerequisite: Five years of welding experience.

All fees are the responsibility of the student. See fee schedule.

This course will provide welding inspectors with the knowledge of welding and inspection fundamentals that are useful on the jobsite. It involves great responsibility and remarkable skill demonstration. The AWS CWI is widely recognized, both nationally and internationally. This intensive course covers information on nondestructive examination methods applicable to common welding processes and general provisions of API 1104, which includes qualification of welding procedures for welds containing filler-metal additions, design and preparation of the joint for production welding, nondestructive testing and acceptance standards, and automatic welding with and without filler-metal additions. The attendee must be a high school graduate or hold an equivalency diploma and have a minimum of five years of experience in the welding field.

Required textbooks or resource materials: *API 1104 (21st Edition) Welding Pipelines and Related Facilities*

8001 AWS CWI Preparation Course and Exam *(continued)*Course Date
May 12-19

August 4-11

Instructor
R. Derby/
D. Glavin
K. Eden/
C. Sullivan**8004 Piping Codes for Industrial Work**

Prerequisite: Attendees should have a background in power piping installations or chemical/refinery process piping installations and associated repair work.

This course will provide students with knowledge regarding the history of piping codes, piping metallurgy, material selection, installation, welding requirements, testing, inspection, and code stamping as required by the American Society of Mechanical Engineers Codes on Power and Process Piping. Classroom examples will be demonstrated on the fundamentals of applicable code sections, standards, materials, design, and quality control verification of code compliance.

Course Date
March 27-29Instructor
R. Thein**8009 Teaching Orbital Wire Feed Welding**

Prerequisite: Certified Welder in the Gas Tungsten Arc Welding (GTAW) Process

This course provides UA instructors with an understanding of how to teach the orbital wire feed welding process at the local level. The course covers the operation, technology, equipment set-up, and safety issues associated with these types of advanced welding systems. Additionally, this course will cover process variables, system programmer control functions, and weld parameter selection, and gives the theoretical basis for weld program development. The course provides instructors with a hands-on approach in using the AMI 227 and Liburdi Gold Track orbital wire feed welding systems. **Students must bring their own welding hood, welding jacket, and welding gloves. Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Course Date
May 22-24Instructor
G. Burch/
J. Ehrlich**8011 Radiographic Film Interpretation**

This course covers the basic skills and techniques required when viewing and interpreting radiographic films. It involves theory and hands-on practical labs interpreting x-ray films of piping welds. The course instructors are highly experienced in radiographic examination. It is recommended attendees hold the AWS CWI credential.

Course Date
May 15-17
October 16-18Instructor
J. Wiswesser
J. Wiswesser**8013 Methods in Teaching Gas Metal Arc Welding (GMAW)**

Prerequisite: Enrollment is limited to local union welding instructors who hold current GMAW UA Weld Certifications.

This course is specifically designed for local union welding instructors and covers the use of advanced gas metal arc welding equipment and techniques, focusing on how to teach advanced techniques of gas metal arc welding and process variables for a variety of materials. This course provides local unions a means of preparing their apprentices and journeyworkers in developing the skills necessary to address the industry's welding needs. **Students must bring their own welding hood, welding jacket, and welding gloves. Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Required textbooks or resource materials: *Welding Practices and Procedures for the Pipe Trades (ATP) (F/16)*; and *UA Online Learning Resources (UAOLR)*. If you do not currently have access, please go to www.uaolr.org to request an account.

Course Date
March 27-29Instructor
A. Caron/
D. Lavoie**8015 ASME Section IX Welding Code**

This course is designed to provide UA instructors with an understanding of welding procedure specifications and welder qualifications in accordance with Section IX of the ASME Code. UA instructors will be able to apply the rules of Section IX as they pertain to the development of welding procedure specifications and the qualification of welders. A logical approach to compliance with Section IX is discussed and implemented in an open workshop environment.

8015 ASME Section IX Welding Code
(continued)Course Date
April 17-19Instructor
D. Glavin**8022 Basic Nondestructive Testing**

This course covers the basic Nondestructive Examination (NDE) methods of Liquid Penetrate (PT), using the solvent removable visible dye technique, and Magnetic Particle (MT), using the dry particle electromagnetic yoke technique. The course will involve theory and hands-on practical application of both the PT and MT methods. It is recommended class attendees hold the AWS CWI credential. A certification will be issued upon completing and passing of the exams given at the end of this course. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Course Date
May 7-11Instructor
B. Wiswesser/
N. Jacobson
B. Wiswesser/
N. Jacobson

November 5-9

8035 Ultrasonic Thickness (UT) Measurement Technician

This course will provide theory and practical training to provide the attendee with an understanding of ultrasonic thickness measurement principles and its actual applications. It will cover the basic skills necessary to setup and operate an Ultrasonic A-scan thickness measurement instrument that is typically used in industry to determine material thicknesses that have been affected by erosion and corrosion of piping. At the conclusion of the course a UT Testing Examination will be proctored by the NonDestructive Testing Institute, allowing students to become certified as an Ultrasonic Thickness Measurement Technician.

Course Date
April 24-26Instructor
B. Wiswesser/
N. Jacobson
B. Wiswesser/
N. Jacobson

October 23-25

8036 Phased Array Ultrasonic Testing (PAUT) of Piping Welds

This course covers the basic Nondestructive Examination (NDE) methods of Liquid Penetrate (PT), using the solvent removable visible dye technique, and Magnetic Particle (MT), using the dry particle electromagnetic yoke technique. The course will involve theory and hands-on practical application of both the PT and MT methods. It is recommended class attendees hold the AWS CWI credential. A certification will be issued upon completing and passing of the exams given at the end of this course. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Course Date
March 5-7Instructor
B. Wiswesser/
N. Jacobson**8037 Wire Feed Orbi Mig Welding Systems**

This course will provide the instructor with an understanding of how to teach the orbital pipe flux-cored welding process at the local level. It covers the operation, technology, and equipment setup and safety issues associated with these types of advanced welding systems. This course also explains process variables, including various mig arc transfers, pulsed mig, and root pass welding with the surface tension transfer (STT), regulated metal deposition (RMD), and cold wire transfer (CMT) process, along with wire and gas selections. The course is structured to provide instructors with a hands-on training approach using the Liburdi Dimetrix Orbi Mig 2 with "K" Weld Head to fill and cap carbon steel pipe in 2G and 5G positions. **Students must bring their own welding hood, welding jacket, and welding gloves. Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

June 19-21J. Galanda/
D. DeKoeyer

8040 Quality Control Manager

This course will cover the duties and responsibilities of a quality control inspector. The information and knowledge needed to train individuals as quality control inspectors for work in the construction/fabrication industry both in the shop and on the job site will be provided. The course is designed for AWS Certified Welding Inspectors (CWIs) and for individuals with previous fabrication inspection experience. The United Association believes that having a UA trained quality control inspector on staff brings both quality and financial savings to the employing contractor and customer alike.

Course Date

April 17-19

Instructor

R. Thein

8042 Operation of the Destructive Testing Equipment for UA Weld Test

This hands-on course is designed for the UA ATR/CWI to understand the ASME Code requirements for bend test and on how to operate the destructive testing equipment at the Regional Authorized Testing Facility. Each instructor will have the opportunity to try the methods being discussed. This course will cover the technical aspects, as well as the practice of cutting, preparing, and bending with the equipment. Additional course topics include visual inspection, bend removal locations, bend preparation, and interpreting results. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Course Date

June 12-14

Instructor

P. Villanueva

7050 Inspection, Testing, and Maintenance (ITM) of Water-Based Fire Protection Systems

This course will guide you through the inspection requirements of NFPA 25 and discuss the installation requirements that are not addressed in NFPA 25. It will also include the testing of systems as required by NFPA 25 and best practices for those systems that lack the documentation to ensure that the required periodic tests are performed. Best practices will be covered under the maintenance requirements, including some tips of the trade. At the end of this course, the student will be given the opportunity to get a certification for ITM that includes both a written and practical test that goes beyond the National Institute for Certification in Engineering Technologies (NICET) certification. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Course Date: April 23-27

Location: Local Union 550
46 Rockland Street
Boston, MA 02132

Instructor: M. MacDonnell/S. Arballo

8001 AWS CWI Preparation Course and Exam *(continued)*

Course Date: May 5-12, 2018

Location: Local Union 537 Training Center
333 Providence Highway
Norwood, MA 02062

Instructors: B. Richardson/M. Magennis

Course Date: September 8-15

Location: Local Union 777 Training Center
450 Murdock Avenue
Meriden, CT 06450

Instructors: T. Ley/T. Murphy

Course Date: November 3-10

Location: Local Union 51 Training Center
11 Hemingway Drive
East Providence, RI 02915

Instructors: J. Forni, T. Ley

8001 AWS CWI Preparation Course and Exam

Prerequisite: Five years of welding experience.

All fees are the responsibility of the student. See fee schedule.

This course will provide welding inspectors with the knowledge of welding and inspection fundamentals useful on the jobsite. It involves great responsibility and remarkable skill demonstration. The AWS CWI is widely recognized, both nationally and internationally. This intensive course covers information on nondestructive examination methods applicable to common welding processes and general provisions of API 1104, which includes qualification of welding procedures for welds containing filler-metal additions, design and preparation of the joint for production welding, nondestructive testing and acceptance standards, and automatic welding with and without filler-metal additions. You must be a high school graduate or hold an equivalency diploma and have a minimum of five years of experience in the welding field.

Required textbooks or resource materials: *API 1104 (21st Edition) Welding Pipelines and Related Facilities*

3100 Understanding the BIM/VDC Workflow in Today's Construction Industry – Pipefitting

This class will demonstrate the virtual design and construction workflow on small projects for the plumbing, mechanical, and fire protection industries. Attendees will gain a better understanding of how a BIM project follows a workflow from the design concept to installation. The class will include hands-on instruction for design, submittals, collaboration, scheduling, fabrication, layout, and installation documentation. This course is intended for all pipe trades instructors who are currently teaching or plan to teach plan reading, field layout, fabrication, computer-aided drafting, and/or intro or advanced classes in BIM/VDC. This will give those instructors a better understanding of the overall BIM process, and where their training fits into the VDC workflow. This course will also provide materials and models to utilize for various VDC courses at the home training centers.

Required textbooks or resource materials:
CADLearning®

Course Date: May 22-24

Location: Local Union 449

230 Wise Road

Harmony, PA 16037

Instructors: E. Lambrecht/M. Zivanovic

5025 Implementing a Gas Distribution Pipeline Training Program

In this course, the students will learn natural gas pipe joining and pipefitter techniques utilizing the UA workbooks. We will demonstrate the use of McElroy fusion equipment to perform manual, hydraulic, and sidewall fusion. We will also demonstrate tapping and stopping pipelines under pressure, plus residential meter set. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Course Date: March 27-29

Location: Local Union 190

8040 Jackson Road

Ann Arbor, MI 48103

Instructors: R. Musgrove/M. McMillen

6070 Daikin Screw Chiller Maintenance Operation and Service

The training course is structured to provide basic classroom instruction, demonstrations, and hands-on exercises designed to familiarize the student with the product features, operation, maintenance and service requirements for Daikin Screw chiller products. The standard program for the maintenance, operation, and service seminar is four-and-one-half days of intensive training. The products covered in this course will be the AGS, AW and AWW air-cooled screw chillers, and the WGS and WWV water-cooled chiller Screw chiller. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Course Date: March 12-16

Location: Daikin Plant

207 Laurel Hill Road

Verona, VA 24482

Instructor: Daikin Corporation

6071 Daikin WMC Magnetic-Bearing Service and Repair

This course is designed to teach the maintenance and service technician how to maintain, operate, troubleshoot, and repair Daikin Magnitude® WMC Magnetic Bearing Chillers. Compressor monitor software is provided. The standard program for the Magnitude® WMC Magnetic Bearing Chiller course is four-and-one-half days of intensive training. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Course Date: September 10-14

Location: Local Union 449

230 Wise Road

Harmony, PA 16037

Instructor: Daikin Corporation

8001 AWS CWI Preparation Course and Exam**Prerequisite:** Five years of welding experience.**All fees are the responsibility of the student. See fee schedule.**

This course will provide welding inspectors with the knowledge of welding and inspection fundamentals useful on the jobsite. It involves great responsibility and remarkable skill demonstration. The AWS CWI is widely recognized, both nationally and internationally. This intensive course covers information on nondestructive examination methods applicable to common welding processes and general provisions of API 1104, which includes qualification of welding procedures for welds containing filler-metal additions, design and preparation of the joint for production welding, nondestructive testing and acceptance standards, and automatic welding with and without filler-metal additions. You must be a high school graduate or hold an equivalency diploma and have a minimum of five years of experience in the welding field.

Required textbooks or resource materials: *API 1104 (21st Edition) Welding Pipelines and Related Facilities*

Course Date: March 3-10

Location: Local Union 449 Training Center
230 Wise Road
Harmony, PA 16037

Instructors: D. Glavin/T. Ley

Course Date: September 22-29

Location: Local Union 392 Training Center
1300 Century Circle N.
Cincinnati, OH 45246

Instructors: T. Murphy/B. Richardson

Course Date: December 1-8

Location: Local Union 520 Training Center
7193 Jonestown Road
Harrisburg, PA 17112

Instructors: T. Murphy/ D. Critelli

8041 AWS CWI Preview

This course is designed to provide the student with an understanding of the application process for obtaining the AWS CWI credential and the applicable AWS CWI education and experience requirements. Class lectures and exercises will focus on the AWS QC1 Standard, the AWS CWI examination process, and the requirements on how individuals become certified, as well as the principles of conduct and practice by which certification is maintained. Students will be provided information on AWS CWI examination study materials and the websites to obtain AWS standards/documents. To assess students understanding of the course subject matter, quizzes will be administered following the different topics covered.

Course Date: May 22-24

Location: Local Union 5 Training Center
5000 Forbes Blvd
Lanham, MD 20706

Instructor: C. Sullivan

5023 Clamping, Reforming, and Aligning Pipe

This course is designed to provide students with the necessary skills and knowledge on the different types of clamping devices used in the fabrication and installation of piping systems. Class exercises will focus on the application and proper selection of clamping equipment in order to perform piping joint assembly and fit-up. Hands-on shop exercises will focus on the proper use of pipe clamps, clamp setup, joint fit-up verification, and maintenance of the equipment. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Course Date: May 8-10

Location: Local Union 430 Tulsa Pipe Trades
8602 E 46th Street
Tulsa, OK 74145

Instructor: R. Banks

6032 C-2111 YVAA Air-Cooled Screw Chiller

Prerequisites: Working knowledge of the YCAV/YCIV chiller, working knowledge of VSDs, and understanding of basic electronics

This three-day course teaches experienced service technicians about the YVAA chiller. The course will include features of this unit and the differences in installation, operation, and maintenance from the YCAV. Steel toe, leather shoes and long pants are required. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Course Date: May 8-10

Location: Johnson Controls
3802 Sugar Palm Drive
Tampa, FL 33619

Instructor: Johnson Controls

6033 C-2103 YCAV Air-Cooled Rotary Screw Liquid Chillers

This three-day course teaches service personnel about the YCAV chiller features, including the screw compressor, system ancillary components, start-up procedures, unit operation, and maintenance. Steel toe, leather shoes and long pants are required. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

6033 C-2103 YCAV Air-Cooled Rotary Screw Liquid Chillers (continued)

Course Date: May 22-24

Location: Johnson Controls
3802 Sugar Palm Drive
Tampa, FL 33619

Instructor: Johnson Controls

8001 AWS CWI Preparation Course and Exam

Prerequisite: Five years of welding experience.

All fees are the responsibility of the student. See fee schedule.

This course will provide welding inspectors with the knowledge of welding and inspection fundamentals useful on the jobsite. It involves great responsibility and remarkable skill demonstration. The AWS CWI is widely recognized, both nationally and internationally. This intensive course covers information on nondestructive examination methods applicable to common welding processes and general provisions of API 1104, which includes qualification of welding procedures for welds containing filler-metal additions, design and preparation of the joint for production welding, nondestructive testing and acceptance standards, and automatic welding with and without filler-metal additions. You must be a high school graduate or hold an equivalency diploma and have a minimum of five years of experience in the welding field.

Required textbooks or resource materials: API 1104 (21st Edition) *Welding Pipelines and Related Facilities*

Course Date: January 6-13

Location: Local Union 60
2541 N. Arnoult Road
Metairie, LA 70002

Instructors: J. Wilson/ D. Critelli

Course Date: March 17-24

Location: Local Union 630
1800 Longwood Road
West Palm Beach, FL 33409

Instructors: M. Magennis/T. Murphy

Course Date: April 21-28

Location: Local Union 798 Training Center
4823 S. 83rd East Avenue
Tulsa, OK 74147

Instructors: K. Eden/D. Donnell

Course Date: July 14-21

Location: Local Union 211 JATC
1301 West 113th Street
Deer Park, TX 77536

Instructors: J. Clevenger/D. Donnell

3100 Understanding the BIM/VDC Workflow in Today's Construction Industry – Plumbing

This course will demonstrate the virtual design and construction workflow on small projects for the plumbing, mechanical, and fire protection industries. Students will gain a better understanding of how a BIM project follows a workflow from the design concept to installation. The class will include hands-on instruction for design, submittals, collaboration, scheduling, fabrication, layout, and installation documentation. This course is intended for all pipe trades instructors who are currently teaching or plan to teach plan reading, field layout, fabrication, computer-aided drafting, and/or intro or advanced classes in BIM/VDC. This will give those instructors a better understanding of the overall BIM process and where their training fits into the VDC workflow. This course will also provide materials and models to utilize for various VDC courses at the home training centers.

Required textbooks or resource materials:
CADLearning®

Course Date: April 10-12

Location: Local Union 75 Training Center
11175 W. Parkland Avenue
Milwaukee, WI 53224

Instructors: E. Lambrecht/S. Schnell

Required textbooks or resource materials: *API 1104 (21st Edition) Welding Pipelines and Related Facilities*

Course Date: February 3-10

Location: Local Union 533 Training Center
9876 Hickman Mills Drive
Kansas City, MO 64137

Instructors: K. Eden/C. Sullivan

Course Date: April 28 – May 5

Location: Local Union 597 Training Center
10850 W. 187th Street
Mokena, IL 60448

Instructors: J. Clevenger/J. Wilson

Course Date: June 2-9

Location: Local Union 464 Training Center
13505 B Street
Omaha, NE 68144

Instructors: J. Forni/M. Magennis

Course Date: October 6-13

Location: Local Union 33 Training Center
2501 Bell Avenue
Des Moines, IA 50321

Instructors: R. Derby/K. Eden

Course Date: November 10-17

Location: Local Union 597 Training Center
10850 W. 187th Street
Mokena, IL 60448

Instructors: M. Magennis/D. Glavin

8001 AWS CWI Preparation Course and Exam

Prerequisite: Five years of welding experience.

All fees are the responsibility of the student. See fee schedule.

This course will provide welding inspectors with the knowledge of welding and inspection fundamentals that are useful on the jobsite. It involves great responsibility and remarkable skill demonstration. The AWS CWI is widely recognized, both nationally and internationally. This intensive course covers information on nondestructive examination methods applicable to common welding processes and general provisions of API 1104, which includes qualification of welding procedures for welds containing filler-metal additions, design and preparation of the joint for production welding, nondestructive testing and acceptance standards, and automatic welding with and without filler-metal additions. The student must be a high school graduate or hold an equivalency diploma and have a minimum of five years of experience in the welding field.

3100 Understanding the BIM/VDC Workflow in Today's Construction Industry – Fire Protection

This course will demonstrate the virtual design and construction workflow on small projects for the plumbing, mechanical, and fire protection industries. Attendees will gain a better understanding of how a BIM project follows a workflow from the design concept to installation. The class will include hands-on instruction for design, submittals, collaboration, scheduling, fabrication, layout and installation documentation. This course is intended for all pipe trades instructors who are currently teaching or plan to teach plan reading, field layout, fabrication, computer-aided drafting, and/or intro or advanced classes in BIM/VDC. This will give those instructors a better understanding of the overall BIM process and where their training fits into the VDC workflow. This course will also provide materials and models to utilize for various VDC courses at the home training centers.

Required textbooks or resource materials:
CADLearning®

Course Date: March 20-22

Location: Local Union 483 Training Center
 2549 Barrington Court
 Hayward, CA 94545

Instructor: S. Schnell/S. Miles

6030 C-2102 YK High Pressure Centrifugal Operation and Maintenance

Students will learn about the internal workings of the YK high-pressure, centrifugal single-stage compressor oil return system, OptiView Control Center, and other components and subsystems. A comprehensive review of the preventive maintenance schedule and system capacity checkout procedure are also covered. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Course Date: April 17-19

Location: Gateway Community College
 108 N. 40th Street
 Phoenix, AZ 85035

Instructor: Johnson Controls

7050 Inspection, Testing, and Maintenance (ITM) of Water-Based Fire Protection Systems

This course will guide you through the inspection requirements of NFPA 25 and discuss the installation requirements that are not addressed in NFPA 25. It will also include the testing of systems as required by NFPA 25 and best practices for those systems that lack the documentation to ensure that the required periodic tests are performed. Best practices will be covered under the maintenance requirements, including some tips of the trade. At the end of this course, the student will be given the opportunity to get a certification for ITM, which includes both a written and practical test that goes beyond the National Institute for Certification in Engineering Technologies (NICET) certification. **Personal protective equipment is required for all shop classes. Please refer to the safety requirements.**

Course Date: January 22-26

Location: Local Union 709
 12140 Rivera Road, Suite B
 Whittier, CA 90606

Instructor: S. Arballo/M. MacDonnell

8001 AWS CWI Preparation Course and Exam

Prerequisite: Five years of welding experience.

All fees are the responsibility of the student. See fee schedule.

This course will provide welding inspectors with the knowledge of welding and inspection fundamentals that are useful on the jobsite. It involves great responsibility and remarkable skill demonstration. The AWS CWI is widely recognized, both nationally and internationally. This intensive course covers information on nondestructive examination methods applicable to common welding processes and general provisions of API 1104, which includes qualification of welding procedures for welds containing filler-metal additions, design and preparation of the joint for production welding, nondestructive testing and acceptance standards, and automatic welding with and without filler-metal additions. The student must be a high school graduate or hold an equivalency diploma and have a minimum of five years of experience in the welding field.

Required textbooks or resource materials: *API 1104 (21st Edition) Welding Pipelines and Related Facilities*

8001 AWS CWI Preparation Course and Exam *(continued)***Course Date: January 20-27**

Location: Local Union 469 Training Center
2950 W. Thomas Road
Phoenix, AZ 85017

Instructors: C. Sullivan/B. Richardson

Course Date: February 24 – March 3

Location: Local Union 250 Training Center
750 Haskell Avenue
Van Nuys, CA 91406

Instructors: J. Clevenger/J. Forni

Course Date: June 16-23

Location: Local Union 208 Training Center
6350 Broadway
Denver, CO 80216

Instructors: R. Derby/J. Wilson

Course Date: October 20-27

Location: Local Union 290 Training Center
20220 SW Teton Avenue
Tualatin, OR 97062

Instructors: C. Sullivan/D. Critelli

These classes are provided through the Blackboard™ Learning Management System at Washtenaw Community College. Students must have high-speed internet access and be familiar with a computer, navigating the internet, and using email. Students with little or no experience should enroll and complete course Introduction to Online Learning offered by WCC at no cost to UA members. To enroll through the Blackboard™ Learning System, go to:

<http://www.wccnet.edu/academics/classes/online/introduction-class/>

1003 Planning, Teaching, and Assessing Effective Lessons: Advanced

Prerequisite: Course 1001, Planning, Teaching, and Assessing Effective Lessons: Beginner; Course 1002, Planning, Teaching, and Assessing Effective Lessons: Intermediate and completion of RTA's.

This course builds on the lessons and skills learned in Course 1002 and practiced in the RTAs. Instructors will focus on developing reading and video guides as a way to expand their knowledge of lesson planning. Instructors will also learn how to ask questions to get students involved in discussion, how to support their learning of large amounts of information (such as codes), and how to get them to participate actively in classes. The instructor will continue to practice using technology in the classroom and designing in-depth learning assessments. As in Course 1001 and Course 1002, instructors should have specific lesson plans and assessments to use in teaching at their local union. Students should also have materials for a course they expect to teach.

Reflective Teaching Assignments (RTAs)

As with previous RTAs, when the course is completed, the instructor will be expected to demonstrate the specific skills in teaching and assessment from Course 1003 and write a short assessment, noting changes. These are required assignments and must be submitted to the online portfolio.

<u>Course Dates</u>	<u>Instructor</u>
March 12 – April 23	K. Billings
October 1 – November 12	K. Billings

2010 Labor History and the UA: 1800 to the Present

Labor History and the UA is a class that covers the strides made by organized labor in the 20th century and some of the landmark events, from bloody strikes to the eventual rise of the movement, and how these developments continue to affect our organization today. UA instructors will be using Blackboard™ LMS during this course.

Required textbooks or resource materials: *The Rise of the United Association* (Martin Segal); *The United Association 1924-1989* (Barbara Griffith)

<u>Course Dates</u>	<u>Instructor</u>
April 16 – June 4	T. Willson

3002 Online Teaching Techniques Using Blackboard™

Prerequisite: Must have completed Course 3001 or have fair to good knowledge of Blackboard™ basics. Students must be currently enrolled in several Blackboard™ LMS courses with instructor role.

This online course builds on Blackboard™ basics previously learned in Course 3001. Students will get hands-on experience creating and managing their own Blackboard™ course sites. Instructions will be provided on creating effective announcements, using the discussion board, and managing Blackboard™ users. Students will create and take Blackboard™ exams and learn methods and strategies for teaching online using Blackboard™. This is not a beginner course.

<u>Course Dates</u>	<u>Instructor</u>
February 26 – April 9	A. Metler
October 1 – November 12	A. Metler

3020 Introduction to Computer Aided Drafting (CAD)

This course is designed as an introduction to Computer-Aided Drafting (CAD), the CAD environment and techniques of CAD instruction. Emphasis is placed upon the fundamentals of CAD software, as well as the creation and modification of two-dimensional CAD objects. Also included are techniques for applying CAD drawing tools, including layers, properties, dimensioning, annotation, and publishing of digital and hard copy drawings. A working knowledge of personal computers required.

Required textbooks or resource materials: *CAD Learning®*

<u>Course Dates</u>	<u>Instructor</u>
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WEB RESOURCES

To get the IP address for the websites listed below, go to:

https://uanet.org/regional_training.asp/

[American Society of Sanitary Engineers \(ASSE\)](#)

[Ann Arbor Area Convention & Visitors Bureau](#)

[Blackboard™ Help Page](#)

[Blackboard™ Login](#)

[Local Union Training Directory Lookup](#)

[JATC Bookstore](#)

[Occupational Safety & Health Administration \(OSHA\)](#)

[National Inspection Testing Certification](#)

[UA Course Registration](#)

REGISTRAR'S OFFICE

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Fax: (410) 267-0382

Angie Sterling

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ONLINE LEARNING

Lauren Friedman, Online Learning Resources

Coordinator

Email: lfriedman@uanet.org

Telephone: (410) 269-2000, ext. 5063

International Pipe Trades

Joint Training Committee (Bookstore)

Dianne Lash, Manager

Email: iptbookstore@uanet.org

Telephone: (301) 218-1241

Fax: (301) 218-8961

WCC UA Blackboard™ Help

Arista Metler, UA Distance Learning Administrator

Email: arista@wccnet.edu

Telephone: (734) 477-8908

24/7 Voice Line Help: 1-800-218-4341

WCC Technical Director

Tony Esposito

Email: tonyesposito@wccnet.edu

Telephone: (734) 677-5222

Fax: (734) 677-5427

WCC Logistics Director of UA Programs & Services

Kim Billings

Email: kbillings@wccnet.edu

Telephone: (734) 373-3359

Fax: (734) 677-5427

Ann Arbor Area Convention & Visitors Bureau

Kristy Poore, National Sales Account Executive

Email: kpooore@annarbor.org

Hospitality-key (734) 717-7282

Phone: (734) 995-7281, ext. 305

Toll-free: 1-800-888-9487

Fax: (734) 995-7283

3M

Red Wing, MN

Shawn ArballoLocal Union 709
Whittier, CA**Randall Banks**Local Union 430
Tulsa, OK**Michael Baptista**Local Union 342
Oakland, CA**Kim Billings**Washtenaw Community College
Ann Arbor, MI**William Boyd**Local Union 597
Chicago, IL**Glen Burch**Local Union 597
Chicago, IL**Alfred Caron**Local Union 51
Providence, RI**Carrier Corporation**

Syracuse, NY

Tom ChapdelaineLocal Union 455
St. Paul, MN**Jay Clevenger**Local Union 26
Western Washington**Dennis Critelli**Local Union 30
Billings, MT**Daiken Corporation****Skylar Daniels**Local Union 469
Phoenix, AZ**Drew DeKoeyer**Local Union 295
Daytona Beach, FL**Robert Derby**Local Union 174
West Michigan**Dale Donnell**Local Union 009
Hazlet, NJ**Elwood "Ken" Eden**Local Union 430
Tulsa, OK**Jeff Ehrlich**Local Union 157
Terre Haute, IN**Pat Faley**Local Union 353
Peoria, IL**Justin Forni**Local Union 412
Albuquerque, NM**Josh Galanda**Local Union 342
Concord, CA**Leroy Givens**Local Union 630
West Palm Beach, FL**Dale Glavin**Local Union 449
Pittsburgh, PA**James Hendrikson**Local Union 533
Kansas City, MO**Michael Howard**Local Union 353
Peoria, IL**Hytroc**

Mahwah, NJ

Nathan JacobsonLocal Union 400
Appleton, WI**Johnson Controls****Chris Krantz**Hytroc Bolting Institute
Jersey City, NJ**Erik Lambrecht**Local Union 400
Appleton, WI**David Lavoie**Local Union 51
Providence, RI**Thomas Ley**Local Union 449
Pittsburgh, PA**Liburdi Dimetrics**

Davidson, NC

Michael MacDonnellLocal Union 550
Boston, MA**Mike Magennis**Local Union 441
Wichita, KS**William Marable**Local Union 372
Tuscaloosa, AL**Mathey Dearman, Inc.**

Tulsa, OK

Arista MetlerWashtenaw Community College
Ann Arbor, MI**Mark McMillen**Local Union 190
Ann Arbor, MI**Steven Miles**Local Union 483
San Francisco, CA**Thomas G. Murphy**Local Union 520
Harrisburg, PA**Roy Musgrove**Local Union 190
Ann Arbor, MI**Rita Neiderheiser**Local Union 669
Columbia, MD**Stephen Parsons**Local Union 537
Boston, MA**Buster Perry**Local Union 184
Paducah, KY**Eric Posey**Local Union 440
Indianapolis, IN

Brent Richardson

Local Union 50
Toledo, OH

Stephan Schnell

Local Union 467
San Mateo, CA

James J. Smith

Local Union 25
Rock Island, IL

Con Sullivan

Local Union 41
Butte, MT

Roger Thein

Local Union 455
St. Paul, MN

Joseph Vellenga

Local Union 597
Chicago, IL

Peter Villanueva

Local Union 430
Tulsa, OK

Willard Walker

Local Union 495
Cambridge, OH

Jim Wilson

Local Union 636
Detroit, MI

Thomas Willson

Local Union 357
Kalamazoo, MI

Jeff Wiswesser

Welder Training and Testing Institute
Allentown, PA

Bob Wiswesser

Welder Training and Testing Institute
Allentown, PA

James Young

Local Union 495
Cambridge, OH

Momcilo Zivanovic

Local Union 597
Chicago, IL

