International Union of Operating Engineers

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

Training Course Schedule

Courses from December 4, 2024 - February 2, 2025

Course - Session	Date(s)
Mechanics Training - Hydraulic Fundamentals	Dec 2, 2024 - Dec 6, 2024
Pipeline - Sideboom - Intro to Pipeline Sideboom - KENTUCKY	Dec 2, 2024 - Dec 7, 2024
Pipeline - Sideboom - Intro to Pipeline Sideboom	Dec 2, 2024 - Dec 7, 2024
Pipeline - Excavator procedures for Waterway/Creek Crossings	Dec 2, 2024 - Dec 7, 2024
Pipeline - Excavator Procedures for Existing Live Pipelines - KENTUCKY	Dec 2, 2024 - Dec 14, 2024
Pipeline - Introduction to Horizontal Directional Drilling	Dec 2, 2024 - Dec 7, 2024
Pipeline - Hydro Excavation - Advanced	Dec 2, 2024 - Dec 7, 2024
Pipeline - John Henry Rock Drilling - Kentucky	Dec 2, 2024 - Dec 7, 2024
Welding	Dec 9, 2024 - Dec 13, 2024
Pipeline - Sideboom - Intro to Pipeline Sideboom	Dec 9, 2024 - Dec 14, 2024
Pipeline - Sideboom - Live Draw Works - Kentucky	Dec 9, 2024 - Dec 14, 2024
Pipeline - Excavator - Mat Handling/Bridge Building Training	Dec 9, 2024 - Dec 14, 2024
Pipeline - Introduction to Horizontal Directional Drilling	Dec 9, 2024 - Dec 14, 2024
Pipeline - Hydro Excavation - Advanced	Dec 9, 2024 - Dec 14, 2024
Pipeline - John Henry Rock Drilling - Kentucky	Dec 9, 2024 - Dec 14, 2024
GPS Rover Training for Leica, Topcon and Trimble	Dec 9, 2024 - Dec 13, 2024
Advanced Controls & Building Automation Systems	Dec 14, 2024 - Dec 16, 2024
Pipeline - Sideboom - Intro to Pipeline Sideboom	Dec 16, 2024 - Dec 20, 2024

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Training Course Schedule

Pipeline - Sideboom - Live Draw Works - Kentucky	Dec 16, 2024 - Dec 20, 2024
Pipeline - Excavator - Intro to pipeline excavator	Dec 16, 2024 - Dec 20, 2024
Pipeline - Angle Dozer - Beginner - Kentucky	Dec 16, 2024 - Dec 20, 2024
Pipeline - Trench Box Training	Dec 16, 2024 - Dec 20, 2024
Pipeline - Introduction to Horizontal Directional Drilling	Dec 16, 2024 - Dec 20, 2024
Pipeline - Bending Operations	Dec 16, 2024 - Dec 20, 2024
Pipeline - Hydro-Excavation	Dec 16, 2024 - Dec 20, 2024
Pipeline - John Henry Rock Drilling - Kentucky	Dec 16, 2024 - Dec 20, 2024
GPS Machine Control Training	Dec 16, 2024 - Dec 20, 2024
Pipeline - ONLINE OILER TRAINING	Jan 1, 2025 - Jan 1, 2025
Pipeline - Sideboom - Hydraulic Controls	Jan 6, 2025 - Jan 25, 2025
Pipeline - Sideboom - Intermediate with Winching- KENTUCKY	Jan 6, 2025 - Jan 25, 2025
Pipeline - Excavator - Intermediate	Jan 6, 2025 - Jan 25, 2025
Pipeline - Excavator - Rough Terrain/Hill Procedures - KENTUCKY	Jan 6, 2025 - Jan 25, 2025
Pipeline - Excavator - Mat Handling/Bridge Building Training	Jan 6, 2025 - Jan 11, 2025
Pipeline - Angle Dozer - Intermediate	Jan 6, 2025 - Jan 25, 2025
Pipeline - Angle Dozer - Rough Terrain/Hill Procedures/Winching - KENTUCKY	Jan 6, 2025 - Jan 25, 2025
Pipeline - Horizontal Directional Drilling with Mud Reclamation System	Jan 6, 2025 - Jan 25, 2025
Pipeline - Vacuworxs Pipelifter	Jan 6, 2025 - Jan 11, 2025

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Pipeline - Hydro-Excavation	Jan 6, 2025 - Jan 11, 2025
Chief Engineer/Facility Management Seminar	Jan 6, 2025 - Jan 10, 2025
Electrical Systems 1	Jan 6, 2025 - Jan 10, 2025
Excavation Operations	Jan 6, 2025 - Jan 10, 2025
GPS Machine Control Training	Jan 6, 2025 - Jan 10, 2025
Crane Operations - Practical Testing for NCCCO Certification	Jan 6, 2025 - Jan 10, 2025
Welding	Jan 6, 2025 - Jan 10, 2025
Asphalt Milling Machine Operations	Jan 7, 2025 - Jan 9, 2025
Asphalt Paving Operations	Jan 7, 2025 - Jan 9, 2025
Basic Controls and Building Automation Systems	Jan 11, 2025 - Jan 13, 2025
Blueprint Reading for Stationary Engineers	Jan 12, 2025 - Jan 16, 2025
Pipeline - Excavator procedures for Waterway/Creek Crossings	Jan 13, 2025 - Jan 18, 2025
Pipeline - Vacuworxs Pipelifter	Jan 13, 2025 - Jan 18, 2025
Pipeline - Hydro-Excavation	Jan 13, 2025 - Jan 18, 2025
GPS Overview - Introduction to GPS	Jan 13, 2025 - Jan 17, 2025
Motorgrader Operations	Jan 13, 2025 - Jan 17, 2025
Crane Operations - Intro To Tower Crane Operations	Jan 13, 2025 - Jan 17, 2025
Crane Operations - Intro To Luffing Crawler Crane Operations	Jan 13, 2025 - Jan 17, 2025
Asphalt Milling Machine Operations	Jan 14, 2025 - Jan 16, 2025

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Training Course Schedule

Electrical Troubleshooting & Variable Frequency Drive Operations	Jan 17, 2025 - Jan 20, 2025
Pipeline - Excavator procedures for Waterway/Creek Crossings	Jan 20, 2025 - Jan 25, 2025
Pipeline - Vacuworxs Pipelifter	Jan 20, 2025 - Jan 25, 2025
Pipeline - Hydro-Excavation	Jan 20, 2025 - Jan 25, 2025
Data Center Operations	Jan 20, 2025 - Jan 24, 2025
Low Pressure Boiler Operations	Jan 20, 2025 - Jan 24, 2025
Motorgrader Operations	Jan 20, 2025 - Jan 24, 2025
Crane Operations - Level 1 Crane Operations for Beginners	Jan 20, 2025 - Jan 24, 2025
Crane Operations - Crane Standards Training and Load Chart Review for Written Exam – Mobile Cranes	Jan 20, 2025 - Jan 23, 2025
Crane Operations - Level 2 Luffing Crawler Crane Operations	Jan 20, 2025 - Jan 24, 2025
40-Hour HAZWOPER	Jan 20, 2025 - Jan 24, 2025
Asphalt Milling Machine Operations	Jan 21, 2025 - Jan 23, 2025
Asphalt Paving Operations	Jan 21, 2025 - Jan 23, 2025
Boiler Operations 1	Jan 22, 2025 - Jan 26, 2025
NATE Test Prep	Jan 22, 2025 - Jan 24, 2025
Pipeline - Sideboom - Hydraulic Controls	Jan 27, 2025 - Feb 15, 2025
Pipeline - Sideboom - Live Draw Works - Kentucky	Jan 27, 2025 - Feb 1, 2025
Pipeline - Excavator - Intermediate	Jan 27, 2025 - Feb 15, 2025

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Training Course Schedule

Pipeline - Excavator - methods for longwall pipeline activities - KENTUCKY	Jan 27, 2025 - Feb 8, 2025
Pipeline - Angle Dozer - Intermediate	Jan 27, 2025 - Feb 15, 2025
Pipeline - Trench Box Training	Jan 27, 2025 - Feb 1, 2025
Pipeline - Horizontal Directional Drilling with Mud Reclamation System	Jan 27, 2025 - Feb 15, 2025
Pipeline - Bending Operations	Jan 27, 2025 - Feb 1, 2025
Pipeline - Vacuworxs Pipelifter	Jan 27, 2025 - Feb 1, 2025
Pipeline - Hydro-Excavation	Jan 27, 2025 - Feb 1, 2025
Testing & Balancing for Air & Hydronic Systems	Jan 27, 2025 - Jan 31, 2025
Crane Operations – Tower Crane Standards Training & Load Chart Review / NCCCO Practical Testing for Tower Crane Certification	Jan 27, 2025 - Jan 31, 2025
Welding	Jan 27, 2025 - Jan 31, 2025
Asphalt Milling Machine Operations	Jan 28, 2025 - Jan 30, 2025
Advanced Controls & Building Automation Systems	Feb 1, 2025 - Feb 3, 2025

Training Course Descriptions

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.

PIPELINE - SIDEBOOM - INTRO TO PIPELINE SIDEBOOM - KENTUCKY

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 - 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.

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- 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 PROCEDURES FOR WATERWAY/CREEK CROSSINGS

This is a one week course, 6 days, Monday - Saturday. 10 hours of training each day.

In this course operators will cover the following:

- Learn the proper excavation techniques of box sags.
- Learn the proper excavation techniques of sweeping sags.
- Learn how to properly open cut a creek/waterway utilizing a flume pipe.
- Learn how to properly thread a section of pipe under a flume pipe and lay the section in the waterway/creek.
- Learn how to properly backfill a creek/waterway.
- Learn how to carry a box sag and a sweeping sag.
- Learn how to properly relay dirt utilizing 2 or more excavators.

PIPELINE - EXCAVATOR PROCEDURES FOR EXISTING LIVE PIPELINES - KENTUCKY

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

PIPELINE - INTRODUCTION TO HORIZONTAL DIRECTIONAL DRILLING

This a one week course consisting of 6 days total, Monday - Saturday. The course will run 10 hours a day consisting of a mix of classroom and field training. No Prior drill experience is required. Apprentices and Journeyman are encouraged to apply. Members from all industry backgrounds are also encouraged to apply.

During the class, the operator will be introduced to the HDD machine and the following subjects will be covered:

- Introduction to the DitchWitch JT-40 HDD system
- Introduction to the Falcon F-5 locating system along with subsite marksman+
- Introduction to the latest GPS versions
- The basic functions of the drill will be covered
- Safety
- Vocabulary

PIPELINE - HYDRO EXCAVATION - ADVANCED

ADVANCED HYDRO-EXCAVATION CLASS

This class is one week in length; six days total, Monday – Saturday, the class runs 10 hours a day. The class will consist of one instructor and four students.

As the pipeline industry evolves, hydro-excavation is becoming one of the most popular way among gas companies to pothole/locate and excavate their existing hotlines. Hydro-excavation is considered one of the safest and most efficient ways to excavate and locate pipelines. As the demand for these machines rise in the industry, so will the demand for the skilled operators to operate them. This is a highly recommended course.

In this class the operator will have the opportunity to utilize the Hydro-excavation machine to locate underground utilities. In addition, we will be working inside a existing mock pipeline station to expose the underground utilities, digging a bell hole around the utilities, etc. This class is delivering/preparing operators for the future as this type of work continues to explode for the Operating Engineers.

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

WELDING

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

PIPELINE - SIDEBOOM - LIVE DRAW WORKS - KENTUCKY

Sideboom - Intermediate training

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 2 hours of classroom training followed by 8 hours of practical field training.

Classes are intended for experienced operators, although apprentices with journeyman level skills are encouraged to apply. A proficiency test will be given at the beginning of the course.

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

- A pipeline spread - Explain in depth each individual crew
- Live Draw works controls
- How to properly steer the sideboom around obstacles while carrying a section of pipe.
- How to catch the load that is being carried
- How to cross-clutch
- How to correctly carry pipe with the aid of a swamper
- How to carry a section of pipe with one or multiple machines
- Pipeline terminology and vocabulary
- Safety

PIPELINE - EXCAVATOR - MAT HANDLING/BRIDGE BUILDING TRAINING

This is a one week course. The course will be 6 days in length, Monday - Saturday consisting of 10 hours a day of field training. Apprentices and Journeyman are encouraged to apply. A proficiency test will be given at the beginning of the class.

During the class, the operator will be challenged with different tasks utilizing mats.

- carrying single or multiple mats
- building bridges across wetlands or creek crossings
- rip-rapping mats
- lay mats down on the ROW
- Work with multiple excavators laying down large bridge mats

GPS ROVER TRAINING FOR LEICA, TOPCON AND TRIMBLE

GPS Rover Training - This course will focus on all three Major systems; Leica, Trimble, Topcon.
Members will learn the basics of all three systems during class room hours and will be given the option to focus on any one of the three systems in the field. Field exercises will include but are not limited to; Volume Calcs, Lay out, Grade Checking, Line work and Surface creation, Calibrating and set up of a job site, Importing and Exporting from Rover to Machine and Machine to Rover.
Total Station set up will also be taught.

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 - 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 - KENTUCKY

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 - TRENCH BOX TRAINING

This is a one week specialized class, the class will run 6 days/week, 10 hours a day. This class is intended for experienced/profient excavator operators.

In this course the operator will learn the following:

1. Proper procedures to assemble and disassemble a trench box

2. Proper procedures to carry a trench box in the pipeline industry

3. Different scenarios that a trench box is used for in the pipeline industry

4. Proper excavation procedures for the installation of a trench box

5. Proper backfill procedures for the installation of a trench box

6. Proper removal process for a trench box

This class will consist of field training with very little classroom time.

PIPELINE - BENDING OPERATIONS

BENDING OPERATIONS CLASS

This class is one week in length; six days total, Monday-Saturday, the class runs 10 hours a day. This class will consist of one instructor and 5 students.

Classes are intended for members with mathematical skills. This course will prepare you for working in the pipe bending operations of a pipeline project. The member needs to be prepared to learn a vast amount of knowledge in one week.

Classroom instruction involves mathematical formulas.

The Operations of this class will consist of the following:

- Calculating the circumference of a given diameter of pipe.
- Calculating simple bends.
- Calculating multiple bends in a single joint of pipe.
- Calculating Max degree of pull
- Establishing pin up mark
- Set-up and operation of mandrel " dependent on mandrel availability"

Students will have hands-on training in the operation of the bending machine and will have an opportunity to bend a joint of pipe. There is also hands on instruction in the use of digital protractors, scientific calculators, seam charts and pipe markings.

Also discussed are the enormous safety concerns that go along with bending pipe.

PIPELINE - HYDRO-EXCAVATION

HYDRO-EXCAVATION CLASS

This class is one week in length; six days total, Monday – Saturday, the class runs 10 hours a day. The class will consist of one instructor and four students.

As the pipeline industry evolves, hydro-excavation is becoming one of the most popular way among gas companies to pothole/locate and excavate their existing hotlines. Hydro-excavation is considered one of the safest and most efficient ways to excavate and locate pipelines. As the demand for these machines rise in the industry, so will the demand for the skilled operators to operate them. This is a highly recommended course. This class is no longer utilizing a Morooka mounted unit, the class has been upgraded to an actual Hydrovac Truck.

In this class the operator shall learn:

- The basic controls of a Vermeer VTX300 Hydro-vac Truck.
- The fundamentals for locating pipelines.
- How to locate a pipeline without damaging the protective coating.
- How to excavate a pipeline without damaging the protective coating
- Learn different trenching techniques.
- Learn the different nozzle selection
- Environmental concerns
- Maintenance
- Safety
- Terminology

GPS MACHINE CONTROL TRAINING

GPS Machine Control - This course will cover the three Major GPS machine control systems; Topcon , Trimble , and Leica. The majority of class time will be spent in the field, where members will be given the option to use the GPS brand of their choice. Indoor class time including any rainy days will be spent going over every aspect of the different software systems via PC Simulators. Members wishing to focus on one GPS system are free to do so (pending availability). Members wanting an overview of all three systems will have that option as well.

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.

PIPELINE - SIDEBOOM - HYDRAULIC CONTROLS

SIDEBOOM – INTERMEDIATE TRAINING

This class is a three week course. The course schedule is 10 hours a day, 6 days a week, Monday - Saturday. A typical day will consist of 2 hours of classroom training followed by 8 hours of practical field training.

Classes are intended for experienced operators, although apprentices with journeyman level skills are encouraged to apply. A proficiency test will be given at the beginning of the course.

This course will 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 while carrying a section of pipe
- How to catch the load that is being carried
- How to carry a load using one sideboom or multiple machines
- How to correctly carry a joint of pipe with the aid of a swamper
- The multiple uses of a sideboom through various stages of pipeline construction
- Pipeline terminology and vocabulary
- Safety

PIPELINE - SIDEBOOM - INTERMEDIATE WITH WINCHING-KENTUCKY

Sideboom - Intermediate with Winching

This class is a three week course. The course schedule is 10 hours a day, 6 days a week, Monday-Saturday. A typical day will consist of 2 hours of classroom training followed by 8 hours of practical field training. Sidebooms utilized in this course are Hydraulic and Live tractors.

Classes are intended for experienced operators, although **apprentices with journeyman level skills** are encouraged to apply. A proficiency test will be given at the beginning of the course.

This course will 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 be winched by a single tractor.
- The proper procedures to be winched over different terrains and conditions.
- The proper procedures of multiple tractors being winched at the same time.
- How to properly carry a section of pipe down a slope.
- How to “stove-pipe” and lower-in pipe on a slope.
- How to deal with endo/pipe movement.
- How to properly cross-clutch steer on a hillside.
- Pipeline terminology and vocabulary
- Safety

PIPELINE - EXCAVATOR - INTERMEDIATE

EXCAVATOR – INTERMEDIATE TRAINING

This class is a three week course. The course schedule is 10 hours a day, 6 days a week, MondaySaturday. A typical day will consist of 2 hours of classroom training followed by 8 hours of practical field training.

Classes are intended for experienced operators, although apprentices with journeyman level skills are encouraged to apply. A proficiency test will be given at the beginning of the course.

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

- A pipeline spread – Explain in depth each individual crew
- All the various applications of an excavator throughout the many different stages of construction
- How to dig a pipeline sloped ditch

- How to dig the point of intersections
- How to dig safe bell holes
- How to properly plug out
- How to dig road bore approaches and creek crossings
- How to dig for a box sag
- Understanding the pipeline terminology and vocabulary words
- Safety

PIPELINE - EXCAVATOR - ROUGH TERRAIN/HILL PROCEDURES - KENTUCKY

EXCAVATOR – INTERMEDIATE Winching

This class is a three week course. The course schedule is 10 hours a day, 6 days a week, Monday-Saturday. A typical day will consist of 2 hours of classroom training followed by 8 hours of practical field training.

Classes are intended for experienced operators, although **apprentices with journeyman level skills** are encouraged to apply. A proficiency test will be given at the beginning of the course.

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

- A pipeline spread – Explain in depth each individual crew
- All the various applications of an excavator throughout the many different stages of construction
- How to dig a pipeline sloped ditch on a slope.
- How to dig the point of intersections on a slope.
- How to dig safe bell holes on a slope.
- How to properly plug out on a slope.
- How to dig road bore approaches and creek crossings in the hills.
- The proper procedures to dig ditch in the hills.
- How to dig layered rock.
- How to be properly winched by a winch tractor.
- How to properly dig utilizing a winch line.
- How to properly walk with a winch tractor.
- How to properly build water – breakers.
- Understanding the pipeline terminology and vocabulary words.

- Safety

PIPELINE - ANGLE DOZER - INTERMEDIATE

ANGLE DOZER - INTERMEDIATE

This class is a three week course. The course schedule is 10 hours a day, 6 days a week, Monday - Saturday. A typical day will consist of 2 hours of classroom training followed by 8 hours of practical field training.

Classes are intended for experienced operators, although apprentices with journeyman level skills are encouraged to apply. A proficiency test will be given at the beginning of the course.

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

- A pipeline spread – Explain in depth each individual crew
- How to build different types of pipeline Right-of-way
- How to properly topsoil a pipeline Right-of-way
- How to make a two-tone 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 - ANGLE DOZER - ROUGH TERRAIN/HILL PROCEDURES/WINCHING - KENTUCKY

Angle Dozer - Intermediate with Winching

This class is a three week course. The course schedule is 10 hours a day, 6 days a week, Monday-Saturday. A typical day will consist of 2 hours of classroom training followed by 8 hours of practical field training.

Classes are intended for experienced operators, although apprentices with journeyman level skills are encouraged to apply. A proficiency test will be given at the beginning of the course.

This course will prepare you for working in the pipeline industry. Safety will be a big topic of discussion in this class as the winch operation is very dangerous work if done the improper way. The following subjects will be covered:

- A pipeline spread - Explain in depth each individual crew
- All the various applications of the winch
- How to efficiently and safely trip the cable while winching
- How to winch with multiple machines involved
- Learn the safety hazards involved with the winch operations
- How to properly hook up to another machine
- How to properly winch a sideboom or hold an excavator on a hillside
- 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
- Understand the importance of communication on the jobsite
- Safety

PIPELINE - HORIZONTAL DIRECTIONAL DRILLING WITH MUD RECLAMATION SYSTEM

HORIZONTAL DIRECTIONAL DRILLING WITH THE MUD RECLAMATION SYSTEM

This class is a three week course. The course schedule is 10 hours a day, 6 days a week, Monday-Saturday. A typical day will consist of 2 hours of classroom training followed by 8 hours of practical field training.

This class will start with the basic operation of the HDD machine first, as the class progresses, the operator will be challenged to operate the HDD in more complex scenarios all while incorporating the use of the Vermeer 250C mud reclamation system.

This course will prepare you for the HDD operations in the pipeline industry and the utility industry. The following subjects will be covered:

- How to drill various materials using different accessories
- Applications of the HDD machine in pipeline construction and in the utility industry.
- The different procedures of mixing chemicals for the mud tech position.
- How to use the F-5 Falcon locating instrument that tracks the drill stem.
- How to Log Bore while drilling.
- How to use the Kemtron 600X reclaimer system in conjunction with the drilling machine.
- How to use and understand different drilling profiles either by hand or the program itself.
- Explain how to understand clearance problems.
- How to use the Vermeer projects software system including all GPS components.
- How to send edit/send an LWD to a contractor successfully.
- Proper maintenance of an HDD machine.
- Terminology
- Safety

PIPELINE - VACUWORXS PIPELIFTER

VACUWORXS PIPELIFTER

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 5 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 class will prepare the operator for the pipe handling procedures used in the pipeline industry. The subjects covered will be:

- Loading and unloading a stringing truck
- Proper procedure for racking pipe in a pipe yard
- Proper procedure for stringing pipe down the right of way
- How to look for proper chocking of the pipe
- How to properly carry a joint of pipe up hills and down hills
- How to carry pipe underneath overhead power lines
- Overall safety
- Maintenance
- Pipeline terminology

CHIEF ENGINEER/FACILITY MANAGEMENT SEMINAR

This Seminar is designed for chief engineers or engineers training to make the transition to chief or lead engineer. This seminar will provide the student the necessary administrative and personnel skills to handle the day-to-day leadership challenges associated with this position.

The ten sections are:

- Recommended Skills levels

- Planning and Time Management
- Budget Preparation
- Computer Applications
- Record Keeping
- Benefits of an Internal Work Force
- Reports and Presentations
- Health and Safety
- Human Relations
- Energy Conservation.

The Chief Engineers class has been updated as a Blended Learning Environment, in which traditional face-to-face instruction is also supplemented with specific computer assisted Learning. The purpose is to take advantage of the best features of both face-to-face and computer assisted learning in the same classroom setting. During class you will be given a set of credentials and guided how to log onto the platform. Once logged in, you will be instructed on how to use and navigate the system. Additionally, while performing some of the class exercises, you will be using various types of software for letter writing, email, budgets, presentations etc. With all that said, it would be advantageous if each member would bring their own laptop computer to class, being that some of these exercises will remain on the computer for the student's future reference. If you cannot bring your own laptop computer or you do not own a laptop computer, we can provide a computer for you to use during the class.

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.

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.

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

ASPHALT MILLING MACHINE OPERATIONS

In this course students will learn the operations of a Wirtgen Asphalt Milling machine from Factory trainers. This is a 3 day course that will include classroom and hands-on operations.

ASPHALT PAVING OPERATIONS

An Introduction into the Asphalt Paving Process. This course will cover the safety aspects as well as the responsibilities of the Operatiing Engineer during the paving process.

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.

GPS OVERVIEW - INTRODUCTION TO GPS

GPS Overview (Introduction to GPS) - This course will cover the basics of Rover, Machine Control, CAD software (Trimble Business Center) and Drone processing. Members will learn a basic overview of GPS from the building of a simple model in CAD, to the staking, to the infield building with Machine Control.
All Levels of experience are invited. There will be something for everyone, whether you're seeing GPS concepts for the first time or come with years of experience and just want to sharpen your skills.

MOTORGRADER OPERATIONS

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

CRANE OPERATIONS - INTRO TO TOWER CRANE OPERATIONS

Introduction to Tower Crane Operations (Level 1) - This course is for students with previous crane experience. The course will introduce students to three types of tower cranes: Hammerhead tower cranes, luffing boom tower cranes and self-erecting tower cranes. This course will cover cab controls and operating procedures. A major portion of the class will be hands on exercises teaching load control and operational dynamics.

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.

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.

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.

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

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.

CRANE OPERATIONS - CRANE STANDARDS TRAINING AND LOAD CHART REVIEW FOR WRITTEN EXAM – MOBILE CRANES

Crane Operations – Crane Standards Training and Load Chart Review for Written Exam – Mobile Cranes - This course will include standards from OSHA 1926.1400 and ASME B30.6, load chart and range diagram review.

CRANE OPERATIONS - LEVEL 2 LUFFING CRAWLER CRANE OPERATIONS

Level 2 Luffing Crawler Crane Operations - This course is available to members that have successfully completed an Intro to Luffing Crawler Cranes Operations course at ITEC.

Prerequisites: Member must also be certified/licensed for mobile hydraulic and/or lattice cranes. Certifications/Licenses include OECP, NCCCO, Red Seal.

40?HOUR HAZWOPER

Required for workers that perform activities that expose or potentially expose them to hazardous substances. This course is specifically designed for workers who are involved in clean-up operations, voluntary clean-up operations, emergency response operations, and storage, disposal, or treatment of hazardous substances or uncontrolled hazardous waste sites. Topics include protection against hazardous chemicals, elimination of hazardous chemicals, safety of workers and the environment and OSHA regulations. This course covers topics included in 29 CFR 1910.120.

BOILER OPERATIONS 1

The Boiler Operation 1 course is an introductory course that will provide stationary engineers and maintenance personnel a foundational understanding of boilers, steam and heating. Students will learn how boiler systems work, gain an understanding of boiler safety and learn about various boiler fittings and accessories. Upon completing the class, students will understand basic heat and steam principles, and know how to safely perform an inspection of an operating boiler.

NATE TEST PREP

North American Technician Excellence (NATE) is a non-profit certification organization for HVAC-R technicians. The ITEC is an official NATE Testing Organization.

The NATE Prep is offered at the ITEC is designed for journey level engineers who have knowledge of fundamental electrical, HVAC and refrigeration principles, as well as practical field experience. The 3-Day prep session will review electrical theory, safety, circuits, troubleshooting and formulas. The session will also review HVAC system components, system operations and maintenance, system controls, refrigeration principles and air conditioning troubleshooting. The review will assist students to take the NATE "Core" and "Air Conditioning and Heat Pumps" certification tests. Both tests will be administered during the 3-day session and students must pass both tests to achieve NATE certification. Information about NATE tests and the purchase of study guides can be found at natex.org. (https://natex.org/)

It is recommended to have and review both study guides prior to the session.

Core - NATE (natex.org) Air Conditioning and Heat Pumps - NATE (natex.org)

There is $140 fee to be paid by the student for each test. (Test pricing subject to change per NATE)

PIPELINE - EXCAVATOR - METHODS FOR LONGWALL PIPELINE ACTIVITIES - KENTUCKY

This class will be 2 weeks in length, 6 days a week, Monday - Friday, 10 hours a day. This class is geared toward the construction activities that are happening in the eastern portion of the United States and the effects that the Long Wall Coal mining operations are having on the pipeline infrastructure. The following subjects will be covered:

1. The proper procedures to isolate both ends of the pipeline and excavate the pipeline.

2. The proper procedures to strip open the pipeline that is loaded/live.

3. How to properly work with a dozer while stripping open a loaded/live pipeline.

4. How to install air bridges, where to install air bridges.

5. Discuss how to install Stopples.

6. Discuss the process of cutting sections out of the pipeline.

7. Discuss and review environmental concerns.

8. Proper ditch digging procedures

9. Environmental concern

10. Discuss monitors and strain gauges

11. other activities may include - pot-hole procedures, trench box procedures, loading and unloading pipe, carrying pipe, and fabrication.

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.

CRANE OPERATIONS – TOWER CRANE STANDARDS TRAINING & LOAD CHART REVIEW / NCCCO PRACTICAL TESTING FOR TOWER CRANE CERTIFICATION

Training Course Schedule

Crane Operations – Tower Crane Standards Training & Load Chart Review / NCCCO Practical Testing for Tower Crane Certification - This course will include standards from OSHA 1926.1435 and ASME B30.3, load chart and range diagram review.

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 for Tower Crane only.

Members must bring PPE to include hardhat, boots, gloves, safety vest and safety glasses to training.