

# OPERATING ENGINEERS 112 TRAINING



# TABLE OF CONTENTS

3	MISSION STATEMENT
4	LETTER FROM BUSINESS MANAGER
6	TRAINERS AND STAFF
8	TRAINING CENTER PROCEDURES
14	TRAINING SITE TOUR
21	CLASSES
31	THE TRAINING FUND BOARD

# MISSION STATEMENT

The mission of Local 112's Training Center is to provide a training program that is equipped with the necessary technologies and staff to properly prepare its students for success in the field. The Training Center vows to constantly seek and adapt to new technologies as they become available to ensure that their students will maintain the highest quality professionals in the industry. Safety culture will be taught at the Training Center in a manner it will be carried into the field. Local 112's Training Center pledges that it will employ tactics to not only maintain a workforce that has the proper qualifications but also the attitudes and behaviors for complete success of the students and the contractors they work for.

# LETTER FROM THE BUSINESS MANAGER

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**RANDALL HUGHES**  
BUSINESS MANAGER  
PRESIDENT

I'd like to personally welcome members and contractors to Local 112's Training Center. As Business Manager of this fine organization, please let me extend my sincerest appreciation for your interest in our training program. In an industry so dependent on technology and its advancements, we realize the value of education and training. It has been, and always will be, our priority. We pride ourselves on our ability to provide a workforce that is the most highly skilled and dependable in the industry, and by exploring our training catalog, I believe you will begin to understand how this is achieved.

As you browse our catalog, there are some important things that I would like you to keep in mind. First, this is not a traditional technical school. Our training facility is much more than that. We operate independently and are not making a profit. Further, we receive absolutely no funding from tax dollars. To function we rely only on contributions negotiated through our training trust.

Next, our state of the art facility, centrally located in Anderson, Indiana, is open to all Local 112 members. All of our instructors have spent considerable time working in the industry and are able to utilize their practical experience when teaching material to our members. Our instructors are dedicated to building a partnership between our organization, members and contractors. Our investment to this relationship is demonstrated through our field mentoring program where we extend our instructors into the field as a support system.

Last, our goal in training is only to meet the needs of our members and contractors. Each year we base our course offerings on industry demands. Additionally, when there are changes or advancements in the industry, our facility and our courses will adapt rapidly. The benefit that our training provides our members is obvious, but it is important to know that we are just as invested to providing equitable value for our contractors. We are focused on teaching proper skills and behaviors that will make our members the most successful employees.

Our commitment to training is what puts us in a category of our own. This facility and our instruction provide our members with prosperous careers and our contractors with a solid foundation for growth and stability. We look forward to serving you and continuing to meet the needs of our industry.

# YOUR CAREER STARTS HERE

If you like technology, being outdoors, solving problems and working with your hands, this is your future. Enjoy a satisfying career that will support a happy and healthy lifestyle for you, and for your family.

As an IUOE 112 member, you'll receive the best skilled Non-Destructive Testing (NDT) training available without the massive burden of college debt.

# MEET OUR TEAM



**STEVE MCELHANNON**  
INSTRUCTOR



**GREG HUNTER**  
INSTRUCTOR



**JOHN STILSON**  
INSTRUCTOR



**DENNIS SMITH**  
INSTRUCTOR



**BRIAN RAWLINGS**  
INSTRUCTOR



**LANNIE MOORE**  
INSTRUCTOR



**JUSTIN HICKS**  
INSTRUCTOR



**MEGAN DOUGLAS**  
TRAINING SECRETARY



**WILLIAM SEATON**  
BUILDING MAINTENANCE

# INSIDE LOCAL 112 TRAINING CENTER

The training and certifications required to work in the NDT Field can cost tens of thousand of dollars.

As an IUOE 112 member, you will receive free career-long training and re-training as technology changes.

We also advise and help our members move up to higher pay grades as their experience and skills grow.

On top of all that our training is the best out there!

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## CONDUCT

The Terms and Conditions set forth by the International Union of Operating Engineers Local 112 NDE Training Fund followed by all members attending training.

1. Smoking in designated areas only.
2. No fire arms or weapons of any kind.
3. No Profanity.
4. No use of cell phones during class.
5. Proper attire (no shorts, sleeveless shirts, pajamas, jogging pants, or inappropriate shirts).
6. Do not spit gum or tobacco in bathroom facilities.
7. Do not leave spit cups, bottles, cans, etc. sitting around.
8. Respect others in your class as well as other classes by keeping voices down.
9. Leave all areas as you found them.
10. Respect Local 112 staff and NDE employees.
11. Respect the hotels and hotel staff as they make special arrangements for anyone attending the NDE Training fund classes.

## TRAINING CALENDAR

A typical training season starts in November and ends in May. Although classes are still offered throughout the year on an as-needed basis by contractor demands. Students attending the training site will attend class seven days a week. The operating hours will run 8am until 6pm. Instructors are accommodating when additional hours are requested by a student.

These holidays are observed during training: New Year's Eve, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Eve and Christmas Day.

# INSIDE LOCAL 112 TRAINING CENTER

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## SCHEDULING

An initial schedule comes out every twelve months with classes added by demand. This schedule is customized each year with upcoming work taken into consideration. In events where there is a high demand for specific classes the Training Center will add them as necessary.

## FIELD MENTORING

Instructors make every curriculum as close to field conditions as possible. Local 112's training program offers a field mentoring service. Local 112 recognizes the investment that is put into an inspector and is committed to their success. Field mentoring is a service provided in the field to ensure success of the student. A field instructor will work side by side with the student after they leave the Training Center and return to their employment. This service is used on an as-needed basis. This is coordinated for a request by the contractor to Local 112's Training Center.

## ENTRANCE REQUIREMENTS

The only requirement that the Training Center has for a member seeking training is that they must be in good standing with their membership and have a minimum of one year of membership. There is not a requirement for a High School Diploma or G.E.D., although many of Local 112's signatory contractors do have their own requirements and often require one.

## PLACEMENT

Any member has the right to sign up for any class that is offered if the requirements are met. In a case where the number of applicants exceeds the maximum class size, preference will be given. This preference is dictated by taking into consideration the upcoming workload by the contractors that are sending employees. Contractors that have a demand for the class will be accommodated first. To accommodate the needs and demands when a class is overbooked the option to add an additional class will always be explored.

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## ATTENDANCE

Students are expected to attend all scheduled days of school. When a student shows up late for class there is one warning issued. Upon a second time being late for class the student will be dismissed from the class.

## HOTEL ACCOMMODATIONS

Hotel accommodations will be made by the Training Office after confirming all members that will be attending. There are multiple hotels in Anderson, IN and most are within four miles of Local 112's Training Site. Check-in will be set for the day before the class begins. Check-out will be set for the day after training is completed. Hotels can vary but typical check-in starts at 3pm and check-out is at noon. Early check-in and late check-out can be requested by contacting the hotel directly.

## TRAVEL EXPENSES, PER DIEM AND DAILY ALLOWANCE

Students will be reimbursed for travel to and from Local 112's Training Center.

If **Flying** is chosen as transportation, then the student shall book their own coach airfare and upon submitting the receipt will be reimbursed the full amount. The airfare receipt should be submitted when arriving at the Training Center. If transportation (taxi, Uber or Lyft) is needed to and from the airport, that will be fully reimbursed. The receipt should be submitted with the airfare upon arrival.

If **Driving** is chosen as transportation, then the student will be paid mileage. The rate of mileage that is paid will be equal to the IRS's standard mileage rate. If the student is traveling from further than 500 miles away, then per diem is paid. The per diem will be paid for the day before training begins and the day after training is completed. This payment is to accommodate the need for a hotel when driving this distance. The per diem rate will match the amount outlined in the current contract.

# INSIDE LOCAL 112 TRAINING CENTER

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## REGISTRATION PROCESS

Registration shall be completed at [iuoe112.org](http://iuoe112.org). After signing into the members portal, there will be a link under “Training” to register. The website will have a form students need to fill out with basic information after selecting a class group. When a state card is required, an area is provided to upload the needed information. There will be an additional form to fill out when students have been accepted into a class group.

## CLASS GROUPS

1. **RT1, MT1 and PT1**  
Requires state card to attend
2. **RT2, MT2, PT2, UT-Ascan, VT1 and VT2**  
Requires Group 1 to be completed through Local 112’s Training Center
3. **UT1 and UT2**  
Requires one-year field experience
4. **CR and DDA**  
Requires RT2 to be completed through Local 112’s Training Center
5. **ToFD and Phased Array**  
Requires UT2 to be completed through Local 112’s Training Center
6. **PLI**  
Requires UT2 and MT2 to be completed through Local 112’s Training Center
7. **AUT** (Rotoscan, Pipewizard, Weldstar, or Shaw System)  
Requires ToFD and Phased Array to be completed through Local 112’s Training Center

## PASSING REQUIREMENTS

All classes require perfect attendance.

Level 1 UT, MT, PT, RT and VT will require a minimum of 80% on all tests.

Level 2 UT, MT, PT, RT, VT, ToFD, PA, PLI, CR and DDA will require a minimum of 70% on all tests with a minimum combined average of 80%.

ClickSafety, OSHA, CPR or Driving Courses are needed so they will be scheduled while attending class and must be complete courses, before students receive their qualification. If a student has completed any of these course but they are within one year of expiration, then they must also be taken at this time.

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## **IN THE EVENT OF FAILURE**

If a student fails a class while at Local 112's Training Center they will need to wait twelve months before reapplication. If a student fails a second time it will be the decision of the Training Board to grant a third attempt. If the Training Board grants a third attempt, the individual would then be financially responsible for their expenses to be retrained.

When a student takes MT, PT and RT they must pass all courses. In the event of failure, they will be required to retake all three courses again. If an individual fails any portion of MT, PT or RT his or her training will end immediately. Also, in addition to their twelve-month waiting period they must also log 1,500 hours total with any combination of the three methods.

## **EYE EXAMS**

To ensure compliance with the ASNT 189 standards, Local 112's Training Center is authorized to administer eye exams including; near vision, color and gray scale. This completes the process for students to have a proper eye exam done to obtain their qualification.

## **OPERATOR QUALIFICATION**

Local 112's Training Center works jointly with Veriforce and NCCER. This is to ensure all proper documentation is submitted for all students to obtain an Operator Qualification.

Our commitment to training extends onto the job site with field mentoring at no additional cost.

# OUR WORLD CLASS TRAINING FACILITY

This state of the art training center is centrally located in Anderson, IN. Our focus is to provide the most comprehensive training in the Non-Destructive Testing and Pipeline Inspection industry.



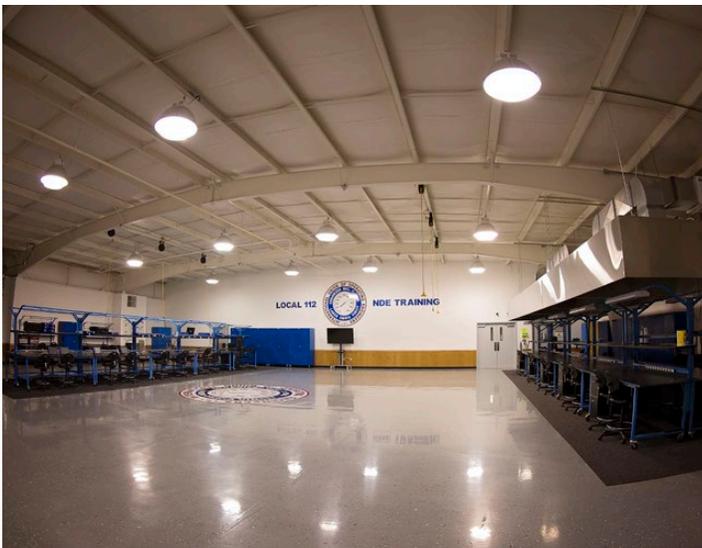
## ADVANCED PIPELINE INTEGRITY CLASSROOM

This classroom is located off the indoor training arena. This houses the more advanced technologies of pipeline integrity. Some of the highlights include Creaform Laser Scanner and two c-mapping systems; one from Scantech and the other from AUT Solutions.



## AUT TRAINING ROOM AND STATIONS

This training room always has three AUT Systems, one Pipe Wizard and two Weldstars. There are numerous Flawtech plates and other training aides used for practical application. Through Local 112's partnership with Jan-X and Stanley we also have their proprietary AUT machines on loan when teaching a class.



## AUXILIARY TRAINING BAY

This 6,400 sq.ft. multipurpose bay can be utilized for many purposes but mostly it is the home for Phased Array, ToFD, MT, PT, Manual and Ascan UT classes. This training area's highlights are twenty-two dual work stations, over twenty Epoch 650 systems along with industrial grade amenities. This bay is also equipped with a high-quality ventilation system for working with magnetic and die penetrant.

# TOUR OF LOCAL 112 TRAINING CENTER

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## COMPUTER LAB

The computer lab is equipped with twenty-six stations along with an instructor's station. Each station is equipped with an up to date dedicated computer. These stations have divider walls along with headphones to help isolate each station. This lab can be utilized to participate in any eLearning task that is needed or to administer exams.



## CPR AND FIRST AID CLASSROOM

This classroom is used for teaching AHA's CPR course. This room is also equipped with CPR mannequins for simulated practice and practical examination.



## CR LAB

This lab room is dedicated for teaching CR systems. Currently there are two CR systems for this training lab.



## **DARK ROOM**

This dark room serves as an area for film processing and viewing.



## **DDA VIEWING BAY**

This Viewing Bay is located outside each of the Gamma and X-Ray Shooting Vaults. This is where students can utilize three different DDA systems including one off the shelf Vidisco and two proprietary systems from JanX and Shaw. While shooting x-ray there are two computers with additional monitors for engaging students and instructing purposes.



## **DIGITIZER LAB**

This lab is dedicated to teaching how to operate systems to digitize old film. It has a dedicated machine that operates on Care Stream Software.

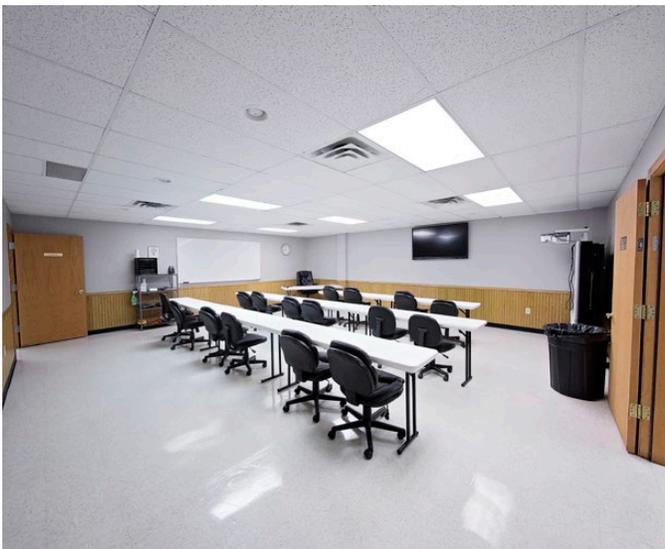
# TOUR OF LOCAL 112 TRAINING CENTER

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## **GAMMA SHOOTING VAULT**

This vault is reinforced with 36" of concrete for complete safety of the students. With maximum protection to these standards it provides the viewing area as a zero-exposure zone. It is located right off the dedicated DDA Viewing Bay. It's equipped to shoot either Gamma or X-Ray in various situations or scenarios.



## **GENERAL PURPOSE CLASSROOMS (ROOM 100, 101 AND 102)**

There are three general purpose classrooms to accommodate any additional needs the Training Center may have. Room 102 is in the rear training area and its equipped to host a class. Rooms 100 and 101 are in the front of the building in the administrative part and they are each equipped to host a class.



## **INDOOR FIELD SIMULATED PIPELINE INTEGRITY TRAINING ARENA**

This 10,000 sq.ft. arena has a simulated integrity dig with a bell hole surrounded by a raised observation area that is utilized for instruction and evaluation. It features six individual areas of 10' exposed 18" pipe with dents and corrosion; 20" pipe exposed above ground with multiple fittings; and an 8" mock valve setting for practical application. This arena also features a buried pipe for practical application for locating.



## **MAGNETIC BENCH TRAINING ROOM**

This is an isolated room equipped with a magnetic particle bench unit and a liquid penetrant in line station. This room and its equipment is utilized to provide a greater understanding of theory on both magnetic particle testing and liquid penetrant testing.



## **PIPELINE INTEGRITY CLASSROOM**

This classroom is located off the indoor training arena. Its main purpose is dedicated to the basics of pipeline integrity. It features stations that highlight the basics of pipeline integrity and principles.



## **RT CLASSROOM**

This classroom is primarily used to teach RT 1&2. It has over 20 high quality LED view lights with oversized stations for students to work at.

# TOUR OF LOCAL 112 TRAINING CENTER

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## **X-RAY SHOOTING VAULT**

This vault is reinforced by 12” of concrete to ensure maximum protection, which includes zero exposure while in the viewing area. This vault is primarily used to shoot larger diameter pipe with a DDA system.



## **ADDITIONAL HIGHLIGHTS**

There is also a lunch area provided for students, instructor’s offices and a conference area along with instructor storage and printing rooms.

This state of the art training center is centrally located in Anderson, IN. Our focus is to provide the most comprehensive training in the Non-Destructive Testing and Pipeline Inspection industry.

# CLASS OFFERINGS

IUOE 112 can advance your career in amazing ways that benefit you and your employer. Our high quality training and safety-first approach will ensure that you are in great demand nationwide.

# CLASS OFFERINGS

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## **AUTOMATED ULTRASONIC TESTING-PIPEWIZARD** **120 HRS**

This class provides principles and theory for Automated Ultrasonic Testing of Pipeline Girth Welds. The student will be taught which parameters may be altered and what effect these changes have on the quality of inspection. Using the Olympus Pipewizard, proper setup based on wall thickness and bevel design will be taught. The zonal technique of sizing in combination with mapping and ToFD principles will be thoroughly explained. Upon completion of class, attendee should be able to complete a weld inspection setup based on a specific procedure for the pipe / weld to be inspected. Also, evaluation of these welds will be taught in detail.

### **PREREQUISITES:**

- Hold a Level 2 UT certification
- Hold a PA / TOFD certification
- Have all OSHA and ClickSafety needed current

### **OUTLINE OF TOPICS:**

- History
- Terminology
- Responsibility
- Equipment
- Setup
- Advantages / Disadvantages
- MUT vs. AUT
- Calibrations
- Data Collection
- Procedures
- Flaw Sizing and Characterization
- Software Tools

### **THIS CLASS CONSISTS OF:**

30 Hours of Theory and Specific Lecture  
30 Hours Weld Interpretation  
60 Hours of Practical Lab  
120 Hours Total Instruction

## **AUTOMATED ULTRASONIC TESTING- ROTOSCAN** **120 HRS**

This class provides principles and theory for Automated Ultrasonic Testing of Pipeline Girth Welds. The student will be taught which parameters may be altered and what effect these changes have on the quality of inspection. Using the Rotoscan, proper setup based on wall thickness and bevel design will be taught. The zonal technique of sizing in combination with mapping and ToFD principles will be thoroughly explained. Upon completion of class, attendee should be able to complete a weld inspection setup based on a specific procedure for the pipe / weld to be inspected. Also, evaluation of these welds will be taught in detail.

### **PREREQUISITES:**

- Hold a Level 2 UT certification
- Hold a PA / TOFD certification
- Have all OSHA and ClickSafety needed current

### **OUTLINE OF TOPICS:**

- History
- Terminology
- Responsibility
- Equipment
- Setup
- Advantages / Disadvantages
- MUT vs. AUT
- Calibrations
- Data Collection
- Procedures
- Flaw Sizing and Characterization
- Software Tools

### **THIS CLASS CONSISTS OF:**

30 Hours of Theory and Specific Lecture  
30 Hours Weld Interpretation  
60 Hours of Practical Lab  
120 Hours Total Instruction

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## **AUTOMATED ULTRASONIC TESTING- WELDSTAR**

### **120 HRS**

This class provides principles and theory for Automated Ultrasonic Testing of Pipeline Girth Welds. The student will be taught which parameters may be altered and what effect these changes have on the quality of inspection. Using the GE Weldstar, proper setup based on wall thickness and bevel design will be taught. The zonal technique of sizing in combination with mapping and ToFD principles will be thoroughly explained. Upon completion of class, attendee should be able to complete a weld inspection setup based on a specific procedure for the pipe / weld to be inspected. Also, evaluation of these welds will be taught in detail.

#### **PREREQUISITES:**

- Hold a Level 2 UT certification
- Hold a PA / TOFD certification
- Have all OSHA and ClickSafety needed current

#### **OUTLINE OF TOPICS:**

- History
- Terminology
- Responsibility
- Equipment
- Setup
- Advantages / Disadvantages
- MUT vs. AUT
- Calibrations
- Data Collection
- Procedures
- Flaw Sizing and Characterization
- Software Tools

#### **THIS CLASS CONSISTS OF:**

30 Hours of Theory and Specific Lecture  
30 Hours Weld Interpretation  
60 Hours of Practical Lab  
120 Hours Total Instruction

## **CLICKSAFETY**

ClickSafety's online learning management is a safety solution that is comprised of 21 custom safety courses. These modules need to be retaken every 3 years.

#### **THE SAFETY COURSES OFFERED INCLUDE:**

- Ladder Safety Awareness
- Scaffold Safety Awareness
- Confined Spaces
- Excavation Safety
- Fall Protection Awareness
- Heat Stress
- Lead Hazards
- Soils Analysis and Classification
- Asbestos
- Benzene
- Hazard Communications Awareness
- Hydrogen Sulfide a Deadly Gas
- Portable Fire Extinguishers
- Respiratory Protection Awareness
- Compressed Gas Cylinder Safety Awareness
- Electrical Safety and LOTO
- Flammable and Combustible Liquids
- Intro to Globally Harmonized System
- Job Hazards Analysis
- Conducting Tailgate Meetings
- Motorized Mobile Platform

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## **CLICKSAFETY'S OSHA 10**

OSHA 10-Hour Construction is a part of an online OSHA outreach program that results in a valid DOL/OSHA 10-Hour Card. This OSHA10 online training course teaches recognition, avoidance, abatement and prevention of safety and health hazards in workplaces. This course also provides information regarding workers' rights, employer responsibilities and how to file a complaint. It was also designed to help individuals stay up-to-date with their OSHA safety requirements.

#### **THIS CLASS CONSISTS OF:**

10 Hours of eLearning

# CLASS OFFERINGS

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## CLICKSAFETY'S OSHA 30

OSHA 30-Hour Construction is an OSHA-Authorized online course featuring the required steps for completing OSHA Outreach training and receiving an OSHA 30 Card. This online training covers everything from Electrical Hazard Safety to Fall Protection. ClickSafety's OSHA 30-Hour Construction course is a proven way to receive a valid OSHA 30-Hour Card and achieve the safety level required by your company for work in the construction industry.

**THIS CLASS CONSISTS OF:**

30 Hours of eLearning

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## COMPUTED RADIOGRAPHIC TESTING LEVEL II 40 HRS

Computed Radiographic Testing applies the theories and principles used in Film Radiography, but replaces conventional film with plates that can convert X-Ray and Gamma Rays into digital images. This class employs a theoretical and practical approach to teach about CR and how to use the different devices when performing this method. The class conforms to ANSI/ASNT CP-189-2016 Standard and includes all topics covered in ANSI/ASNT CP-105-2016 Standard.

**PREREQUISITES:**

- Hold a level 2 RT certification
- Have all OSHA and ClickSafety needed current

**OUTLINE OF TOPICS:**

- History
- Terminology
- Responsibility
- Equipment

**THIS CLASS CONSISTS OF:**

20 Hours of Theory and Specific Lecture  
20 Hours of Practical Lab  
40 Hours Total Instruction

## DIGITAL DETECTOR ARRAY TESTING LEVEL II 40 HRS

Digital Detector Array utilizes the tools learned and used in Film Radiography and then incorporates it into an electronic digital format. This class takes what has been learned in RT and adds a general knowledge of the digital equipment and tools used to convert X-Ray and Gamma Ray exposures into a digital image instead of a film image. The class conforms to ANSI/ASNT CP-189-2016 Standard and includes all topics covered in ANSI/ASNT CP-105-2016 Standard.

**PREREQUISITES:**

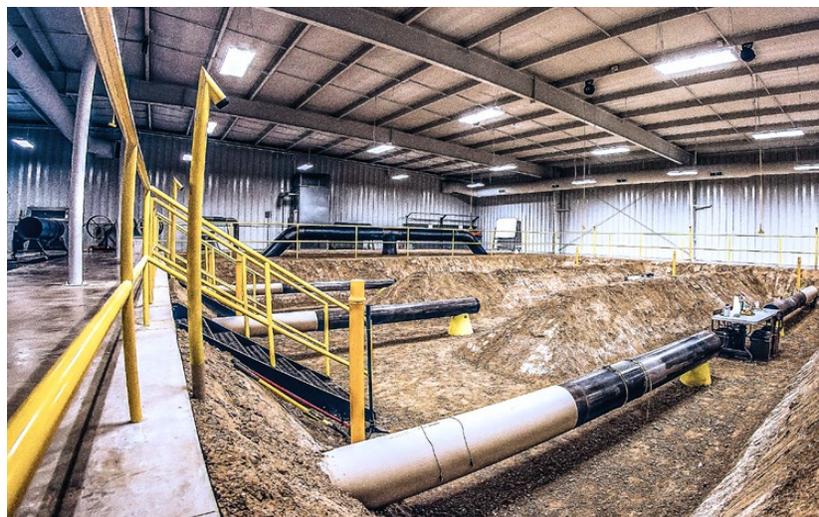
- Hold a level 2 RT certification
- Have all OSHA and ClickSafety needed current

**OUTLINE OF TOPICS:**

- History
- Terminology
- Responsibility
- Equipment
- Setup
- Advantages / Disadvantages

**THIS CLASS CONSISTS OF:**

20 Hours of Theory and Specific Lecture  
20 Hours of Practical Lab  
40 Hours Total Instruction



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## HEARTSAVER FIRST AID, CPR AND AED

This is a video-based, instructor-led course that teaches students critical skills needed to respond to and manage an emergency until emergency medical services arrives. Skills covered in this course include first aid; choking relief in adults, children, and infants; and what to do for sudden cardiac arrest in adults, children, and infants.

### OUTLINE OF TOPICS:

- First aid basics
- Medical emergencies
- Injury emergencies
- Environmental emergencies
- Preventing illness and injury
- Adult CPR and AED use
- Opioid-associated life-threatening emergencies
- Child CPR and AED use
- Infant CPR

### THIS CLASS CONSISTS OF:

2-3 Hours eLearning  
2 Hours of Practical Lab  
4-5 Hours Total Instruction

## MAGNETIC PARTICLE TESTING LEVEL I & II 20 HRS

Magnetic Particle Testing is extremely useful, not only as a primary, but as a supplemental method as well. This class covers an array of different techniques that make Magnetic Particle one of the more versatile NDT methods. The class covers general and specific knowledge of the different Mag Particle techniques, as well as practical training in each. The class conforms to ANSI/ASNT CP-189-2016 Standard and includes all topics covered in ANSI/ASNT CP-105-2016 Standard.

### OUTLINE OF TOPICS:

- Principles of Magnets and Magnetic Fields
- Characteristics
- Effect of Discontinuities of Materials
- Magnetization by Means of Electric Current
- Proper Method
- Inspection Materials
- Principles of Demagnetization
- Equipment
- Types of Discontinuities
- Indications and Interpretations
- Flux Fields
- Evaluation Techniques
- Quality Control of Equipment and Processes

### THIS CLASS CONSISTS OF:

14 Hours of Theory and Specific Lecture  
6 Hours of Practical Lab  
20 Hours Total Instruction



**OUR WORLD CLASS  
TRAINING FACILITY**

# CLASS OFFERINGS

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## **PENETRANT TESTING LEVEL I & II 12 HRS**

Dye Penetrant Testing originated in the railroad industry early in the 20th century and is now in use over a massive spectrum of different industries. This class covers the large body of knowledge over the various different PT techniques. The class conforms to ANSI/ASNT CP-189-2016 Standard and includes all topics covered in ANSI/ASNT CP-105-2016 Standard.

### **OUTLINE OF TOPICS:**

- Introduction
- Liquid Penetrant Processing
- Various Testing Methods
- Equipment
- Selection of the Appropriate Testing Method
- Inspection and Evaluation
- Inspection Procedures and Standards
- Basic Methods of Instruction

### **THIS CLASS CONSISTS OF:**

9 Hours of Theory and Specific Lecture  
3 Hours of Practical Lab  
12 Hours Total Instruction

## **PHASED ARRAY 80 HRS**

This class will provide principles and theory for Phased Array. The course will provide the student with information on phased array digitization. General Principles will be taught on transducer design, beam steering, scanning techniques, etc. Utilizing the Olympus Omniscan MX2 the student should understand how to use and calibrate the instrument properly and be proficient with instrument functionality and data storage. Also, instruction on interpretation of data and proper scanning techniques will be addressed. The benefits and limitations of Phased Array will be addressed as well.

### **PREREQUISITES:**

- Hold a Level 2 UT certification
  - Have all OSHA and ClickSafety needed current
- Outline of Topics:

- History
- Applications
- Introduction to Equipment
- Advantages / Disadvantages
- Principles of Phasing
- Beam Steering
- Scanning Patterns
- Display Views
- Probe Design and Selection
- Focusing
- Resolution
- Digitization Principles
- Encoding
- Flaw Interpretation
- Flaw Sizing
- Code Application
- Beam Plotting / Scan Plans
- Instrument Performance Verification
- Calibration Techniques

### **THIS CLASS CONSISTS OF:**

20 Hours of Theory and Specific Lecture  
20 Hours Interpretation  
40 Hours of Practical Lab  
80 Hours Total Instruction

Receive the best skilled  
Non-Destructive Testing (NDT)  
and pipeline inspection  
training available.

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## **PIPELINE INTEGRITY (DIRECT ASSESSMENT) 96 HRS**

This class was designed to instruct our members on the direct assessment techniques required by various pipeline owner companies to assess threats to the integrity of pipeline systems. This course has prerequisites of Magnetic Particle Testing Level II and Ultrasonic Testing Level II. Course material will include NACE, ASME and API Standards and will require general knowledge, specific and practical exams. The general knowledge portion covers twenty-seven different topics. The specific portion covers codes, standards and procedures. The practical portion consists of hands on training of twenty tasks from the following testing methods and procedures: Chemical-Bacteria Microbiology, Environmental, Surface Profile, Coating Thickness, Coating Hardness, Soil PH, Structure to Electrolyte Potential, Pit Gauge, Soil Resistivity, Dent Analysis, GPS, Ultrasonic and Magnetic Particle.

### **PREREQUISITES:**

- Hold a level 2 certification in UT, MT, PT and VT
- Have all OSHA and ClickSafety needed current

### **OUTLINE OF TOPICS:**

- History
- Terminology
- Responsibility
- Equipment
- Setup
- Advantages / Disadvantages
- Standards, Codes and Procedures
- Explore Different Techniques

### **THIS CLASS CONSISTS OF:**

40 Hours Theory and Specific Lecture  
56 Hours Practical Lab  
96 Hours Total Instruction

## **RADIOGRAPHIC TESTING LEVEL I THEORY 40 HRS**

This course will cover the theories and principles of radiation and how they apply to industrial radiography. Students will review radiation safety while learning various techniques, principles, and concepts utilized in non-destructive evaluation of materials. Members will learn basic math calculations, film processing technique, and basic setups used in examining welds made in pipeline and pipeline related facilities. The Level I Radiographer will be able to perform NDT according to written procedures under the supervision of Level II or III personnel. This course meets the guidelines set by ASNT recommended practice SNT-TC-1A and ASNT CP-189.

### **PREREQUISITES:**

- Hold an IRRSP or a State Industrial Radiographer Certification Card
- Have all OSHA and ClickSafety needed current
- In the event a student doesn't have Smith Driver Trainer done they will need to complete it during this period
- Successfully complete all Level 1 MT, PT and RT
- Provide their own documented hours
- Possess a valid driver license

### **OUTLINE OF TOPICS:**

- Introduction
- Fundamental Properties of Matter
- Radioactive Materials
- Types of Radiation
- Interaction of Radiation with Matter
- Exposure Devices and Radiation Sources
- Radiological Safety Principles

### **THIS CLASS CONSISTS OF:**

24 Hours of Theory and Specific Lecture  
16 Hours of Practical Lab  
40 Hours Total Instruction

# TRAIN WITH THE BEST

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## **RADIOGRAPHIC TESTING LEVEL II THEORY**

### **56 HRS**

This advanced RT course builds upon knowledge learned as a level I radiographer both in the classroom and from field experiences. Level II radiographers will demonstrate competence to perform NDT in according to company procedures. Students will be introduced to various welding methods, study codes and standards, write procedures, as well as extensive training in film interpretation. There will be an emphasis on quality, integrity, and professionalism. This course meets the guidelines set by ASNT recommended practice SNT-TC-1A and ASNT CP-189.

#### **PREREQUISITES:**

- Hold a Level 1 certification in MT, PT, and RT
- Have all OSHA and ClickSafety needed current

#### **OUTLINE OF TOPICS:**

- Basic Principles
- Terminology
- Responsibility
- Equipment
- Setup
- Advantages / Disadvantages

#### **THIS CLASS CONSIST OF:**

16 hours General Classroom Instruction  
16 hours Codes and Procedures  
24 hours Film Interpretations  
56 hours Total Instruction

## **RADIATION SAFETY 40 HRS**

This course on radiography is designed to meet the training requirements for formal certification in Radiation Safety for both X-ray and gamma radiographers. Technique, physics and proper procedures are taught in such a manner as to build student confidence of his or her own ability to work safely and expertly in this quickly growing field.

#### **THIS CLASS CONSISTS OF:**

40 Hours Theory and Specific Lecture

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## SMITH SYSTEM DRIVER TRAINING

SmithE-Learning™ is a time-sensitive strategy for driver training. Local 112's Training Center has 3 courses of topics, Distracted Driving Course, Small Vehicle Forward Motion and Backing Combo Course and The Keys to Foul Weather Driving Course. While behind-the-wheel training is the most effective form of learning, SmithE-Learning is an excellent way for students to refresh safe driving practices.

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### TIME OF FLIGHT DIFFRACTION 40 HRS

This class will provide principles and theory for ToFD. The student will be taught which parameters may be altered and what effect these changes have on the quality of inspection. Using the Olympus Omniscan MX2, proper setup based on wall thickness will be taught. Linearizing for measuring Vertical Height of indications will also be done. Upon completion of class, attendee should be able to recognize potential sources for error and methods for minimizing these errors. Also, flaw detection and characterization will be addressed.

**PREREQUISITES:**

- Hold a Level 2 UT certification
- Have all OSHA and ClickSafety needed current

**OUTLINE OF TOPICS:**

- History
- Terminology Responsibility
- Equipment
- Setup
- Advantages / Disadvantages
- Testing Techniques
- Calibrations
- Data Collection
- Procedures
- Flaw Sizing and Characterization
- Software Tools

**THIS CLASS CONSISTS OF:**

16 Hours of Theory and Specific Lecture  
12 Interpretation  
12 Hours of Practical Lab  
40 Hours Total Instruction

### ULTRASONIC TESTING LEVEL I 40 HRS

This class will provide principles and theory for Ultrasonic Testing. The course will provide the student with information on basic principles of acoustics. Equipment display, and construction will be discussed. Also, basic testing methods will be demonstrated and discussed in detail. The student should be proficient with calibration of an ultrasonic instrument for straight beam inspection upon completion of the course. Utilizing the Olympus epoch 600 / 650 the student should understand how to use and calibrate the instrument properly and be proficient with instrument functionality and data storage.

**PREREQUISITES:**

- Hold a Level 2 RT certification in or documented more than 2,500 field hours working with UT
- Have a valid driver's license
- Have all OSHA and ClickSafety needed current

**OUTLINE OF TOPICS:**

- History
- Basic Math
- Basic Principles
- Equipment
- Basic Testing Methods
- Calibration
- Inspection

**THIS CLASS CONSISTS OF:**

20 Hours of Theory and Specific Lecture  
20 Hours of Practical Lab  
40 Hours Total Instruction

# CLASS OFFERINGS

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## ULTRASONIC TESTING LEVEL II 40 HRS

This class will review ultrasonic testing level I material. The course will provide the student with information on equipment, testing techniques, and calibrations. Expected discontinuities in base metal forms will be discussed in detail. Evaluation of welds with discussion of the welding process and different welding techniques. This course utilizes the Olympus Epoch 650 / 600 and students are expected to be proficient with calibrations and weld evaluation upon completion. Also, code application will be discussed in detail.

### PREREQUISITES:

- Hold a Level 2 RT certification in or documented more than 2,500 field hours working with UT
- Have a valid driver's license
- Have all OSHA and ClickSafety needed current

### OUTLINE OF TOPICS:

- Review of Ultrasonic Principles
- Evaluation of Base-Material Product Forms
- Evaluation of Weldments
- Evaluation of Bonded Structures
- Discontinuity Detection
- Evaluation

### THIS CLASS CONSISTS OF:

20 Hours of Theory and Specific Lecture  
20 Hours of Practical Lab  
40 Hours Total Instruction

## VISUAL TESTING LEVEL I & II 24 HRS

Visual Testing is one of the oldest as well as one of the most widely used NDE methods and should be the first method applied to an item. This training class will include theory, specific and practical training with extensive testing to verify retention of the training. The class will conform to ANSI/ASNT CP-2016 Standard and include all topics outlined in ANSI/ASNT CP-105-2016 Standard.

### OUTLINE OF TOPICS:

- Introduction
- Terminology
- Fundamentals
- Equipment
- Application and Techniques
- Specific Procedures
- Lighting
- Material Attributes
- Environmental Factors
- Physiological Factors
- Principles and Theory
- Evaluation and Disposition Criteria
- Visual Testing and Remote Requirements
- Recording and Documentation

### THIS CLASS CONSISTS OF:

14 Hours Theory and Specific Lecture  
10 Hours Practical Lab  
24 Hours Total Instruction

Our commitment to training extends onto the job site  
with field mentoring at no additional cost.

# THE TRAINING FUND BOARD

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**RANDALL HUGHES**  
BUSINESS MANAGER  
PRESIDENT



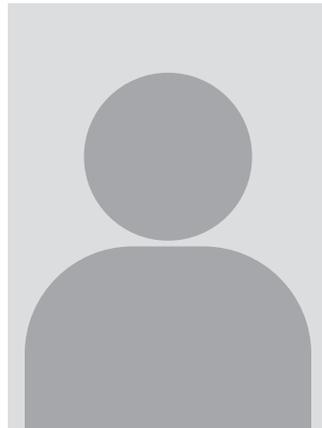
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BUSINESS AGENT  
FINANCIAL SECRETARY



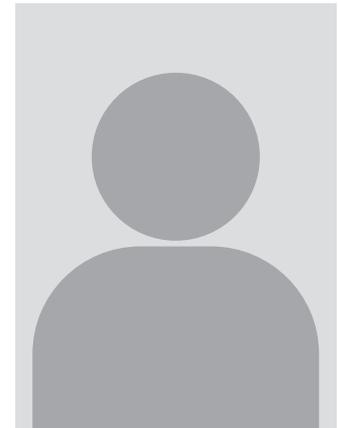
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