International Union of Operating Engineers

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

Training Course Schedule

Courses from April 12, 2025 - June 11, 2025

Course - Session	Date(s)
2025 New Business Manager/Agent Training	Apr 15, 2025 - Apr 16, 2025
New Organizer Training	Apr 22, 2025 - Apr 25, 2025
Data Center Operations	May 12, 2025 - May 16, 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
OSHA 500 Trainer Course Construction Industry	May 17, 2025 - May 20, 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
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

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Welding	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
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

Training Course Descriptions

2025 NEW BUSINESS MANAGER/AGENT TRAINING

In accordance with Article XXIV, Subdivision 15 of the IUOE Constitution, the 2025 IUOE New Business Manager – Business Agent Training will be held **April 14th - 17th at the ITEC in Crosby, TX.** This training is **MANDATORY** for all new Business Managers and Business Agents who were either elected to office or employed after the most recent training session was conducted back in March 2024. Kindly note, if you were scheduled to take this training in March 2024 and you were unable to do so, then you should register for the 2025 training.

There are two full days (8:00 a.m. to 4:30 p.m.) of training scheduled for each day on Tuesday, April 15th and Wednesday, April 16th, so **ALL attendees should plan to arrive at the ITEC on Monday, April 14th and depart on the morning of Thursday, April 17th.** After you register for the training and make your flight arrangements, a room will be booked for you at the ITEC to coincide with those pre-set arrival and departure dates. The dress code for these training sessions is business casual, (e.g., khakis and collared/golf shirts; dresses/pantsuits, etc.). Jackets and ties are not required for gentlemen, and you are all encouraged to wear shirts with the IUOE steam gauge logo.

NEW ORGANIZER TRAINING

International and Local staff will conduct detailed training sessions on all aspects of organizing workers and contractors. Breakout sessions will focus on issues specific to H&P and Stationary, and general sessions will cover organizing techniques and strategies, legal issues, research and the use of social media and technology in organizing.

This training is designed for organizers with less than two years' experience, but is open to all organizers who have not previously attended. Due to the highly interactive nature of this training, class size will be limited to 30 attendees. New Organizer trainings are held at least twice annually.

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.

OSHA 500 TRAINER COURSE CONSTRUCTION INDUSTRY

OPEN TO IUOE INSTRUCTORS ONLY

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

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.

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

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.

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.

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.

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.

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.

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.

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.

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.

GPS TRAINING FOR INSTRUCTORS ONLY

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

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.