International Union of Operating Engineers

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

Training Course Schedule

Courses from May 7, 2025 - July 6, 2025

Course - Session	Date(s)
Pipeline - Sideboom - Intro to Pipeline Sideboom	May 5, 2025 - May 10, 2025
Pipeline - Excavator - Intro to pipeline excavator	May 5, 2025 - May 10, 2025
Pipeline - Angle Dozer - Beginner	May 5, 2025 - May 10, 2025
Pipeline - Excavator Procedures for Existing Live Pipelines	May 5, 2025 - May 17, 2025
Pump Maintenance & Operation	May 5, 2025 - May 8, 2025
Member Assistance Program - It's time to Get Uncomfortable: Bringing Awareness to Lifestyle Issues and Focusing on the Path to Prevention, Recovery and Support	May 5, 2025 - May 7, 2025
Bulldozer Operations	May 5, 2025 - May 9, 2025
Pipeline - John Henry Rock Drilling - Kentucky	May 5, 2025 - May 10, 2025
Pipeline - Low Boy Driver Training	May 5, 2025 - May 10, 2025
Pump Maintenance & Operation	May 9, 2025 - May 12, 2025
Pipeline - Specific Task Sideboom Training	May 12, 2025 - May 17, 2025
Pipeline - Specific Task Excavator Training	May 12, 2025 - May 17, 2025
Pipeline - Specific Task Angle Dozer Training	May 12, 2025 - May 17, 2025
Data Center Operations	May 12, 2025 - May 16, 2025
Pipeline - Low Boy Driver Training	May 12, 2025 - May 17, 2025
Pipeline - John Henry Rock Drilling - Kentucky	May 12, 2025 - May 17, 2025
Generator Maintenance & Operation	May 13, 2025 - May 16, 2025
OSHA 510 Safety & Health Standards for the Construction Industry	May 13, 2025 - May 16, 2025

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Training Course Schedule

Crane Operations - Level 1 Crane Operations for Beginners	May 13, 2025 - May 17, 2025
Motorgrader Operations	May 13, 2025 - May 16, 2025
Boiler System Efficiency	May 16, 2025 - May 18, 2025
OSHA 500 Trainer Course Construction Industry	May 17, 2025 - May 20, 2025
Basic Controls and Building Automation Systems	May 17, 2025 - May 19, 2025
Blueprint Reading for Stationary Engineers	May 18, 2025 - May 22, 2025
Teaching Techniques I	May 19, 2025 - May 23, 2025
Crane Operations - Intro To Luffing Crawler Crane Operations	May 19, 2025 - May 23, 2025
Crane Operations - Practical Testing for NCCCO Certification	May 19, 2025 - May 23, 2025
Excavation Operations	May 19, 2025 - May 23, 2025
Drone Training	May 19, 2025 - May 23, 2025
Welding	May 19, 2025 - May 23, 2025
Pipeline - John Henry Rock Drilling - Kentucky	May 19, 2025 - May 24, 2025
Electrical Systems 1	May 20, 2025 - May 24, 2025
Electrical Troubleshooting & Variable Frequency Drive Operations	May 23, 2025 - May 26, 2025
Energy Conservation	May 26, 2025 - May 29, 2025
Advanced Controls & Building Automation Systems	May 31, 2025 - Jun 2, 2025
Pipeline - ONLINE OILER TRAINING	Jun 1, 2025 - Jun 1, 2025
Bulldozer Operations	Jun 2, 2025 - Jun 6, 2025
Welding	Jun 2, 2025 - Jun 6, 2025

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Training Course Schedule

Mechanics Training - Hydraulic Fundamentals	Jun 2, 2025 - Jun 6, 2025
Mechanics Training - Intro to Diesel Laptops & Diagnostic Software	Jun 2, 2025 - Jun 6, 2025
Automatic Transfer Switch (ATS) for Generators	Jun 2, 2025 - Jun 4, 2025
Electrical Systems 1	Jun 3, 2025 - Jun 7, 2025
OSHA 511 Occupational Safety and Health Standards for General Industry	Jun 3, 2025 - Jun 6, 2025
GPS Training for Instructors Only	Jun 3, 2025 - Jun 5, 2025
Solar Panel Installation Maintenance & Troubleshooting	Jun 6, 2025 - Jun 9, 2025
OSHA 501 Safety & Health Standards for General Industry	Jun 7, 2025 - Jun 10, 2025
Crane Operations - LMI Setup & Crane Operations	Jun 9, 2025 - Jun 13, 2025
Excavation Operations	Jun 9, 2025 - Jun 13, 2025
Drone Training	Jun 9, 2025 - Jun 13, 2025
Pump Maintenance & Operation	Jun 10, 2025 - Jun 13, 2025
Certified Pool Operator	Jun 10, 2025 - Jun 12, 2025
GPS Training for Instructors Only	Jun 10, 2025 - Jun 13, 2025
Introduction to Vermeer PD10 Pile Driver Operations	Jun 10, 2025 - Jun 12, 2025
Testing & Balancing for Air & Hydronic Systems	Jun 11, 2025 - Jun 15, 2025
HVAC Systems 1	Jun 16, 2025 - Jun 20, 2025
Low Pressure Boiler Operations	Jun 16, 2025 - Jun 20, 2025
Data Center Operations	Jun 16, 2025 - Jun 20, 2025
Crane Operations - Intro To Luffing Crawler Crane Operations	Jun 17, 2025 - Jun 21, 2025

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Training Course Schedule

Crane Operations - Practical Testing for NCCCO Certification	Jun 17, 2025 - Jun 21, 2025
GPS Training for Instructors Only	Jun 17, 2025 - Jun 19, 2025
Electrical Troubleshooting & Variable Frequency Drive Operations	Jun 19, 2025 - Jun 22, 2025
Chiller Efficiency	Jun 19, 2025 - Jun 21, 2025
Blueprint Reading II for Stationary Engineers	Jun 22, 2025 - Jun 26, 2025
Electrical Systems 2	Jun 23, 2025 - Jun 27, 2025
Crane Operations - Level 1 Crane Operations for Beginners	Jun 23, 2025 - Jun 27, 2025
Excavation Operations	Jun 23, 2025 - Jun 27, 2025
Welding	Jun 23, 2025 - Jun 27, 2025
Crane Operations - Liebherr 81K.1 Fast Erecting Tower Crane Assembly/Disassembly	Jun 23, 2025 - Jun 27, 2025
Basic Controls and Building Automation Systems	Jun 28, 2025 - Jun 30, 2025
Electrical Troubleshooting & Variable Frequency Drive Operations	Jul 1, 2025 - Jul 4, 2025

Training Course Descriptions

PIPELINE - SIDEBOOM - INTRO TO PIPELINE SIDEBOOM

SIDEBOOM - BEGINNER

This class is a one-week course. The course schedule is 10 hours a day, 6 days a week, Monday-Saturday. A typical day will consist classroom training followed by practical field training. This class will consist of 1 instructor and 4 students.

Classes are intended for apprentice operators, although journeyman are also encouraged to apply.

This course will help prepare you for working in the pipeline industry. The following subjects will be covered:

- A pipeline spread – Explain in depth each individual crew.
- Sideboom controls.
- How to properly steer the sideboom around obstacles.
- How to catch the load that is being carried.
- How to carry a load using one sideboom..
- The multiple uses of a sideboom through various stages of pipeline construction.
- Pipeline terminology and vocabulary
- Safety

PIPELINE - EXCAVATOR - INTRO TO PIPELINE EXCAVATOR

EXCAVATOR – BEGINNER TRAINING

This class is a one week course. The course schedule is 10 hours a day, 6 days a week, Monday-Saturday. A typical class will consist of 1 day of classroom training followed by 5 days of practical field training.

Classes are intended for less experienced operators, **oilers** and **apprentices** are encouraged to apply.

This course will introduce you to the excavator techniques utilized in the pipeline industry. The following subjects will be covered with emphasize on the Sloped Ditching Technique.

- A pipeline spread – Explain in depth each individual crew
- All the various applications of an excavator throughout the many different stages of construction
- Students will be introduced to the excavator, go over the fundamentals of the machine
- An exhibition course will be set-up, students will test there ability by carrying weights through this course while operating the travel of the machine
- How to dig a pipeline sloped ditch.
- Students will learn how to build water-breakers with an excavator.
- Understanding the pipeline terminology and vocabulary words.
- Safety

PIPELINE - ANGLE DOZER - BEGINNER

ANGLE DOZER - BEGINNER

This class is a one week course. The course schedule is 10 hours a day, 6 days a week, Monday-Saturday. A typical day will consist of 10 hours of practical field training.

Classes are intended for inexperienced operators, although **apprentices** are encouraged to apply.

This course will prepare you for working in the pipeline industry. The following subjects will be covered:

- A pipeline spread – Explain in each individual crew.
- How to properly topsoil a pipeline Right-of-way.
- How to make a side hill cut in a pipeline Right-of-way.
- All the various applications of an angle dozer throughout the many different stages of the pipeline construction process.
- The angle blade, understanding the concept of why the material on a pipeline right of way is moved at 90 degrees, using the long and short corners of the blade.
- Understanding the pipeline terminology and vocabulary words.
- Safety.

PIPELINE - EXCAVATOR PROCEDURES FOR EXISTING LIVE PIPELINES

Excavation class for Existing Live Pipelines (Maintenance/Rehabilitation work)

This class is a two week course; 12 days total, Monday-Saturday, the class runs 10 hours a day. A

typical day will consist of two hours of classroom instruction followed by 8 hours of actual field training. The class will have one instructor and four students.

This class is intended for experienced excavator operators.

This class will prepare the operator for working in the rehabilitation of existing pipelines that are already in service. During the class the following subjects will be covered:

- How to safely probe and pothole for a hotline
- How to dig around existing pipelines using various slope methods required by different gas companies
- How to safely pad and backfill an existing pipeline
- How to safely carry a joint or a section of pipe that has been welded together
- How to dig egresses
- Pipeline terminology
- Safety
- All other various applications of the excavator throughout the rehabilitation process

Prerequisites:

Journeyman operator skills required

PUMP MAINTENANCE & OPERATION

Successful and efficient operations and maintenance of any mechanical system can only be accomplished with a clear understanding of the components making up the mechanical system and how they interact. Stationary engineers are responsible for the operations and maintenance of the Chilled Water, Condenser Water and Hot Water systems to just name a few. The heart of each of these is the pump.

In this four-day course students will become familiar with different types of pumps, their operating principles, how to diagnose and troubleshoot issues, and their proper maintenance and repair procedures. Focus is on hands on activities.

MEMBER ASSISTANCE PROGRAM - IT'S TIME TO GET

UNCOMFORTABLE: BRINGING AWARENESS TO LIFESTYLE ISSUES AND FOCUSING ON THE PATH TO PREVENTION, RECOVERY AND SUPPORT

Peer training on developing local Member Assistance Programs.

BULLDOZER OPERATIONS

The IUOE Training & Education Center will be offering classes in all areas of bulldozer operation from beginner through advanced.

Topics covered:

- Working on Slopes
- Slot Dozing
- Backfilling
- Cuts and Fills
- Working with Grade Control.

PIPELINE - JOHN HENRY ROCK DRILLING - KENTUCKY

This class is one week in length; six days total, Monday - Saturday, the class runs 10 hours a day consisting of 2 hours classroom followed by 8 hours of practical field training. The class will have one instructor and 4 students per class.

Classes are intended for experienced excavator operators. A proficiency test will be given at the beginning of the course to verify abilities.

This course will prepare you for rock drilling operations in the pipeline industry. The following subjects will be covered:

- All the various applications of the John Henry machine.
- How to perform machine set-up, how to drill through rock, overburden, and how to "double-steal".
- Maintenance of the machine.
- Safety

PIPELINE - LOW BOY DRIVER TRAINING

Low Boy Driver Training

This class is a one-week course; 6 days total, Monday-Saturday, the class runs 10 hours a day. A typical day will consist of two hours of classroom instruction followed by eight hours of actual field training. The class will have one instructor and four students.

This class is intended for CDL A operators that are looking to refresh their skills and knowledge.

This class will prepare the CDL A Driver for working with a" low boy" truck and trailer During the class the following subjects will be covered:

- 45-degree ally dock
- 90-degree ally dock
- Straight line backing
- Hook and unhook from truck and trailer
- Unhook and prepare for loading equipment
- Hook after equipment is loaded

PIPELINE - SPECIFIC TASK SIDEBOOM TRAINING

This class will be considered open training for members who have been past attendees of the sideboom Intermediate classes. The class will run 10 hours a day, 6 days in duration. The class will be10 hours a day in the field. There will be no classroom time unless inclement weather occurs.

The member will be able to decide which task's he/she would like to practice. The class is intended to allow the member to further enhance the skills that were taught while attending the previous intermediate class. This class is all about seat time.

There will be an Instructor available at all times.

PIPELINE - SPECIFIC TASK EXCAVATOR TRAINING

This class will be considered open training for members who have been past attendees of the Intermediate Excavator classes. The class will run 10 hours a day, 6 days in duration. The class will consist of 10 hours a day in the field. There will be no classroom time unless inclement weather occurs.

The member will be able to decide which task's he/she would like to practice. The class is intended to allow the member to further enhance the skills that were taught while attending the previous intermediate class. This class is all about seat time.

There will be an instructor available at all times.

PIPELINE - SPECIFIC TASK ANGLE DOZER TRAINING

This class will be considered open training for members who have been past attendees of the Angle Dozer Intermediate classes. The class will run 10 hours a day, 6 days in duration. The class will be10 hours a day in the field. There will be no classroom time unless inclement weather occurs.

The member will be able to decide which task's he/she would like to practice. The class is

intended to allow the member to further enhance the skills that were taught while attending the previous intermediate class. This class is all about seat time.

There will be an Instructor available at all times.

DATA CENTER OPERATIONS

Data Center Operation is a core skill for Operating engineers. This course will introduce the student to Data Center equipment found in mission-critical facilities where power supply and environmental control interruption is not acceptable. The program will cover an overview of the Data Center safety guidelines (OSHA 10, NFPA 70e), basic electrical theory and power distribution, switch gear operation, emergency generators, manual & automatic transfer switches, Uninterruptible Power Systems (UPS), battery types and handling procedures, Data Center specific HVAC equipment, chilled water systems, rules governing work in a Data Center, airflow management, fire risk mitigation and suppression, and general techniques used in these facilities. This will also include hands on exercises in our classroom Data Center simulation.

GENERATOR MAINTENANCE & OPERATION

This class is intended for Apprentice through Mid-level journeyman. It covers for both “theory and practical” knowledge on diesel generator operation.

The seminar will have three primary categories:

1) Diesel generator maintenance and operation

2) Safety with emphasis on OSHA standards, Title 29 1910 & 1926 Code of Federal Regulations

3) Basic electrical knowledge as per National Electrical Code guidelines Students will have hands on time with a diesel generator package.

OSHA 510 SAFETY & HEALTH STANDARDS FOR THE CONSTRUCTION INDUSTRY

OPEN TO IUOE INSTRUCTORS ONLY

This course covers OSHA policies, procedures, and standards, as well as construction safety and health principles. 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. Completion of this class is required prior to taking the OSHA 500 class.

CRANE OPERATIONS - LEVEL 1 CRANE OPERATIONS FOR BEGINNERS

Crane Operations for Beginners (Level 1) - In this class students will be taught the requirements for crane inspection, the basics of crane set up including LMI's and LML's. This portion of the class has a hands-on approach. The largest portion of the class will be actual seat time instruction in the "How To" operate a crane safely and build on basic skills necessary to lift loads.

MOTORGRADER OPERATIONS

This course will focus on upgrading the skills for the Operating Engineer on Motorgrader operations.

BOILER SYSTEM EFFICIENCY

This course is designed to assist in the education and development of the individual who has the responsibilities for the day to day operation and maintenance of their boiler and the ancillary equipment. This individual will gain the knowledge and understanding of how to properly operate the equipment safely and more efficiently. This course will also provide the proper sequence of operation or timing that will assist in the troubleshooting area and reduce downtime and increase reliability. The program includes plant tours to reinforce lessons learned.

OSHA 500 TRAINER COURSE CONSTRUCTION INDUSTRY

OPEN TO IUOE INSTRUCTORS ONLY

AUTHORIZES INSTRUCTOR TO TEACH: 10- and 30-Hour Construction Industry Outreach courses.

BASIC CONTROLS AND BUILDING AUTOMATION SYSTEMS

BASIC CONTROLS& BUILDING AUTOMATION SYSTEMS

This course has been developed for individuals who want to take the mystery out of the understanding of how DDC controls and Building Automation Systems operate, and also the insight of the various related software packages that drive these systems and how they manipulate these systems.

This seminar has also been designed for people not familiar DDC controls and Building Automation Systems. There will be lectures on basic control strategies, the basics of DDC hardware, and also the basic understanding of building optimization for curtailing the use of energy.

For the experienced people there will be discussions on advanced control technologies dealing with the architecture of Building Automation Systems, discussing how they are installed, wired, and then programmed. Also, there will be main topic lectures on DDC Main Controllers, Stand alone controllers, and there communication protocols.

After the completion of this seminar the participants will be able to:

- Understand the basic DDC and Analog control technology for the HVAC field
- Describe the different types of control actions and when to use them
- Identify Building Automation System main components and where they are used
- Define and select the proper Automation System for different locations
- Ascertain how Building Automation Systems Operate to maintain human comfort
- Define the different types of Analog and Binary inputs and outputs
- Understand the system wiring though various schematic diagrams of installed systems
- Comprehend the different type of operator interfaces and how they communicate
- Define criteria for control strategies such as with closed loop control
- Describe control strategies and how buildings are optimized for peak efficiency

- Understand how a PID loop is written and how to tweak it in for the maximum performance
- Define the different types of programming method

BLUEPRINT READING FOR STATIONARY ENGINEERS

Students will be exposed to various subjects related to blueprint reading, such as blueprints, construction materials, construction methods, specifications, branding, and quantity takeoff. Students will spend approximately 70% of classroom time with hands-on labs utilizing a variety of the prints and specifications that are most often used as reference and guidance for the Stationary Engineer. Specific emphasis on owner branding, electrical, HVAC, and plumbing prints, and their use in the industry.

TEACHING TECHNIQUES I

Teaching Techniques I is designed especially for part-time, new or recently hired instructors. The course presents useful introductory concepts and also requires actual practice teaching with constructive feedback. It is conducted over a 4-½ day period. It will provide instructors with all materials and demonstrate various teaching techniques for classroom application and meets the U.S. Department of Labor requirements for apprentice instructor training.

CRANE OPERATIONS - INTRO TO LUFFING CRAWLER CRANE OPERATIONS

Intro to Luffing Crawler Crane Operations - This course is for students with previous crane experience. The course will introduce operators to the procedures for raising and lowering luffing boom systems as well as their operation. It will cover what critical boom-to-luff angles are and where to find them. It will also cover how luffer charts differ from other charts.

CRANE OPERATIONS - PRACTICAL TESTING FOR NCCCO CERTIFICATION

Practical Testing for NCCCO Certification - Please remember when registering for this course that you should have prior experience in crane operations. The training portion of this course is only an equipment familiarization period on the crane or cranes you would like to be tested on. Members will complete a NCCCO application when the course begins and all candidate testing fees are the responsibility of the candidate.
Practical Testing available on the following cranes

- Lattice Boom Cranes
- Telescopic Boom Cranes—Swing Cab (TLL)
- Telescopic Boom Cranes—Fixed Cab (TSS)
- Tower Crane
- Overhead Crane

EXCAVATION OPERATIONS

Excavation Operations – The IUOE Training and Education Center will be offering the Excavation Operations course for Operators with skill levels of beginner through advanced. This 40-hour course will include classroom instruction and hands-on training. Classroom instruction topics will include machine safety, working around utilities and OSHA regulations that apply to trenching/excavation activities. Hands-on will consist of machine control familiarization, benching and sloping techniques, slot dozing and backfill operations. Upon competition of this course, the member will understand trench safety techniques and how to move dirt efficiently.

DRONE TRAINING

This will be a comprehensive look at the use and versatility of Drones on today's construction projects. After completing this course you will be able to prepare for your Commercial Drone Pilot's License Test.

WELDING

Courses will teach the student how to weld in all positions using different welding processes.

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.

ELECTRICAL TROUBLESHOOTING & VARIABLE FREQUENCY DRIVE OPERATIONS

This four-day seminar is designed to provide the knowledge and skills required when selecting, installing, testing and troubleshooting electrical systems the motors they control, and the control circuits connected to them. In this hands-on seminar, students will build, program and test VFD, motors and control circuits.

Test instruments covered and used include digital multi-meters (DMMs), current clamps and meter attachments. Topics, circuits, and equipment covered include:

• Test instrument terminology, symbols and measurement functions for each type of instrument used is covered to learn what test instruments should and should not be used circuits.

• Learn the safe and correct way to take electrical measurements and what the measurements actually mean.

.• Learn where and how to use special meter functions like MIN/MAX, RELATIVE, LoZ, Peak, kVA, kW, and PF measurement functions.

• Learn how to test for grounding problems.

• Understanding VFD and motor nameplate data.

• Learn how to test and wire any three-phase motor without using the motors wiring diagram and what the expected readings should be before power is applied and how to troubleshoot the motor after power is applied.

• Circuits built include using, magnetic motor starters, mechanical and solid-state switches, such

as, selector switches, proximity switches, photoelectric switches, analog inputs (photovoltaic and potentiometers), and other commonly used electrical devices.

• Connect, program, and test VFDs (variable frequency drives).

• Take power measurements (P.F., kVA, kW, and harmonic) to understand power quality problems.

ENERGY CONSERVATION

Prerequisite: Students should have strong working knowledge of Electrical systems, HVAC systems and Building Automation systems.

Members of the International Union of Operating Engineers manage a large amount of the energy that is consumed in North America. Our involvement in this energy management endeavor is critical to its success. This course will explain the various aspects of energy management, metering, regulations, standards, energy auditing, and energy management solutions.

Please see course commercial: iuoentf.training/videos/energy-conservation.mp4

This is a lecture-based course:

Course Overview:

- Introduction to Energy Conservation
- The Energy Star Program and Energy Benchmarking
- The US Green Building Council and LEED
- Effective Energy Management
- Metering and Monitoring
- Energy Unit Conversions
- Energy Audits and Assessments
- Energy Conservation Opportunities

- Energy Bills
- Calculating Energy Savings
- Energy Cost Calculations Workshop
- The Building Envelope
- Boilers and Combustion Devices
- Steam and Condensate Systems
- HVAC Systems
- Electric Energy Management
- Lighting
- Building Automation Systems
- Waste Heat Recovery
- Lesson 19: Advanced Technologies
- Building Commissioning
- Project Management

ADVANCED CONTROLS & BUILDING AUTOMATION SYSTEMS

ADVANCED CONTROLS & BUILDING AUTOMATION SYSTEMS

Prerequisite: Students should have taken Basic Controls and Building Automation Systems or have similar work experience

This advanced course has been developed for individuals who want to develop the understanding of how DDC controls and Building Automation Systems are installed, wired, operated, and programmed, also included is the insight of the various related software packages, that drive and manipulate these systems.

We will discuss and demonstrate advanced control technologies dealing with the architecture of various manufactures of Building Automation Systems. We will demonstrate how they are installed, wired, and then programmed. Also, there will be main topic lectures on BAS Supervisory Controllers, Standalone controllers, and their communication protocols.
There will also be lectures on advanced control strategies and the understanding of building optimization for curtailing the use of energy.
After the completion of this course the participants will be able to:

- Describe the different types of control actions and when to use them
- Identify Building Automation System main components and where their used
- Define and select the proper Automation System for various locations
- Define the different types of Analog and Binary inputs and outputs
- Understand system wiring through various schematic diagrams of installed systems
- Wire Building Automation System main components
- Understand the various types of BAS communication protocols
- Program various type of industry controllers
- Comprehend the different types of operator interfaces and how they communicate
- Describe control strategies and how buildings are optimized for peak efficiency
- Define the different types of programming graphic methods

PIPELINE - ONLINE OILER TRAINING

This is an online class only. The class will take approx. 8 hours to complete, you will be able to complete the class at your own pace, meaning you can log in and out as needed to complete the course.

This class is intended for anyone who wants to work as an oiler in the pipeline industry. It is also intended for operators who have never worked in the pipeline industry.

Topics discussed and included in the course:

- Work Environment
- Duties of a Pipeline Oiler

- Nomenclature
- Work Ethic
- Vocabulary Games and review
- Final Exam
- Final Vocabulary Exam

The member will receive a certificate of completion at the end of the course.

MECHANICS TRAINING - HYDRAULIC FUNDAMENTALS

Mechanics Training - Hydraulic Fundamentals

This course will give the student a strong foundation in hydraulic systems used in mobile equipment. Upon completion, participants will be able to:

- Describe the principles of hydraulics.
- Identify and describe the function of the components that make up a typical hydraulic system.
- Identify and read the schematic symbols in a typical hydraulic schematic.
- Understand the use and operation of load sensing variable displacement pumps.

The learning environment will be established in both the classroom and the service shop.

MECHANICS TRAINING - INTRO TO DIESEL LAPTOPS & DIAGNOSTIC SOFTWARE

Mechanics Training - Introduction to Diesel Laptops and Diagnostic Software - In this course, members will be given an introduction to the diesel laptops diagnostic software and hardware, along with applications of these tools.

Topics will include:

- Introduction to the TEXA software
- Aftertreatment
- Electrical 1
- Electrical 2
- Data bus Diagnostics

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 generations 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.

OSHA 511 OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR GENERAL INDUSTRY

OPEN TO IUOE INSTRUCTORS ONLY

This course covers OSHA Standards, policies, and procedures in general industry. Topics include scope and application of the OSHA General Industry Standards, general industry principles and special emphasis on those areas in general industry which are most hazardous.

Completion of this class is required prior to taking the OSHA 501 class.

GPS TRAINING FOR INSTRUCTORS ONLY

GPS Training for Instructors Only - Courses are available to active IUOE Instructors only.

SOLAR PANEL INSTALLATION MAINTENANCE & TROUBLESHOOTING

This course work will include information on site location, system sizing, mounting options, system components, configurations, mechanical, electrical integration and code requirements. Topics also include Solar Radiation, System Components, Cells, Modules, and Arrays, Batteries, Inverters, System Sizing, Mechanical Integration, Electrical Integration, Utility Interconnection, Permitting and Inspection, Commissioning, Maintenance, and Troubleshooting. Students will receive hands on training in installation and configuration of actual solar voltaic systems.

OSHA 501 SAFETY & HEALTH STANDARDS FOR GENERAL INDUSTRY

OPEN TO IUOE INSTRUCTORS ONLY

AUTHORIZES INSTRUCTOR TO TEACH: 10- and 30-Hour General Industry Outreach courses.

CRANE OPERATIONS - LMI SETUP & CRANE OPERATIONS

LMI Set-up & Crane Operations (Level 1) - This course is an entry level course on the set up and operations of a mobile crane. This course has classroom and hands-on exercises that cover basic crane knowledge, load charts, daily inspection, LMI set-up, outrigger and jib set-up for a variety of cranes.

Prerequisites for Level 1 – Member must have completed ITEC Level 1 Crane Operations course or be certified/licensed for hydraulic and/or lattice boom cranes. Certifications/licenses include NCCCO, OECP, Red Seal, Connecticut or New York State license.

CERTIFIED POOL OPERATOR

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

INTRODUCTION TO VERMEER PD10 PILE DRIVER OPERATIONS

Introduction to Vermeer PD10 Pile Driver Operations - this course will introduce students to the operating procedures of the Vermeer PD10 Pile Driver, designed for solar field installations. Including setup, breakdown, control functions, and pile driving. This 3-day course will take place in the classroom and outside with hands-on operations.

TESTING & BALANCING FOR AIR & HYDRONIC SYSTEMS

HVAC system efficiency and human comfort are all affected by proper system airflow requirements. Testing, Adjusting, and Balancing (TAB) of an HVAC system is a useful process of measuring and regulating the amount of airflow at each area of the building. Balancing is essential for any HVAC system to perform as per building design and expectations. It is an overall health check for your HVAC system and helps to ensure that you are providing the building occupants with a comfortably conditioned space at the lowest energy cost possible.

A well-balanced system will ensure the right amounts of air are delivered to the right places, at the right temperature, and humidity levels with the least amount of distribution losses. It is important that the air distribution system and duct designs are designed and installed in such a way that the balancing and the measuring of airflow are possible and can be performed accurately.

This course will discuss why balancing an HVAC system is so important, why systems become unbalanced, what the balancing process entails and more. This course will help the student understand the TAB process and interpret the ventilation/balance report information and the process for conducting total system balancing, from start to finish, for basic air systems, hydronic systems, and domestic hot water systems found in commercial buildings. Course topics include document review & preparation for TAB (of air & water systems), site observations, testing for constant & variable air & water system flow rates.

HVAC SYSTEMS 1

Heating Ventilation Air Conditioning and Refrigeration are core topics for Stationary Engineers.

This course is designed to give students an solid understanding of HVACR. After taking this class students will have:

- Knowledge of fundamental refrigeration principles.
- Knowledge of fundamental HVAC principles.
- Knowledge of HVAC system components.
- Knowledge of HVAC control systems.
- Understand air comfort and quality.
- Ability to solder and braze connections for piping systems.

This course includes hands on training with state of the art tools and equipment.

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

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.

BLUEPRINT READING II FOR STATIONARY ENGINEERS

Prerequisite: Students should have taken Blueprint Reading for Stationary Engineers or have similar work experience and blueprint knowledge.

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.

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.

CRANE OPERATIONS - LIEBHERR 81K.1 FAST ERECTING TOWER CRANE ASSEMBLY/DISASSEMBLY

Liebherr 81K.1 Fast Erecting Tower Crane Assembly/Disassembly - This course will cover the manufacturers procedures of erection, dismantle and climbing of the Liebherr 81K.1 Fast Erecting Tower Crane. Also covered is the inspection and setting of all safety limits. Students will gain hands-on experience of the controls for operating while erecting and dismantling the crane. During the multiple erect and dismantles of the crane during the week, changes in jib configuration will be performed. Load testing and programming of operational and load limits will also be performed.