



International Union of Operating Engineers

AFFILIATED WITH THE AMERICAN FEDERATION OF LABOR AND CONGRESS OF INDUSTRIAL ORGANIZATIONS

Training Course Schedule

Courses from March 13, 2025 - May 12, 2025

Course - Session	Date(s)
Low Pressure Boiler Operations	Mar 10, 2025 - Mar 14, 2025
HVAC Systems 2	Mar 10, 2025 - Mar 14, 2025
Automatic Transfer Switch (ATS) for Generators	Mar 11, 2025 - Mar 13, 2025
Blueprint Reading II for Stationary Engineers	Mar 16, 2025 - Mar 20, 2025
Electrical Systems 1	Mar 17, 2025 - Mar 21, 2025
Chiller Efficiency	Mar 20, 2025 - Mar 22, 2025
Electrical Systems 2	Mar 24, 2025 - Mar 28, 2025
Certified Pool Operator	Mar 25, 2025 - Mar 27, 2025
Rooftop Unit Maintenance & HVAC Troubleshooting	Apr 15, 2025 - Apr 18, 2025

Visit <https://iuoe-itrs.org> for a Full Schedule and to Register for Classes

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Training Course Descriptions

LOW PRESSURE BOILER OPERATIONS

Low Pressure Boiler Operations course will help to assist in preparing the Stationary Engineer for the proper operation of Low-Pressure boilers and will also help with preparing for the facility operating engineer licensing. This course provides a comprehensive overview of the latest information on the safe and efficient operation of low-pressure steam and hot water boilers, cooling systems, and related equipment. The course is divided into sections to aid comprehension of key concepts:

- Boiler Operation Principles
- Steam Boiler Fittings
- Steam Boiler Feedwater Systems
- Steam Systems
- Fuel Systems
- Draft Systems
- Boiler Water Treatment
- Boiler Operation Procedures
- Hot Water Boilers and Fittings
- Hot Water Boiler Accessories and Piping Systems
- Cooling Systems
- Boiler Operation Safety
- Boiler Operator Licensing

HVAC SYSTEMS 2

HVAC Systems 2 builds upon the students fundamental knowledge of heating, ventilation and air conditioning principles to teach the safe and efficient operation of systems found in facilities. Students completing the class will gain the following:

- Understanding of the operation of chillers, heat exchangers, pumps, fans and other system equipment.
- Understanding of the interaction between the different components in a system
- Understanding of HVAC control systems.
- Ability to perform basic HVAC system troubleshooting.
- Ability to safely handle refrigerants.
- Participate in practical hands on exercises to reinforce learning outcomes.
- Ability to pass a basic HVAC competency exam.
- Opportunity to take the EPA 608 exams.

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Students taking HVAC Systems 2 should have previously taken HVAC Systems 1, or have knowledge of system components and core HVAC principles.

AUTOMATIC TRANSFER SWITCH (ATS) FOR GENERATORS

The focus of this course is on Automatic Transfer Switches & Emergency Standby Generator and how they may be applied in a variety of settings and industrial sectors. Standby generators are used primarily to provide backup power if utility power from the utility electrical distribution system is lost.

This course will discuss the operation of Automatic Transfer Switches & Generators, their application, how they are integrated into the overall electrical system, auxiliary supporting equipment and generator package maintenance. This course will cover many practical examples and will be interactive for students to gain a broad overall understanding of standby generators.

At the completion of this course, students will be able to perform startup, commissioning and maintenance activities on automatic transfer switches and controllers related to generators. Students will learn about the transfer switch equipment that is currently being used in today's industry. Hands-on activity will comprise at least half of the time spent in training activities.

BLUEPRINT READING II FOR STATIONARY ENGINEERS

Printreading for Heavy Commercial Construction covers information on construction materials and methods, building process participants, project delivery methods, LEED[®] green building requirements, and the CSI MasterFormat[®]. Expanded topics in this class include project owner types, surveying, underground utility location, slip forms, building automation, interior trim, and new Energy Center prints.

Students will be also be exposed to various subjects related to MEP drawings on as large Commercial building specifications, Students will spend approximately 70% of classroom time with hands-on labs utilizing a variety of the drawings and specifications that are most often used as reference and guidance for the Stationary Engineer. Specific emphasis on owner branding, electrical, HVAC, and plumbing drawings and their use in the industry.

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ELECTRICAL SYSTEMS 1

Electricity is a fundamental part of most tasks that the stationary engineer performs. Whether one works with motors, chillers, boilers, air handlers, lighting, or controls, electricity plays a part of each. This course equips the stationary engineer with knowledge of electrical principals, electrical safety, how to perform electrical calculations, and gives an understanding of both AC and DC electrical components. Students have the opportunity to also perform hands on activities to reinforce the coursework.

This course is a suggested pre-requisite for Electrical Systems 2 course.

CHILLER EFFICIENCY

Chillers can be one of the largest energy users in a facility. This seminar provides an overview of the fundamentals of several types of chillers and how they function. It also reviews the controls of popular chiller interfaces and what to look for when monitoring them to help ensure they are running at their peak efficiency. Students have the opportunity to work with one of the three chillers in the training center which include Carrier, Trane, and York chillers.

ELECTRICAL SYSTEMS 2

This class builds off of Electrical Systems 1 so students should have taken that before this class or have comparable experience and understanding.

In this class, students will be provided a greater understanding of electrical principles and theory including series and parallel circuits and more advanced electric formulas. Students will gain the ability to read electrical prints, replace breakers, and perform troubleshooting using Fluke meters. This course includes substantial hands-on activities.

CERTIFIED POOL OPERATOR

This course will prepare the student for the Pool & Hot Tub Alliance (PHTA) (formerly National



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Swimming Pool Foundation (NSPF) certified pool operator exam. The test will be administered by an authorized PHTA instructor on the last day of the course. The certification is valid for five years from date of course completion. There is a cost to the student of \$45.00 for the certification.

ROOFTOP UNIT MAINTENANCE & HVAC TROUBLESHOOTING

Light commercial Rooftop units are the topic of this class.. There will be extensive hands-on training for maintenance and service engineers who have had basic air conditioning training. **Students must have the EPA Universal Certification to participate in the practical activities of the course.** The focus will be on identifying various components of RTU's , charging practices , troubleshooting , repair, and maintenance.