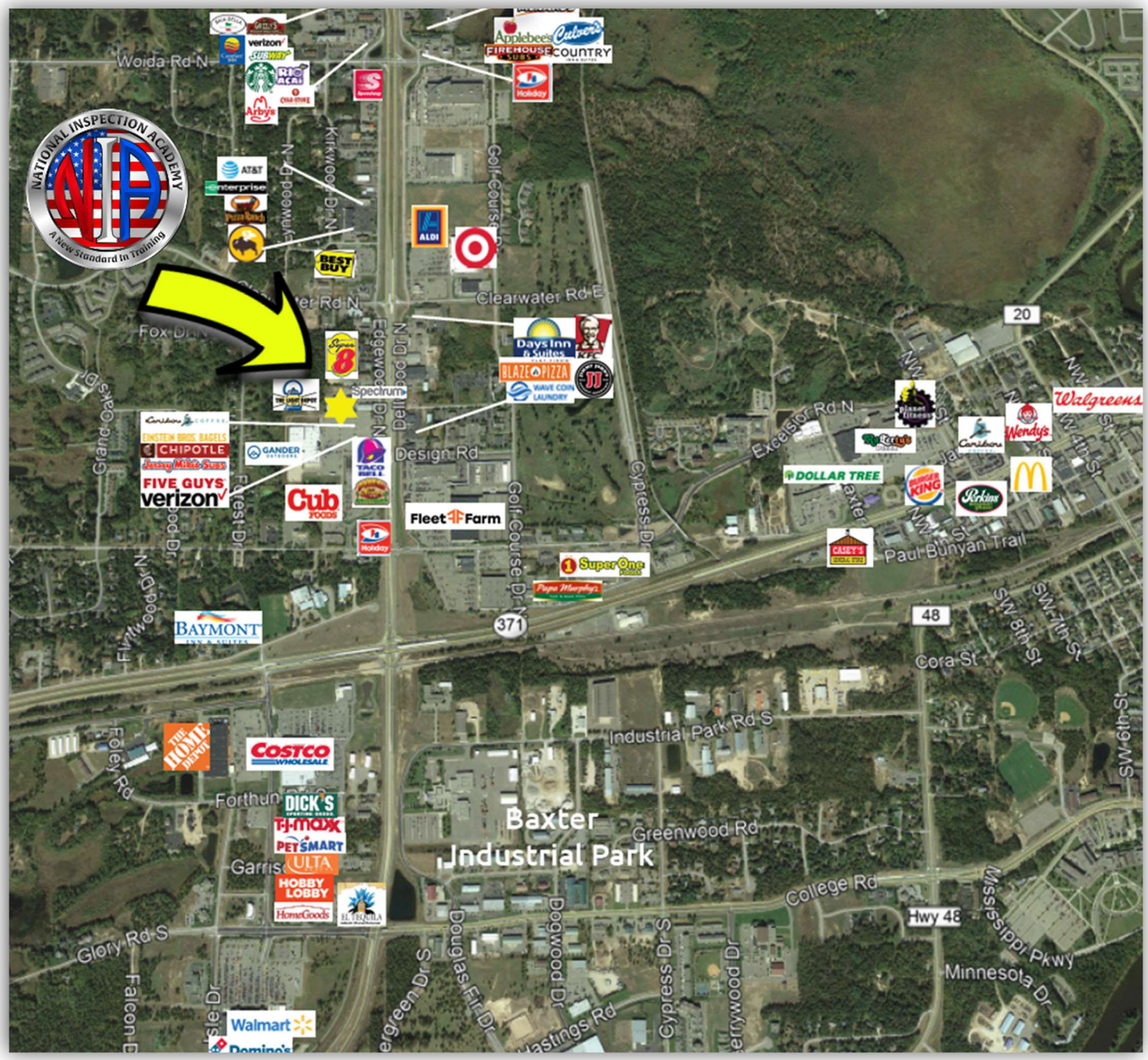
PROGRAM CATALOG 2024

National Inspection Academy
14303 Edgewood Dr N #4, Baxter, MN 56425



NATIONAL INSPECTION ACADEMY
14303 EDGEWOOD DR N #4
BAXTER, MN 56425

This catalog is presented as general information only. Failure to read this publication does not excuse the student from the requirements and regulations described here in the National Inspection Academy reserves the right to alter or amend any item contained herein without notice. Effective January 1, 2024.

OUR MISSION

Provide quality cost-effective inspection training for the infrastructure, alternative energy, petrol-chemical, aerospace, and commercial industries. – NIA's activities will primarily consist of providing technical education in Nondestructive Testing (NDT), as well as preparation training for recognized inspection industry technical certifications.

2024
National Inspection Academy
14303 Edgewood Dr N #4 • Baxter, Minnesota 56474 U.S.A.
Phone: (218) 851-8347
http://www.nationalinspection.org moulton@nationalinspection.org

National Inspection Academy

ABOUT US

The National Inspection Academy (NIA) was founded by John Pariseau, Tom Stokke, and Brent Moulton. John, Tom, and Brent realized that there was a significant need of quality NDT training within the industry and strove to develop a robust training package providing students with the in-depth comprehensive training desired by NDT companies.

We've achieved this by focusing on the specific needs of the industry and providing students with the necessary knowledge needed to excel in the field of nondestructive testing.

OUR PHILOSOPHY

The National Inspection Academy (NIA) is committed to helping individuals develop marketable NDT skills through quality training at minimum cost.

NIA strives to advance NDT training through modern educational tactics and materials providing students with a top tier education desired by employers.

NIA does not discriminate based on disability, race, color, religion, sex, national origin, or age.

EMPLOYER IDENTIFICATION NUMBER

NIA is a 501(c)3 nonprofit educational provider, EIN 87-4403422.

INSTRUCTOR STAFF

NIA features 3 ASNT level III instructors with over 60 years of combined practical NDT experience with backgrounds in a variety of industries including construction, power generation, aerospace, oil & gas, maritime, and defense.

Thomas Stokke
Operations Director, Co-founder
stokke@nationalinspection.org

John Pariseau
Executive Director, Co-founder
pariseau@nationalinspection.org

Brent Moulton
Technical Director, Co-founder
moulton@nationalinspection.org

EQUIPMENT AND MATERIALS

NIA supplies all necessary textbooks and equipment for each inspection method offered and all practice materials.
Textbooks will be shipped to students once enrollment is complete.

NDT CAREER PROGRAM

Step 1: Six-month online training.
Step 2: Three-weeks hands-on training.
NIA's NDT Career Program immerses students in the world of NDT, providing them with a robust training program which includes Level I and Level II training in seven highly sought after NDT methods as well as a full radiation safety training course. This level of education propels students into the NDT industry with a diverse training background that employers seek.
Our hybrid training program isolates the theory and hands-on training elements into separate components to provide a more flexible learning environment for our students. This approach allows students to continue working full time jobs well enrolled in the NDT Career Program.
Upon enrollment, students are granted access to NIA's online learning management system, this online element is step 1 in completion of the NDT Career Program. Students are required to successfully complete the online portion of the training program before taking the hands-on training element at NIA. During the student's initial enrollment, the three-week hands-on element will be scheduled for six months from the beginning of the online training program. Hands-on training will be provided at the NIA facility in Baxter, Minnesota. This allows students sufficient time to complete the online training portion of the program.
The hands-on portion of the training program consists of three weeks of Level I and Level II training for all seven NDT methods included in the program. Hands-on classes are from Monday through Friday for three consecutive weeks.

CLASS SIZE

The average class size is approximately 5 to 10 students per cohort.

TRAINING HOURS

The online portion of training is on-demand and can be accessed anytime the student has internet access.
Instructors will host live meetings for questions and insight during the week at various times as that all students will have a chance to attend.

PREREQUISITE REQUIREMENTS

Students must have access to a computer and internet capability in order to access the online training element of the NDT Career Program.

The NDT industry does require individuals to have near vision acuity in at least one eye either natural or corrected as well as the ability to distinguish contrast.

NIA requests the potential students verify that they have the capability to read newspaper print at a distance of 12 inches and be capable of discerning various shades of grey. If potential students are unclear as to their visual capability, please contact NIA staff for assistance.

Students are not eligible for prerequisite testing. NIA does not give credit for previous courses completed at other institutions.

A student returning to complete training after an absence of more than one year is required to restart the program.

FACILITIES

NIA facility is a 3,332 square feet facility featuring all necessary inspection equipment for hands-on training. This includes an ultrasonic testing area, X-ray cabinet, subdued lighting areas for magnetic particle testing and liquid penetrant testing, and a film development dark room.

Student Parking: Parking is available in a private parking lot.

Safety & Health Note: Tobacco or electronic cigarette use are not permitted inside the facility. There are areas outside the facility designated for tobacco users. Complete safety and health information is provided during student orientation.

STUDENT RESOURCE CENTER

The Student Resource Center is available for employment assistance, computers are available for students to work on resumes, search and apply for jobs, and conduct interviews. The Student Resource Center also offers current code books, periodicals, and other NDT resources for student use. Career development representatives are available to assist students in resume preparation and career exploration. The Student Resource Center is open 8:00 a.m. – 5:00 p.m., Monday thru Friday during school hours.

NDT CAREER PROGRAM

404 HOURS TUITION $8,000

This sequence of courses is recommended for the student interested in developing the skills and knowledge associated with a successful career in the many industries that use NDT methods. The NDT Career Program is divided into two separate portions. The NDT Career Program meets the training hours per ASNT SNT-TC-1a, CP-189, and NAS 410, with the first portion of training conducted online through NIA's Learning Management System and is comprised of 18 courses which focuses on the theory, functionality, and inspection requirements.
While completing the online portion, students will complete a series of career advising sessions where they will learn about the different industries associated with NDT, and current career opportunities.
The second portion of the NDT Career Program is the hands-on element hosted at our Baxter, MN facility. This portion of the training program will focus on equipment operation and familiarity under instructor supervision. Students will learn proper techniques and gain the hands-on training necessary for a successful career in NDT.

INTRODUCTION TO NDT

Online: 8 hours
Hands-on: N/A

This course will give students an introduction to the industry. The course covers the certifications levels and requirements, material processing, and covers the basic principles of the 16 inspection methods that are recognized by the American Society for Nondestructive Testing.

EDDY CURRENT TESTING (ECT) LEVEL I

Online: 32 hours online
Hands-on: 8 hours
Hands-on schedule: Week 2, Wednesday

Eddy Current Testing uses electromagnetic energy to yield information regarding the quality and characteristics of the testing material. In the Eddy Current Level I course students will become familiar with the electromagnetic theory, types of eddy current sensing elements, and readout mechanisms. The course will also demonstrate lift-off effects, frequency effects, and the effects of scan speed.
During the hands-on portion students will become familiar with the equipment and perform these demonstrations themselves.

Hands-on Equipment Familiarization Training Includes:

- Setting up Eddy Current equipment for Conductivity curves using the absolute probe method.
- Setting up Eddy Current equipment for Lift-off curves using the absolute probe method.
- Setting up Eddy Current equipment for Thickness curves using the absolute probe method.
- Setting up Eddy Current equipment using different test frequencies using the absolute probe method.
- Demonstrating what effects, the frequency changes have on Conductivity curves, Lift-off curves, and Thickness curves.

EDDY CURRENT TESTING (ECT) LEVEL II

Online: 24 hours online,
Hands-on: 16 hours
Hands-on schedule: Week 2, Thursday – Friday

The Eddy Current level II course will begin with a review of electromagnetic theory. The student will learn to understand signal-to-noise and how to select testing frequencies. Attention will be given to field design considerations and other techniques and applications. The hands-on portion will have students inspecting parts using equipment from the various industries. The students will learn the criteria for accepting or rejecting flaws.

Hands-on Equipment Familiarization Training Includes:

- Determining proper test frequency for inspection.
- Setting up Eddy Current equipment for conductivity, lift-off, and thickness curves.
- Calibration of Eddy Current system for surface breaking defects.
- Inspection of surface breaking defects with absolute probes.
- Calculating proper frequency and fill factor for bobbin probes.
- Setting up Eddy Current equipment for bobbin probe eddy current.
- Calibration of Eddy Current systems for tubing inspections.
- Inspection of tubing defects with bobbin probes.

INDUSTRIAL RADIOGRAPHY RADIATION SAFETY COURSE

Online: 32 hours
Hands-on: 8 hours
Hands-on schedule: Week 3, Tuesday

This is a 40-hour industrial radiography course designed to meet or exceed the requirements for certification in radiation safety for both X- and gamma radiography. Students will learn the fundamentals of working safely around radiation emitting sources. Focus will be given to the transportation and storage of radioactive materials. The student will also learn and fully understand the ALARA concept. During the hands-on portion students will learn how to connect the source of radiation used as the emitting device and learn how to calculate barricade distances.

Hands-On Equipment Familiarization Training Includes:

- Use of dosimetry/survey meters, performance of proper surveys.
- Gamma radiation exposure device assembly, daily checks, and performance.
- Utilization of ALARA principles.

LIQUID PENETRANT TESTING (PT) LEVEL I

Online: 4 hours
Hands-on: 2 hours
Hands-on schedule: Week 3, Monday

Liquid Penetrant Testing Level I course will introduce students to the concepts that make PT including capillary action, viscosity, and development. Students will learn the processing, various methods, and equipment used during liquid penetrant inspections.

Hands-on Equipment Familiarization Training Includes:

- Achieving acceptable cleanliness of test objects using Class 1 Solvent.
- Application and removal of Type II Method C penetrant.
- Application of Form e developers.

LIQUID PENETRANT TESTING (PT) LEVEL II

Online: 8 hours
Hands-on: 2 hours
Hands-on schedule: Week 3, Monday

The course will begin with a review of the principles and move into advanced inspection and evaluation or indications. Students will learn how to interpret indications, follow procedures, and other factors affecting indications. The hands-on portion will allow students to follow a work procedure and process parts as if they were employed by an inspection company.

Hands-on Equipment Familiarization Training Includes:

- Utilize Solvent Class 1, Type II Method C penetrant, and Form e developer on test specimens.
- Evaluate test results to NIA PT procedures.
- Evaluate test results to common industry standards.

LIQUID PENETRANT TESTING (PT) AEROSPACE SUPPLEMENT

Online: 12 hours
Hands-on: 4 hours
Hands-on schedule: Week 3, Monday

The course provides supplemental training for liquid penetrant testing specific to the aerospace industry. This includes variations of the NDT method which may be rarely used in general industry but quite common within aerospace applications. This course fulfills the additional training requirements for liquid penetrant testing in the aerospace industry.

Hands-on Equipment Familiarization Training Includes:

- Achieving acceptable cleanliness of test objects using Class 1 Solvent.
- Application and removal of Type II Method C penetrant.
- Application of Form e developers.
- Utilize Solvent Class 1, Type II Method C penetrant, and Form e developer on test specimens.
- Evaluate test results to NIA PT procedures.
- Evaluate test results to common industry standards.

MAGNETIC FLUX LEAKAGE (MFL) LEVEL I

Online: 10 hours
Hands-on: 4 hours
Hands-on schedule: Week 2, Tuesday

The Magnetic Flux Leakage Level I course will give students all the required information layout in ASNT CP-105. The course will begin with a review of electromagnetic principles. The student will learn how to perform MFL inspections, and the equipment used in the inspection method. The hands-on portion of the course will give students the opportunity to perform calibrations and participate in inspections common in NDT.

Hands-on Equipment Familiarization Training Includes:

- Review of Magnetic Flux Theory.
- Setting up equipment for magnetic yoke inspection.
- Determine the proper MFL techniques for testing of materials.

MAGNETIC FLUX LEAKAGE (MFL) LEVEL II

Online: 10 hours
Hands-on: 4 hours
Hands-on schedule: Week 2, Tuesday

The Magnetic Flux Leakage level II course begins with an overview of MFL inspection and the theory of magnetic fields. Students will learn how to perform MFL inspections while following NIA procedures to complete MFL reports.

Hands-on Equipment Familiarization Training Includes:

- Setting up MFL tank floor equipment
- Calibration of MFL tank floor equipment.
- Inspection of tank floor defects with MFL tank floor equipment.

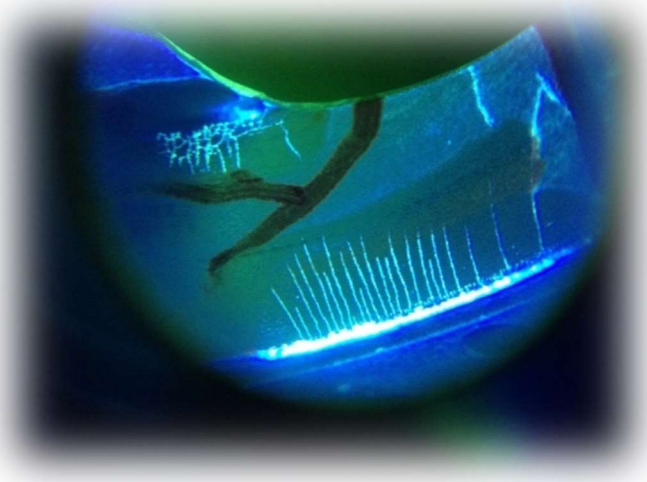
MAGNETIC PARTICLE TESTING (MT) LEVEL I

Online: 8 hours
Hands-on: 2 hours
Hands-on schedule: Week 2, Monday

Magnetic Particle Testing course will give students the knowledge needed to perform (MT) inspections. The course will begin with the theory of magnetic fields and expand into the effect of discontinuities on those magnetic fields. Students will learn how to perform the inspection, follow procedures, and complete reports.

Hands-On Equipment Familiarization Training Includes:

- Establishment of indirect magnetic field using alternating current applications.
- Determination of magnetic field direction and field strength in test specimens
- Inducing indications through use of dry particle application.



MAGNETIC PARTICLE TESTING (MT) LEVEL II

Online: 4 hours
Hands-on: 2 hours
Hands-on schedule: Week 2, Monday

The MT level II course will start with a review of the principles of magnetic particle testing and go in depth with the types of flux fields that are associated with magnetic particle. The student will learn how to select the proper method for magnetization along with demagnetization procedures.

Hands-on Equipment Familiarization Includes:

- Development of indications on test specimens using yoke techniques with visible dry media.
- Development of indications on test specimens using yoke techniques with wet visible media and contrasting background.
- Development of indications on test specimens using yoke techniques with wet fluorescent media.
- Evaluation of relevant indications to NIA's MT Procedures.
- Evaluation of relevant indications to other common industry standards.

MAGNETIC PARTICLE TESTING (MT) AEROSPACE SUPPLEMENT

Online: 12 hours
Hands-on: 4 hours
Hands-on schedule: Week 2, Monday

The course provides supplemental training for magnetic particle testing specific to the aerospace industry. This includes variations of the NDT method which may be rarely used in general industry but quite common within aerospace applications. This course fulfills the additional training requirements for magnetic particle testing in the aerospace industry.

Hands-on Equipment Familiarization Training Includes:

- Development of indications on test specimens using yoke techniques with visible dry media.
- Development of indications on test specimens using yoke techniques with wet visible media and contrasting background.
- Development of indications on test specimens using yoke techniques with wet fluorescent media.
- Evaluation of relevant indications to NIA's MT Procedures.
- Evaluation of relevant indications to common industry standards

RADIOGRAPHIC TESTING (RT) LEVEL I

Online: 32 hours
Hands-on: 8 hours
Hands-on schedule: Week 3, Wednesday

The level I radiographic testing course will begin with a review of the physics of radiation and how it interacts with matter. Students will learn the difference between X- and gamma radiation. Once complete the student will be able to calculate the parameters of a quality radiographic exposer. The hands-on portion will have students working in a team as is common within the industry. Students will make exposures and develop exposed film.

Hands-on Equipment Familiarization Training Includes:

- Proper safety measures, area surveys, ALARA practices.
- Setup mock field radiographic imaging setups using training gamma camera.
- Setup mock field radiographic imaging setups using x-ray tube.

RADIOGRAPHIC TESTING (RT) LEVEL II

Online: 24 hours
Hands-on: 16 hours
Hands-on schedule: Week 3, Thursday - Friday

The level II course will build on the foundation of the level I course and expand into more advanced radiographic principles. The student will learn how to view the radiographic image and be able to interpret discontinuities within the test specimens. The hands-on portion will have students setting up exposures and processing film as if they were on a jobsite in the industry. The student will follow procedures on how to place image quality indicators and sample their images for proper sensitivity levels.

Hands-on Equipment Familiarization Training Includes:

- Determination of geometric unsharpness, exposure time, characteristic curve.
- Film handling, opening, loading, elements of manual film processing.
- Film packaging and setup locators, identification labeling, image quality indicator selection.
- Handling of processed film.
- Determination of film density

Film evaluation for correct identification, image quality indicator to NIA RT procedures.
Film evaluation for artifact identification.
Film evaluation for discontinuities to NIA RT procedures.

ULTRASONIC TESTING (UT) LEVEL I

Online: 32 hours
Hands-on: 8 hours
Hands-on schedule: Week 1, Tuesday

The level I Ultrasonic Testing course will begin with an introduction to acoustic principles. The student will learn the basic principles of sound propagation and how the inspection process can locate discontinuities. The student will learn the types of equipment used in the various industries. The hands-on portion will have students performing standardization of the equipment and how to scan the part they are inspecting.

Hands-on Equipment Familiarization Includes:

Ultrasound scope settings review.
Calibration for compression wave testing.
Compression wave testing for material thickness measurement operations.
Compression wave testing for ID section loss determination and measurement.
Compression wave testing for corrosion location and mapping.

ULTRASONIC TESTING (UT) LEVEL II

Online: 16 hours
Hands-on: 24 hours
Hands-on schedule: Week 1, Wednesday – Friday

This course covers the evaluation of base material through the manufacturing process and will give students and understanding of the discontinuities that can be formed along the way. Students will learn how to detect such discontinuities and will be able to complete reports with their findings. The hands-on portion will have students begin their inspection of specimens with known defects and they must use their knowledge obtained in this course to follow a procedure and interpret signals from the specimen.

Hands-on Equipment Familiarization Includes:

Raster scanning techniques for weldments.
Equipment configuration using the trigonometry calculator.
Longitudinal calibration with and without autocalibration features.
Shearwave calibration with and without autocalibration IIW Block for AWS criteria.
Shearwave calibration with and without autocalibration DSC Block for AWS criteria.
Shearwave calibration with autocalibration IIW Block for Distance Amplitude Correction Curve.
Shearwave calibration with autocalibration for Time Corrected Gain function.
Longitudinal/Shearwave examination of test specimens using ASME BPVC acceptance criteria.
Longitudinal/Shearwave examination of test specimens using ASME B31.1 acceptance criteria.
Longitudinal/Shearwave examination of test specimens using API 1104 acceptance criteria.
Longitudinal/Shearwave examination of welds using AWS static and cyclic acceptance criteria.

VISUAL TESTING LEVEL I

Online: 4 hours
Hands-on: 4 hours
Hands-on schedule: Week 1, Monday

The Visual Testing Level I course begins with the fundamental aspects of visual inspection and the various equipment used in the inspection process. Students will gain insight into how manufacturing processes can lead to discontinuities and the specific types of discontinuities that arise at different stages of production. Through a combination of online and hands-on practice, students will become adept at utilizing various visual testing (VT) equipment.

Hands-on Equipment Familiarization Includes:

- Familiarization of visual inspection gauges.
- Use of visual inspection gauges to measure welding discontinuities.

VISUAL TESTING LEVEL II

Online: 12 hours
Hands-on: 4 hours
Hands-on Schedule: Week 1, Monday

The Visual Testing Level II course offers advanced visual inspection techniques. Students will learn how to use various inspection gauges used in the inspection industry. This course will also cover the use of rigid borescopes as well as in-direct borescopes. Students will learn how to detect discontinuities and will be able to complete reports with their findings follow codes and standards used in visual testing.

Hands-on Equipment Familiarization Includes:

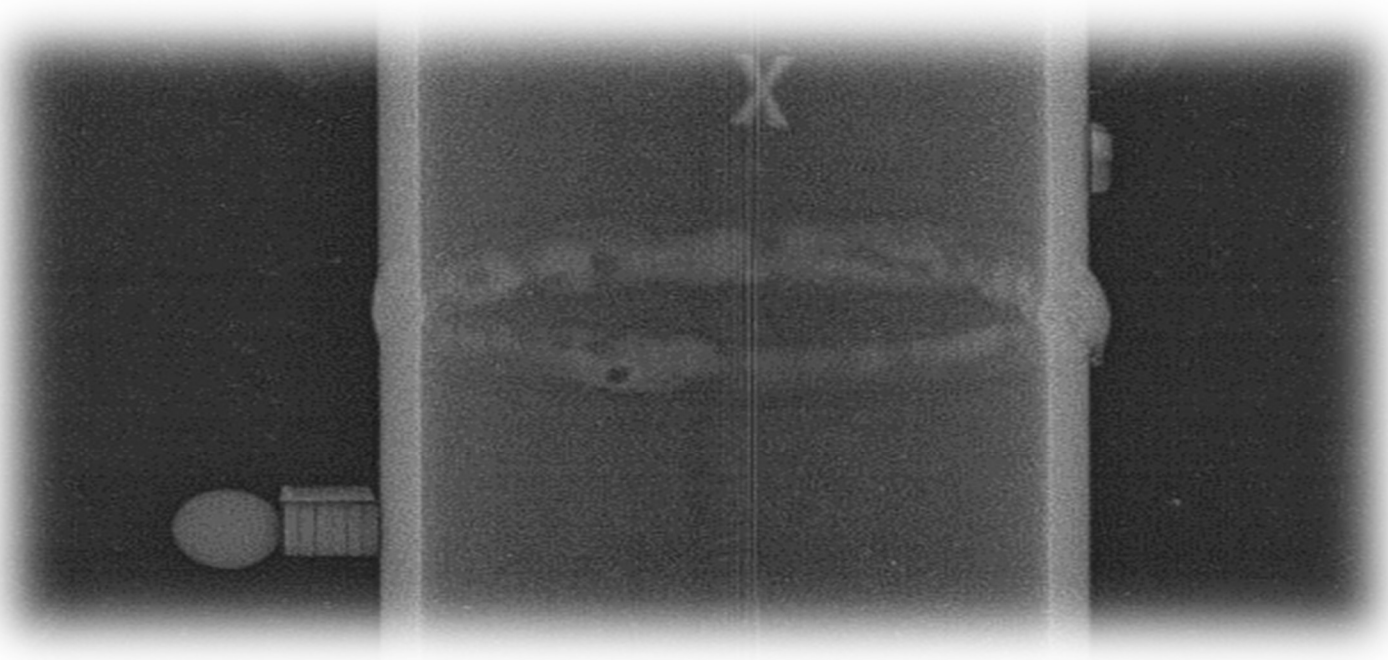
- Use of visual inspection gauges to measure and evaluate weld discontinuity acceptance in accordance with NIA visual testing procedures and industry standards.
- Use of visual inspection gauges to measure and evaluate weld discontinuity acceptance in accordance with various industry codes.

HANDS-ON TRAINING ELEMENT

The hands-on training element of the NDT Career Program consists of 3-weeks of training at the NIA facility totaling 120 clock hours (clock hour calculations do not include standard break periods).
The hands-on training begins at 8:00 am and concludes at 5:00 pm Monday-Friday.
All hands-on training is conducted at the NIA facility in Baxter, MN. The hands-on portion of training is to familiarize students with equipment used in the industry. Daily operations consist of NIA instructor led demonstrations pertaining to hands-on exercises in which students will participate. This is to include use of industry standard equipment, calibration processes, and procedures. Examination and reporting of test specimens to industry standards.

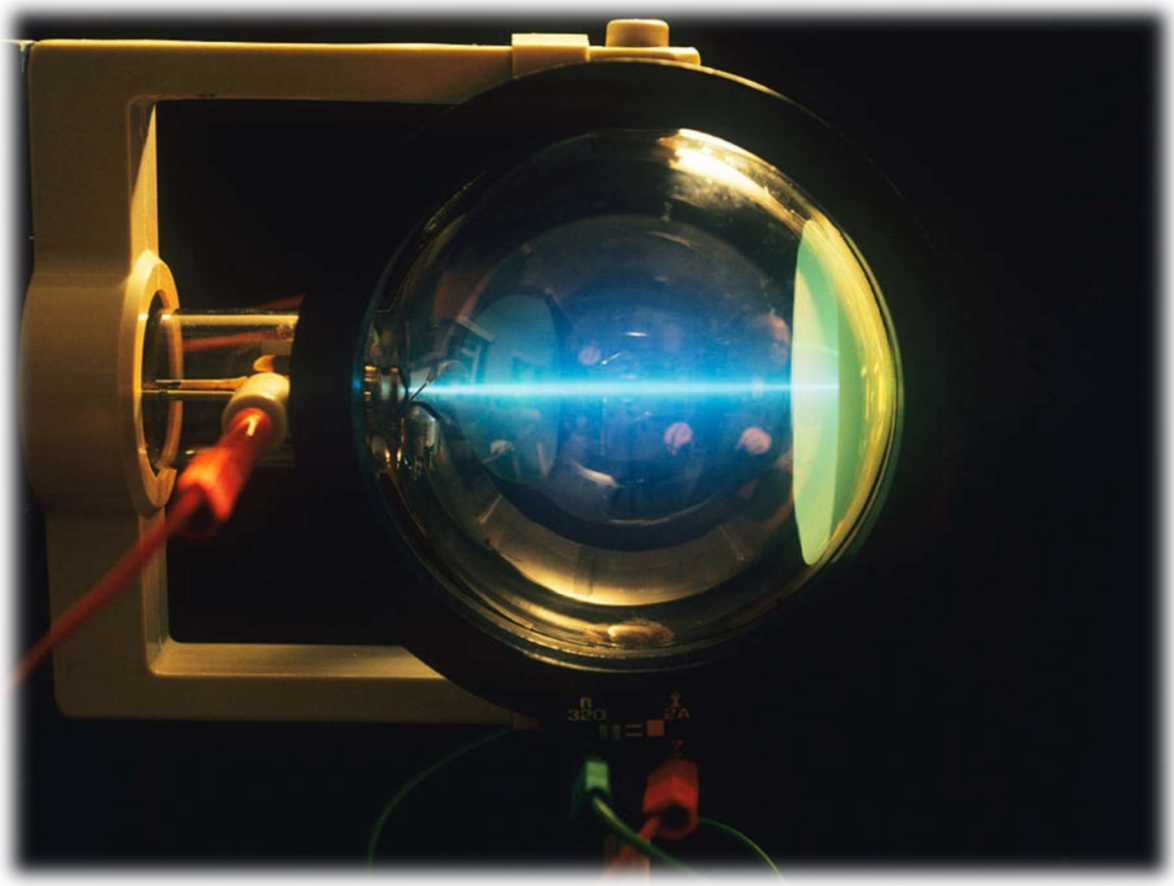
NDT Career Program Total Training Hours

Course Title	Online Hours	Hands-On Hours
NDT Intro	8	0
Visual Testing Level I	4	4
Visual Testing Level II	12	4
Liquid Penetrant Testing Level I	4	2
Liquid Penetrant Testing Level II	8	2
Liquid Penetrant Testing NAS 410 Supplement	12	4
Magnetic Particle Testing Level I	8	2
Magnetic Particle Testing Level II	4	2
Magnetic Particle Testing NAS 410 Supplement	12	4
Ultrasonic Testing Level I	32	8
Ultrasonic Testing Level II	16	24
Industrial Radiography Radiation Safety	32	8
Radiographic Testing Level I	32	8
Radiographic Testing Level II	24	16
Eddy Current Testing Level I	32	8
Eddy Current Testing Level II	24	16
Magnetic Flux Leakage Level I	10	4
Magnetic Flux Leakage Level II	10	4



Hands-On Schedule (15 days)

Method	Week 1	Week 2	Week 3
Visual Testing Level I/II	Monday		
Ultrasonic Testing Level I	Tuesday		
Ultrasonic Testing Level II	Wednesday-Friday		
Magnetic Particle Testing Level I/II		Monday	
Magnetic Flux Leakage Level I/II		Tuesday	
Eddy Current Level I		Wednesday	
Eddy Current Level II		Thursday-Friday	
Liquid Penetrant Testing Level I/II			Monday
Radiation Safety			Tuesday
Radiographic Testing Level I			Wednesday
Radiographic Testing Level II			Thursday-Friday



EQUIPMENT LIST

The hands-on portion of training is meant to simulate real world inspection scenarios with equipment that is commonly used in the trade.
NIA is equipped with all the necessary equipment to perform hands-on experience and equipment familiarity.

NDT Method	Equipment
Ultrasonic Testing	Flaw Detectors/Thickness gauges Calibration Standards Flawed specimens
Eddy Current Testing	Eddy current generating instruments Series of pancake coils Series of bobbin coils Calibration standards Flawed specimens
Radiographic Testing	X-ray tube X-ray cabinet Film IQI's Film development room
Magnetic Flux leakage	Tank floor scanner Calibration standard
Magnetic Particle Testing	Yokes Dry visible particles Wet fluorescent particles UV lamps Flawed specimens
Liquid Penetrant Testing	Solvent removable PT kits Flawed specimens
Visual Testing	Magnifying glasses Weld inspection gauge kits Weld replicas
Radiation Safety	Inert exposure device Boundary ropes & signage Dosimetry examples

ENROLLMENT DATES

NIA's NDT Career Program is hybrid training program incorporating the flexibility of online training with the tactile operations of hands-on training. The first portion of the training program consists of the online element of the training program, allowing students to enroll any time throughout the year. At the time of enrollment students are placed in the hands-on cohort 6-months from the enrollment date. The online portion of the training program must be successfully completed prior to arriving at the NIA facility for the hands-on element. The hands-on element consists of 3 consecutive weeks, Monday through Friday from 8 am to 5 pm. Adjustments to the hands-on element timeframe may be discussed with an instructor when extenuating circumstances arise or when scheduling conflicts exist.

INFORMATION AND POLICIES FOR TRAINING

VISITS

Visitors are welcome anytime throughout the year. Students may schedule a visit by contacting us at 218-851-8347 or emailing us at moultion@nationalinspection.org to see our facilities, discuss enrollment and scholarship opportunities.

ADMISSION REQUIREMENTS

Students must provide a government issued identification card (I.E., passport, driver license, etc.)
Students must be 18 years of age to attend the hands-on training portion of the program.
Student must be able to understand, read and speak English.

PHYSICAL REQUIREMENTS

Individuals with a pacemaker or defibrillator are restricted from entering the magnetic particle, magnetic flux leakage inspection area and other high voltage areas due to potential risk of electric shock and/or high frequency interfering with the pacemaker or defibrillator signal. Please let NIA staff know if you have such a device during enrollment so precautions can be taken.
The National Inspection Academy does not discriminate based of disability, race, color, religion, sex, national origin, or age.

ADMISSIONS PROCESS

Prior to enrolling be sure to read the catalog in its entirety to have a clear understanding of what to expect. Give careful consideration to the job market for NDT inspectors and to any personal objectives for attending the NDT Career Program. This will ensure that the program selected meets the personal goals.

STEPS TO ENROLL

1. Contact NIA at 218-851-8347.
2. Completing the Program Enrollment Agreement.
3. NIA will acknowledge the receipt of the Program Enrollment Agreement and start date via email.
4. Upon receipt of the student's identification, NIA will sign the Program Enrollment Agreement and upload a copy to the Student Portal.

REGISTRATION FEES

NIA does not require a registration fee. The $8,000 tuition cost is the only education expense required per student. NIA tuition fee does not cover transportation, lodging or food.

STUDENT PORTAL

Upon registration each student will be provided instructions to access the Student Portal. The Student Portal provides access to the courses for the online portion.

ORIENTATION

NIA will welcome students on the first day of the hands-on portion with a tour of the facility and cover the necessary safety requirements of the equipment being used.

CANCELLATION/REFUND POLICY

If your application is rejected, you will receive a full refund of all tuition, fees, and other charges. You will be entitled to a full refund of tuition, fees, and other charges if you give notice that you are canceling your contract within 5 business days after the contract or enrollment agreement is considered effective. A contract or enrollment agreement will be presumed to be effective on the date that the school notifies you that you have been accepted into the school and you have signed the contract or enrollment agreement. If the notification of acceptance into the school is sent by mail, then the effective day of being accepted is the postmark on the acceptance letter. This five-day refund policy applies regardless of when the program starts. If you give notice more than 5 days after you signed the contract, but before the start of the program (or first lesson for an online distance education program), you will receive a refund of all tuition, fees, and other charges minus 15%, up to $50, of the total cost of the program. If you withdraw after the start of your program and it has been more than 5 days after you signed the contract, you will receive a pro-rated refund of the entire cost of your program based on your last day of attendance. You will be provided prorated tuition, fees, and other charges refund minus your initial application fees, up to $50, and minus the less or 25% of the total tuition or $100. Probation is based on whether your program is term-based or clock hours and how much of the program you have completed. If your program is term-based, the completion rate is the number of calendar days from the first date of the program through your last documented date of attendance divided by the length of the program. The completion rate is calculated to the second decimal point (. XX). If your program is clock-hour based, the completion rate is the number of clock hours you actually attended divided by the number of clock hours in the program. The completion rate is calculated to the second decimal point (. XX) If you withdraw from your program after 75.00% of the program has completed, you are not entitled to a refund of tuition, fees, and other charges. You will receive written notice acknowledging your withdraw request within 10 business days after receipt of the notice and you will receive a refund of any tuition, fees, and other charges within 30 business days of receipt of your withdrawal. Any mailed notice is effective as of the date of the postmark if sent by mail or the day it has been hand delivered to the school. Notice to withdraw may also be given by email or verbally, including a voicemail, to a school official (defined by school's Student Right to Cancel policy). If you do not withdraw in writing or contact the school about your absence and you have not attended your program or contact the school about your absence for 14 consecutive days, you will be considered to have withdrawn from the school as of your last date of attendance. Your school is responsible for sending you a written notice of cancellation if you are withdrawn for failing to attend to your last known address. The confirmation from the school must state that the school has withdrawn your enrollment, and if this action was not the student's intent, the student must contact the school. Schools must include this clause if your school's student catalog, contract, or enrollment agreement includes a separate statement on the fair market of the equipment and any of the equipment can be reasonably resold: "You may be entitled to a refund of your equipment and supplies costs if you return your equipment and supplies within 10 days of withdrawing if your supplies are in a condition suitable for resale. If you do not return your equipment and supplies or the supplies are not in a condition suitable for resale, this cost will be deducted from your tuition, fee, and other charge refund that you may be eligible for."

COURSE RESCHEDULING

If the hands-on portion needs to be rescheduled contact NIA staff and scheduling can be adjusted.
Note: The hands-on portion is a required part of the NDT Career Program and must be completed before completion certifications can be given.

GRADES

Each student is graded based on attendance and a general exam for each course in the NDT Career Program. Retakes are allowed but may require additional training before a retake is permitted.
The exams are comprised of either a 40 multiple choice question exam or for the Industrial Radiation Safety Course a 120 multiple choice question exam. These exams are focused on the theory and practices of the course the exam is based on. This is a closed book proctored exam. The passing score is 70% and above.

PROGRAM GRADUATION POLICY

To graduate from the program, the student must successfully complete and pass all required courses and meet all financial obligations.
If a student only successfully completes the online portion of the courses, that student will receive credit for the clock hours successfully completed. Successful completion is defined as meeting the requirements outlined in the Grades Section listed above.

STUDENT TRANSCRIPTS

Students who have successfully completed the NDT Career Program will be provided complete transcripts of all courses. Students who have not completed the NDT Career Program for any reason will be provided with transcripts of all completed courses. Copies of student transcripts may be obtained via request. No fees are to be charged for issuing of transcripts or subsequent copies.

COURSE CERTIFICATES

Students receive a pass or fail record for each course in which they participate. Each course is based on attendance and a general exam.

ATTENDANCE POLICY

For the hands-on portion of the training, all attendance and absences are recorded. Our attendance policy is driven by industry and is expected for the future employment of our students. Based on NIA and government agency standards, the objective is to have attendance and conduct at a level that will in no way cause an interruption in training. This will ensure the highest level of inspection skills at the completion of training. It is the responsibility of all students to follow NIA's guidelines and rules.
Students are required to be on time for class; to participate in each class and lab session; to honor break times; and to remain at school through the completion of the daily scheduled program.
Students are expected to notify NIA when they are unable to report at their scheduled time. The only exception will be when an extreme emergency exists not permitting a phone call. The number to call is 218-851- 8347.
Understand that absences, being tardy, leaving early, or cutting classes will be causes for interruptions and rescheduling may be required. Attendance will be taken each morning of class. Attendance checkpoints are monitored at regular intervals throughout each day of class.

LEAVE OF ABSENCE POLICY

A Leave of Absence (LOA) may be granted for unforeseeable circumstances such as, but not limited to, the following reasons: military obligations, jury duty, accidents, death in the family, etc. All LOA requests must be submitted in writing prior to taking the LOA and must be approved by NIA.

HOLIDAY SCHEDULE

NIA will observe all US Federal Holidays listed below.

2023 Holiday Schedule

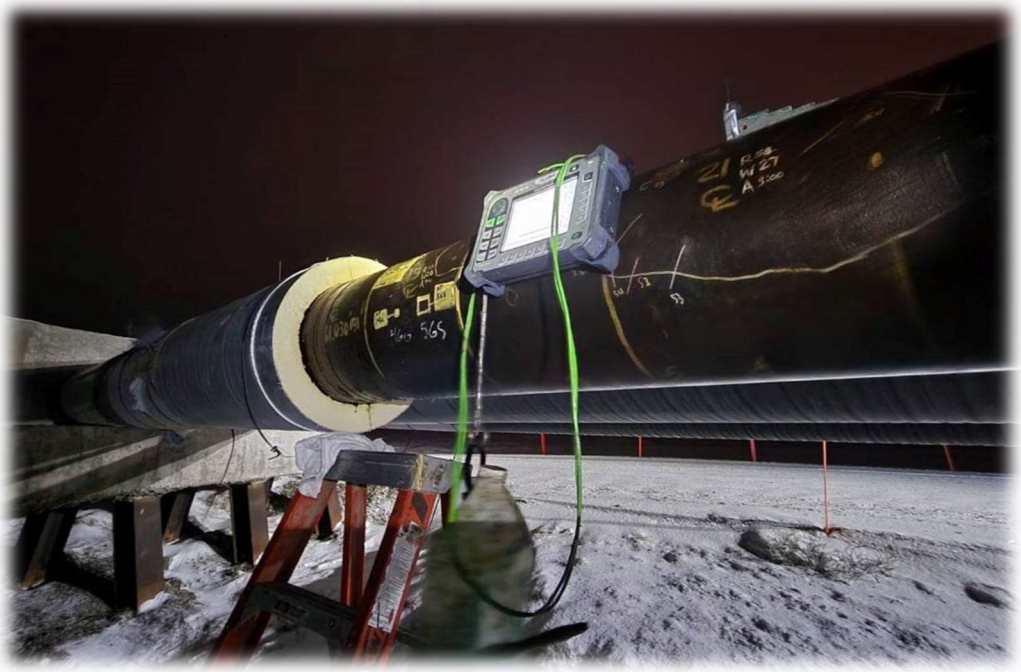
Date	Holiday
Monday, January 02	New Year's Day
Monday, January 16	Birthday of Martin Luther King, Jr.
Monday, February 20	Washington's Birthday
Monday, May 29	Memorial Day
Monday, June 19	Juneteenth National Independence Day
Tuesday, July 04	Independence Day
Monday, September 04	Labor Day
Monday, October 09	Columbus Day
Friday, November 10	Veterans Day
Thursday, November 23	Thanksgiving Day
Monday, December 25	Christmas Day

HANDS-ON ELEMENT MAKE-UP POLICY

Students may not miss more than 10% of the total clock hours of any hands-on element of the program. In the event of the school closing for any reason, (i.e., holidays, weather, power outage, etc.) students must be given the opportunity to make up those scheduled hours.

Make-up hours will be communicated to all students and may include arriving early, working through scheduled breaks and/or lunch hour, and staying late.

If a student opts to not make-up the hours missed for a school closure that occurred within their scheduled course, the hours missed will be counted as an absence.



RULES AND REGULATIONS

All rules and regulations at the academy are subject to review by the Executive Director based on conditions and circumstances.

DISCIPLINARY ACTION PROCEDURES

NIA reserves the right to place on probation, suspend or dismiss any student based on unsatisfactory performance, absence, or failure to comply with published policies and/or the Student Code of Conduct.
The following action will be taken if policies and/or the Student Code of Conduct are violated:
First Violation – Verbal Discussion: A first violation will result in a discussion with the instructor regarding the violation that occurred to assist with any possible misunderstanding, to review the rules and to identify the consequences if there are any further violations.
Second Violation – Probation: A second violation will result in probation and a written record of the violation. Students will meet with two NIA administrative personnel to discuss the severity of the second violation. Probation will remain in effect until the student completes the program and the written record will become a permanent part of the student's file.
Third Violation – Suspension: A third violation will result in a suspension from the current program. Based on course availability the student may not be able to resume the program until the course is offered which may be more than one month. A student returning from suspension will be financially responsible for the course at the individual course tuition rate.
Any additional infraction following the return from suspension will result in immediate dismissal from the program.
All students are expected to conduct themselves in a manner appropriate to a professional work environment. Considering the severity of the violation, immediate dismissal of the student may be necessary.

COPYRIGHT AND PEER-TO-PEER SHARING POLICY

NIA has implemented policies to deter copyright violations and unauthorized Peer-to-Peer (P2P) file sharing. This policy includes sanctions and disciplinary actions for violation of Federal copyright laws and P2P file-sharing violations.

PROBATION/SUSPENSION/DISMISSAL

The Academy reserves the right to place on probation, suspend, or dismiss any student based on unsatisfactory performance, or failure to comply with published rules. Any student involved in illegal activities, harassment, fighting or expressing violence is subject to immediate dismissal.
Note**:** Any student with an open container of alcohol, or drugs on academy grounds or appears to be under the influence of drugs or alcohol is subject to immediate dismissal. The use, sale, or possession of drugs will result in immediate dismissal and notification of the proper authorities.

READMISSION

A student who voluntarily withdraws may be readmitted by submitting a new Program Enrollment Agreement Form. A student who has been dismissed by the academy may request readmission in writing.

STUDENT COMPLAINT/GRIEVANCE PROCEDURES

Students having a complaint or grievance with The National Inspection Academy may address their concerns directly with their instructor.

Students who have not achieved a satisfactory resolution after discussion with their instructor may direct their concerns to NIA's Executive Director.

If the student's complaint/grievance continues to remain unresolved after seeking resolution from their instructor and NIA's Executive Director, the student may pursue further grievance procedures through the state regulatory agency MOHE (Minnesota Office of Higher Education).

Minnesota Office of Higher Education
1450 Energy Park Drive, Suite 350 St. Paul, MN 55108-5227
651-256-3965 or 1-800-657-3866, secure fax 651-797-1664
betsy.talbot@state.mn.us

EMPLOYMENT ASSISTANCE

NIA offers employment assistance to the graduates of our *NDT Career Program*. NIA will assist students with resume writing/creation as well as introducing students to various NDT company recruiters during the hands-on element of the program.

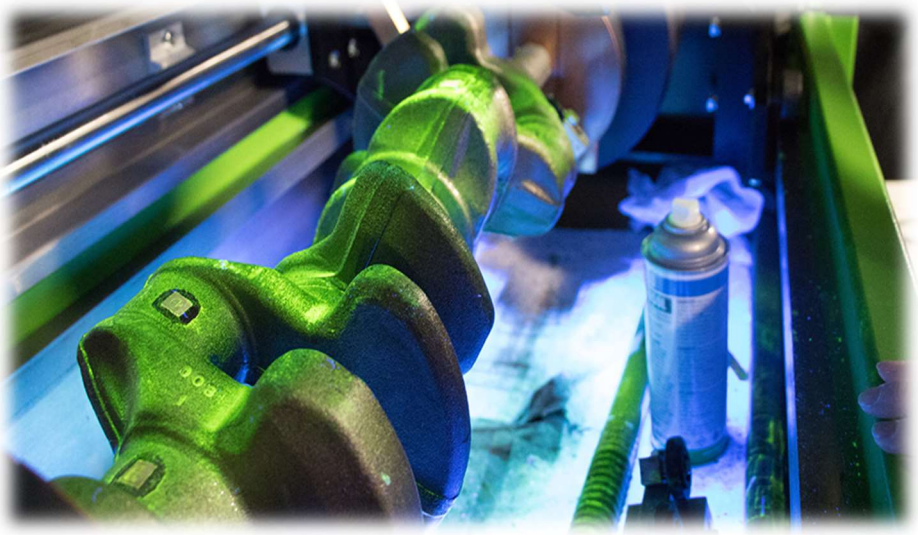
The National Inspection Academy does not guarantee employment. However, we do assist students in finding employment opportunities by inviting various NDT company recruiters to visit the academy during the hands-on element of the program. Students are encouraged to speak and interview with recruiters.

HOUSING AND MEALS

NIA does not have on campus housing. Securing housing is the responsibility of the student. We provide a list of housing options available to students. The housing list will be sent via email and can be provided by request. NIA does not endorse any of the listings and is not responsible for any related issues.

Students will have an hour for lunch from 11:30 a.m. to 12:30 p.m.

NIA does not have a food service. Students may bring their own food or there are several restaurants near the Academy.



CAMPUS SECURITY POLICIES AND PROCEDURES

Reporting of Criminal Incidences. The Academy strives to provide a safe and secure environment for all students and staff members. All students and staff members are encouraged to report any and all suspicious campus activity immediately upon witnessing the occurrence.

All students should report any knowledge of a criminal or suspicious nature to their instructor. The Academy will take appropriate action based upon the information given by the student or staff member. When deemed appropriate, local law enforcement authorities will also be notified.

Security Program. All students are informed of security procedures during orientation. All staff members are briefed on security procedures upon hiring. Both staff members and students are encouraged to be responsible for their own security and the security of those around them by understanding the security procedures and reporting any incidents when they occur to a safety/security team member.

Policy Regarding Illegal Substances. The Academy strictly forbids the possession, use or sale of any alcoholic beverages and/or any drugs on all Academy property. Students and staff members should report any knowledge of such activities to the appropriate school personnel mentioned above in the "Reporting of Criminal Incidence".

Any infraction is the cause for immediate suspension and possible dismissal. When appropriate, such an infraction will also be reported to the local authorities.

Anti-Hazing Policy. Hazing is defined as any action or situation which recklessly or intentionally endangers the mental or physical health or safety of a student. "Hazing" means doing any act or coercing another, including the victim, to do any act of initiation into any student or other organization or any act to continue to reinstate membership in or affiliation with any other organization that causes or creates a substantial risk of causing mental or physical harm to any person, including coercing another to consume alcohol or a drug of abuse. Hazing includes, without limitation, the following as determined by the Academy:

any brutality of a physical nature, such as whipping, beating, branding, or exposure to the elements; forced consumption of any food, alcohol, drug or other substance; forced physical activity which could adversely affect the physical health or safety of a student; any activity which would subject a student to extreme mental stress, such as sleep deprivation, forced exclusion from social contact, forced conduct which could result in extreme embarrassment; or any forced activity which could adversely affect the mental health or dignity of a student. The safety of our students, staff and faculty are a top priority with NIA. NIA depends on administrators, faculty, staff, and students to identify acts of behavior that may be of concern so NIA can take appropriate actions to assist those affected. All are responsible for campus safety. Hazing is considered a violation of the Student Code of Conduct. Failure to comply with this policy will result in disciplinary action including, potentially, dismissal from the Academy.

Domestic Violence Policy. Reports regarding domestic violence should be directed to the Baxter Police Department.

Missing Person Policy. Reports regarding a student who is believed to be missing should be directed to the Baxter Police Department.

HEALTH AWARENESS

Individuals with a pacemaker or defibrillator are restricted from entering magnetic particle, magnetic flux leakage labs and other high voltage areas due to potential risk of electric shock and/or high frequency interfering with the pacemaker or defibrillator signal.

Students are responsible for their own medical care and insurance expenses. Students are not covered by NIA insurance or industrial compensation.

Vaccinations are not required as a condition of enrollment at the National Inspection Academy.

TOBACCO-FREE POLICY

NIA is committed to providing a safe and healthy environment for all students and visitors at our campus. Smoking and vaping use of any kind is prohibited inside the NIA or within 25 feet of its facilities. A designated outdoor smoking area is located on the north side of the Main Campus Building.

DRUG AND ALCOHOL-FREE CAMPUS

NIA promotes the health, safety, and effectiveness of our students. In doing so, we expect students to report to school mentally and physically prepared to learn. This requires students to abstain from using substances that could alter their performance prior to or during scheduled classes.
Controlled substances include, but are not limited to narcotics, depressants, amphetamines, and hallucinogens. A violation may result in disciplinary action up to and including dismissal. Local law enforcement will be immediately notified of any incident involving a student under the age of 21 or pertaining to the involvement of controlled substance.

WEAPON FREE POLICY

The NIA has a Weapon Free Policy no person shall possess, have under their possession or control, convey, or attempt to convey, a deadly weapon or dangerous ordnance onto the NIA premises. This includes other potentially dangerous weapons, explosives, combustibles, or dangerous chemicals, or the possession of any other objects used with the intent to damage, injure, or disrupt Academy activities.

DRESS CODE POLICY

Our goal is to ensure the safety and professional appearance of all students attending the NIA. The following Dress Code is always required:
All shirts must have sleeves and be free of tears or holes.
All pants must be free of tears or holes.
Clothing may not display obscene language, graphics or pictures.
Closed toed shoes are required.

PERSONAL PROTECTIVE EQUIPMENT

The Personal Protective Equipment (PPE) Program is an OSHA requirement. PPE is equipment worn to minimize exposure to hazards that can cause injuries and illness. All students, visitors, and personnel will be required to wear the appropriate PPE when in the inspection labs and dark room areas. PPE will be provided by NIA at no additional charge.

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT

The Family Educational Rights & Privacy Act (FERPA) is a federal law that protects the privacy of student education records by providing students access to their educational records, an opportunity to seek to have the records amended and some control over the disclosure of information from the records.
The NIA will only give grades, attendance, and financial aid information to people that the student authorizes.

MINNESOTA OFFICE OF HIGHER EDUCATION

Address: 1450 Energy Park Dr # 350, St Paul, MN 55108
Phone: (651) 642-0567

SCHOLARSHIPS

If scholarships are available for NIA they can be found on the academy's website nationalinspection.org or by contacting (218) 851-8347.

National Inspection Academy
14303 Edgewood Dr N #4,
Baxter, MN 56425

POLICY: Unauthorized Copyright Violations and Peer-to-Peer File Sharing Policy

Unauthorized distribution of copyrighted material is illegal and carries substantial civil and criminal penalties under the Digital Millennium Copyright Act (DMCA) and other laws. National Inspection Academy respects the intellectual property rights of others and expects students, faculty, and staff to do so as well. It is the responsibility of all members of the NIA community to make a good faith determination that their use of copyrighted materials complies with the United States Copyright Law and this policy.

National Inspection Academy (NIA) prohibits the use of its network to illegally distribute, download or share copyrighted materials. Proper use of copyright materials also extends to electronic resources available on the internet.

The purpose of this policy is to define how NIA will respond to the unauthorized distribution, download or sharing of copyrighted material using NIA′s network, including disciplinary action and penalties for the unauthorized distribution, downloading or sharing of copyrighted material.

This policy applies to all users of the NIA network and information systems.

- Peer-to-peer (P2P) file sharing programs are useful tools for exchanging data at high speeds. Due to this attribute, P2P programs are also the primary method for illegally sharing copyrighted material such as movies, music, television shows, and video games.
- Users of P2P programs should be aware that these programs are often designed to search the contents of a user's hard drive and share files such as movies and music without explicit notice to or permission from the user.
- NIA may receive notices from outside groups that NIA network users are engaging in unauthorized file sharing in violation of the DMCA (a "DMCA notice").
- When NIA receives a DMCA notice, it has a legal obligation to provide the user with a copy of the notice and to act to stop unauthorized file sharing on NIA′s network.
- DMCA notices may relate to a user's possession and sharing of copyrighted material obtained through unauthorized file sharing, or a user's unauthorized sharing of copyrighted material that the user legally owns.
- A user who receives a DMCA notice related to material obtained without legal authorization must delete the material from the user's computer.
- A user who receives a DMCA notice related to sharing legally owned material must cease sharing the material. Users may also be required to delete P2P programs from the user's computer as well.

Under federal law, a person found to have infringed upon a copyrighted work may be liable for actual damages and lost profits attributable to the infringement, and statutory damages from $200 up to $150,000. The copyright owner also has the right to permanently enjoin an infringer from further infringing activities, and the infringing copies and equipment used in the infringement can be impounded and destroyed. If a copyright owner hired an attorney to enforce his or her rights, the infringer of a work may also be liable for the attorney's fees as well as court costs. Finally, criminal penalties may also be assessed against the infringer and could include jail time depending upon the nature of the violation.

Course Title: Industrial Radiography Radiation Safety (NDT Career Program)		
Course Prefix & No.: Rad40	**Course length Online / Hands-on:** 32 hours / 8 hours	**Clock Hours:** 40

COURSE DESCRIPTION:
This is a 40-hour industrial radiography radiation safety course designed to meet or exceed the requirements for certification in radiation safety for both X- and gamma radiography. Students will learn the fundamentals of working safely around radiation emitting sources. Focus will be given to the transportation and storage of radioactive materials. The student will also learn and fully understand the ALARA concept. During the hands- on portion students will learn how to connect the crank assemble and guide tube to the radiation emitting device and learn how to calculate barricade distances.

RATIONALE:
This course is intended to provide the necessary safety training for all individuals pursuing a role as an industrial radiographer in the United States of America.

REQUIRED TEXTBOOK and MATERIALS:

Title: ANST Industrial Radiography Radiation Safety
Textbook Edition: Second
Author: American Society for Nondestructive Testing

Title: NIA Industrial Radiography Radiation Safety Online
Course Edition: First
Author: The National Inspection Academy

Online access to course: Students are required to have a computer/smartphone with internet access.
The final exam is conducted using an online proctoring service and a webcam and/or front facing camera is required to take exam.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: Industrial Radiography Radiation Safety PREFIX/NO: RAD40

COURSE OBJECTIVES:

This course is designed to meet the necessary requirements stated in the Code of Federal Regulations. This course will instruct students on how to safely work in an industrial environment using either X- or gamma radiation emitting devices. The student will learn the types of dosimetry, their limitations, the calibration requirements and how to use said dosimetry. Students will also learn how to take proper surveys and understand where boundaries shall be placed. The student will have a deep understanding of how and why the practice of ALARA is always required. Lastly the student will learn how to connect the exposure device to a guide tube and crank assembly performing a NO-GO inspection of the assembly.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

Discovery of radiation
Introduction
The beginning of radiography The benefits of early radiography Radiation hazards
Fundamentals of radiation
The basics of atomic theory The atom
The periodic table Types of radiation
X-rays
Xray production Xray tube
Types of x-ray equipment
Radiation safety requirements for x-ray equipment Gamma rays
Discovery of alpha, beta and gamma Nuclear decay
Origin of gamma rays Activity
Half-life
Characteristics of gamma radiation Gamma radiography
Storage, control, and disposal of licensed material; and Inspection and maintenance of equipment.
Radiations interaction with matter
Ionization
Scatter
Radiation detection equipment
Survey equipment Survey meters
Personnel monitoring devices Alarming rate meters
Use, operation, calibration
Limitations of radiation survey instruments Survey techniques
Operation and control of radiographic exposure equipment, remote handling equipment, and storage containers Biological effects of radiation exposure
Discovery of biological effects Units of radiation
Hazards of exposure to radiation Controlling radiation exposures
Time Distance
Shielding Half-life
Types of installations for X- and gamma Regulations for X- or gamma ray radiography
Personnel responsibilities
Levels of radiation from licensed material NRC regulations
Regulations specific to radioactive material
Daily and quarterly inspection and maintenance Licensing requirements
Transportation requirements Receiving and shipping sources Physical protection of category 1 and 2
Ethics
Case histories of accidents in radiography

Hands-On: 1 Day (All hands-on training is directed and supervised by a minimum of 1 instructor)
Morning: 0700 – 1100 (one ½ hour break), Afternoon: 0700 – 1100 (one ½ hour break)
Exercise: Use of dosimetry/survey meters, performance of proper surveys.
Exercise: Gamma radiation exposure device assembly, daily checks, and performance.
Exercise: Utilization of ALARA principles.

COURSE REQUIREMENTS/EVALUATION:

The requirements to successfully pass the National Inspection Academy's 40 Hour Industrial Radiography Radiation Safety course is to complete each of the online learning modules, complete all reading assessments from the ASNT Industrial Radiography Radiation Safety Textbook, pass all end of lesson quizzes with a score of 70% or greater. The final exam will be a proctored 125 question exam with a passing score of 70% or greater. The student must also complete a hands-on day of training.

NATIONAL INSPECTION ACADEMY

COURSE OUTLINE FORM

Course Title:	**Magnetic Particle Testing Level I (NDT Career Program)**	
Course Prefix & No.: MT1	**Course length** **Online / Hands-on:** 8 hours / 2 hours	**Clock Hours:** 10

COURSE DESCRIPTION:
This course will give students the knowledge needed to perform (MT) inspections. The course will begin with the theory of magnetic fields and expand into the effect of discontinuities on those magnetic fields. Students will learn how to perform the inspection, follow procedures, and complete reports.

COURSE PREREQUISITE(S):
Capable of passing a near vision acuity test, either corrected or uncorrected.
Capable of passing a color-contrast test.

RATIONALE:
This course is intended to provide a foundation for all individuals pursuing a level I role as a magnet particle technician. Course content complies with all applicable sections of ASNT CP-105.

REQUIRED TEXTBOOK (S) and/or MATERIALS:

Title: Magnetic Particle Testing MT Classroom Training Book
Edition: Second
Author: Personnel Training Publications PTP

Title: NIA Magnetic Particle Testing Level I Online
Edition: First
Author: The National Inspection Academy

Computer/Smartphone: Students are required to have a computer/smartphone with internet access and a webcam/front facing camera.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

NATIONAL INSPECTION ACADEMY

COURSE OUTLINE FORM

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: Magnetic Particle Testing Level I PREFIX/NO: MT1

COURSE OBJECTIVES:

1. Understand the basic principles of magnetization.
2. Understand the certification levels and the requirements.
3. Recognize the various types of magnetization methods.
4. Understand the effects of discontinuities on materials.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

Principles of Magnets and Magnetic Fields
Theory of magnetic fields
Theory of magnetism
Terminology associated with magnetic particles testing (MT)
Characteristics of Magnetic Fields
Bar magnets
Ring magnets
Effects of Discontinuities of Materials
Surface cracks
Scratches Subsurface defects
Magnetization by Means of Electric Current
Circular fields
Longitudinal field
Selecting the Proper Method of Magnetization
Alloy, shape and condition of part Type of magnetizing current Direction of magnetic fields Sequence of operations
Value of flux density Inspection Materials
Wet particles Dry particles
Principles of Demagnetization
Residual magnetism
Reason for requiring demagnetization Longitudinal and circular residual fields Basic principles of demagnetization Retentivity and coercive force
Methods of demagnetization
MT
Equipment selection considerations Manual inspection equipment Medium- and heavy- duty equipment Stationary equipment
Mechanized inspection equipment Types of Discontinuities Detecting by MT
Inclusions Blowholes
Porosity Flakes Cracks
Pipes Laminations Laps
Forging bursts Voids
Magnetic Particle Testing Indications and Interpretations
Indications of nonmetallic inclusions Indications of surface seams
Indications of cracks Indications of laminations Indications of laps
Indications of bursts and flakes Indications of porosity Nonrelevant indications

Level I Hands-On:

Exercise: Establishment of indirect magnetic field using alternating current applications.
Exercise: Determination of magnetic field direction and field strength in test specimens.
Exercise: Inducing indications through use of dry particle application.

NATIONAL INSPECTION ACADEMY

COURSE OUTLINE FORM

COURSE OBJECTIVES/ASSESSMENT MEASURES

COURSE OBJECTIVES	ASSESSMENT MEASURES
1. Understand the basic principles of magnetization.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
2. Recognize the various types of magnetization methods.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
3. Recognize the various types of magnetization methods.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
4. Understand the effects of discontinuities on materials.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.

NATIONAL INSPECTION ACADEMY

COURSE OUTLINE FORM

Course Title:	**Magnetic Particle Testing Level II (NDT Career Program)**	
Course Prefix & No.: MT2	**Course length** **Online / Hands-on:** 4 hours / 2 hours	**Clock Hours:** 6

COURSE DESCRIPTION:
The MT level II course will start with a review of the principles of magnetic particle testing and go in depth with the types of flux fields that are associated with magnetic particle. The student will learn how to select the proper method for magnetization along with demagnetization procedures.

COURSE PREREQUISITE(S):
Capable of passing a near vision acuity test, either corrected or uncorrected.
Capable of passing a color-contrast test.

RATIONALE:
This course is intended to provide a foundation for all individuals pursuing a level II role as a magnet particle technician. Course content complies with all applicable sections of ASNT CP-105.

REQUIRED TEXTBOOK (S) and/or MATERIALS:

Title: Magnetic Particle Testing MT Classroom Training Book
Edition: Second
Author: Personnel Training Publications PTP

Title: NIA Magnetic Particle Testing Level II Online
Edition: First
Author: The National Inspection Academy

Computer/Smartphone: Students are required to have a computer/smartphone with internet access and a webcam/front facing camera.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

NATIONAL INSPECTION ACADEMY

COURSE OUTLINE FORM

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: Magnetic Particle Testing Level II PREFIX/NO: MT2

COURSE OBJECTIVES:

1. Understand the basic principles of magnetization.
2. Understand the certification levels and the requirements.
3. Recognize the various types of magnetization methods.
4. Understand the effects of discontinuities on materials.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

Principles
Theory
Magnets and magnetism Flux Fields
Direct current
Direct pulsating current Alternating current
Effects of Discontinuities on Materials
Design factors
Relationship to load-carrying ability
Magnetization by means of Electric Current
Circular techniques
Longitudinal technique
Selecting the proper method of magnetization
Alloy, shape and condition of part Type of magnetizing current Direction of magnetic field
Sequence of operations Value of flux density
Demagnetization Procedures
Need for demagnetization of parts Current, frequency and field orientation Heat factors and precautions
Need for collapsing flux fields

Equipment
Portable type Stationary type
Automatic type
Multidirectional units Liquids and powders
Ultraviolet radiation types Light-sensitive instruments
Types of Discontinuities In castings
In ingots
In wrought sections and parts In welds
Evaluation Techniques
Use of standards Defect appraisal
Quality Control of Equipment and Processes
Malfunctioning of equipment
Proper magnetic particles and bath liquid Bath concentration
Tests for ultraviolet radiation intensity

Level II Hands-On: (All hands-on training is directed and supervised by a minimum of 1 instructor)
Exercise: Development of indications on test specimens using field portable AC yoke techniques with visible dry media.
Exercise: Development of indications on test specimens using field portable AC yoke techniques with wet visible media and contrasting background.
Exercise: Development of indications on test specimens using field portable AC yoke techniques with wet fluorescent media.
Exercise: Evaluation of relevant indications to NIA's MT Procedures. Exercise:
Evaluation of relevant indications to common industry standards.

NATIONAL INSPECTION ACADEMY

COURSE OUTLINE FORM

COURSE OBJECTIVES/ASSESSMENT MEASURES

COURSE OBJECTIVES	ASSESSMENT MEASURES
1. Understand the basic principles of magnetization.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
2. Recognize the various types of magnetization methods.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
3. Recognize the various types of magnetization methods.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
4. Understand the effects of discontinuities on materials.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.

NATIONAL INSPECTION ACADEMY

COURSE OUTLINE FORM

Course Title:	MAGNETIC PARTICLE TESTING (MT) AEROSPACE SUPPLEMENT (NDT Career Program)	
Course Prefix & No.: MTNAS410	**Course length** **Online / Hands-on:** 12 hours / 4 hours	**Clock Hours:** 16

COURSE DESCRIPTION:
The course provides supplemental training for magnetic particle testing specific to the aerospace industry. This includes variations of the NDT method which may be rarely used in general industry but quite common within aerospace applications. This course fulfills the additional training requirements for magnetic particle testing in the aerospace industry.

COURSE PREREQUISITE(S):
Capable of passing a near vision acuity test, either corrected or uncorrected.
Capable of passing a color-contrast test.

RATIONALE:
This course is intended to provide a foundation for all individuals pursuing a role as a magnet particle technician in the aerospace industry.

REQUIRED TEXTBOOK (S) and/or MATERIALS:

Title: Magnetic Particle Testing MT Classroom Training Book
Edition: Second
Author: Personnel Training Publications PTP

Title: NIA Magnetic Particle Testing Aerospace Supplement Online
Edition: First
Author: The National Inspection Academy

Computer/Smartphone: Students are required to have a computer/smartphone with internet access and a webcam/front facing camera.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

NATIONAL INSPECTION ACADEMY

COURSE OUTLINE FORM

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: MAGNETIC PARTICLE TESTING (MT) AEROSPACE SUPPLEMENT

COURSE OBJECTIVES:

1. Understand the principles of magnetization.
2. Understand the certification levels in the aerospace industry.
3. Recognize the various types of magnetization methods.
4. Understand the effects of discontinuities on materials.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

Principles of Magnetic Particle Inspection
- MPI Basic terminology in the aerospace industry.
- MPI in the Aerospace industry overview.
- Magnetic particle inspection Overview.
- Magnetic Materials.
- Magnetic Fields.
- Detection of Discontinuities.
- Law of Magnetism.
- Magnetic hysteresis.
- magnetic field strength and flux density.
- removal of residual magnetism.
- Magnetic field reversal.
- Magnetic Permeability.
- Magnetic Particles.
- Dry versus wet applications.
- use of wetting agents.
- Equipment & Material overview.
- Processing methods.
- Field intensity.
- Quantitative Quality Indicators (qqis).
- Application of shim type qqis.
- Determining field strength & direction.
- Current waveform.
- Magnetic particle Wet Bath Intensity.
- Bath degradation.

Testing Standards & Specifications
- Common MPI Standards for Aerospace testing.
- Calibration & System performance.
- Lighting Requirements.
- ASTM E1444 Light meter requirements.
- Gaussmeter/field indicator accuracy.
- Timer control.
- Ammeter accuracy.
- Quick break check.
- Internal short check.
- Wet particle concentration test requirements.
- Particle sensitivity test.
- System performance.
- Ketos ring vs as5282 ring.
- System performance using the AS5282 ring.
- System performance verification.
- Aerospace Process Checklist Example.

Hands-on Equipment Familiarization Training Includes: (All hands-on training is directed and supervised by a minimum of 1 instructor)

Development of indications on test specimens using yoke techniques with visible dry media.
Development of indications on test specimens using yoke techniques with wet visible media and contrasting background.
Development of indications on test specimens using yoke techniques with wet fluorescent media.
Evaluation of relevant indications to NIA's MT Procedures.
Evaluation of relevant indications to common industry standards
Evaluation of relevant indications to common industry standards.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

COURSE OBJECTIVES/ASSESSMENT MEASURES

COURSE OBJECTIVES	ASSESSMENT MEASURES
1. Understand the principles of magnetization.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
2. Understand the certification levels in the aerospace industry.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
3. Recognize the various types of magnetization methods.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
4. Understand the effects of discontinuities on materials.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Title:	**Liquid Penetrant Testing Level I (NDT Career Program)**	
Course Prefix & No.: PT1	**Course length** **Online / Hands-on:** 4 hours / 2 hours	**Clock Hours:** 6

COURSE DESCRIPTION:
Liquid Penetrant Testing Level I course will introduce students to the concepts that make PT including capillary action, viscosity, and development. Students will learn the processing, various methods, and equipment used during liquid penetrant inspections.

COURSE PREREQUISITE(S):
Capable of passing a near vision acuity test, either corrected or uncorrected.
Capable of passing a color-contrast test.

RATIONALE:
This course is intended to provide a foundation for all individuals pursuing a level I role as a liquid penetrant technician. The course content complies with the applicable sections of ASNT CP-105.

REQUIRED TEXTBOOK (S) and/or MATERIALS:

Title: Liquid Penetrant Testing PT Classroom Training Book
Edition: Second
Author: Personnel Training Publications PTP

Title: NIA Liquid Penetrant Testing Level I Online
Edition: First
Author: The National Inspection Academy

Computer/Smartphone: Students are required to have a computer/smartphone with internet access and a webcam/front facing camera.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: Liquid Penetrant Testing Level I PREFIX/NO: PT1

COURSE OBJECTIVES:

1. Understand the purpose of liquid penetrant testing.
2. Learn the certification levels and the requirements of each.
3. Be able to recognize the types of equipment used.
4. Understand visible and ultraviolet lighting requirements.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

Introduction
Brief history of nondestructive testing and liquid penetrant testing (PT)
Purpose of PT
Basic principles of PT
Types of liquid penetrants commercially available
Methods of personnel qualification Liquid
Penetrant Processing
Preparation of parts
Adequate of penetrant to parts Removal of surface penetrant Developer application and drying Inspection and evaluation
Post-cleaning Various PT
Methods
Current standard methods Characteristics of each method
PT Equipment
PT units
Lighting for PT equipment and light meters Materials for PT
Precautions in PT

Level I Hands-On: (All hands-on training is directed and supervised by a minimum of 1 instructor)

Exercise: Achieving acceptable cleanliness of test objects using Class 1 Solvent.
Exercise: Application and removal of Type II Method C penetrant.
Exercise: Application of Form e developers.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

COURSE OBJECTIVES/ASSESSMENT MEASURES

COURSE OBJECTIVES	ASSESSMENT MEASURES
1. Understand the purpose of liquid penetrant testing.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
2. Learn the certification levels and the requirements of each.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
3. Be able to recognize the types of equipment used.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
4. Understand visible and ultraviolet lighting requirements	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Title:	**Liquid Penetrant Testing Level II (NDT Career Program)**	
Course Prefix & No.: PT2	**Course length** **Online / Hands-on:** 8 hours / 2 hours	**Clock Hours:** 10

COURSE DESCRIPTION:
The course will begin with a review of the principles and move into advanced inspection and evaluation or indications. Students will learn how to interpret indications, follow procedures, and other factors affecting indications. The hands-on portion will allow students to follow a work procedure and process parts as if they were employed by an inspection company.

COURSE PREREQUISITE(S):
Capable of passing a near vision acuity test, either corrected or uncorrected.
Capable of passing a color-contrast test.

RATIONALE:
This course is intended to provide a foundation for all individuals pursuing a level II role as a liquid penetrant technician. The course content complies with the applicable sections of ASNT CP-105.

REQUIRED TEXTBOOK (S) and/or MATERIALS:

Title: Liquid Penetrant Testing PT Classroom Training Book
Edition: Second
Author: Personnel Training Publications PTP

Title: NIA Liquid Penetrant Testing Level II Online
Edition: First
Author: The National Inspection Academy

Computer/Smartphone: Students are required to have a computer/smartphone with internet access and a webcam/front facing camera.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: Liquid Penetrant Testing Level II PREFIX/NO: PT2

COURSE OBJECTIVES:

1. Understand the purpose of liquid penetrant testing.
2. Learn the certification levels and the requirements of each.
3. Be able to recognize the types of equipment used.
4. Understand visible and ultraviolet lighting requirements.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

Review
Basic principles
Process of various methods Equipment
Selection of the Appropriate Penetrant Method
Advantages of various methods Disadvantages of various methods
Inspection and Evaluation of Indications
General
Factors affecting indications Indications from cracks Indications from porosity
Indications from specific material forms Evaluation of indications
Inspection Procedures and Standard
Inspection procedures (minimum requirements)
Standards/ codes Basic
Method of Instruction

Level II Hands-On: (All hands-on training is directed and supervised by a minimum of 1 instructor)
Exercise: Utilize Solvent Class 1, Type II Method C penetrant, and Form e developer on test specimens.
Exercise: Evaluate test results to NIA PT procedures.
Exercise: Evaluate test results to common industry standards.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

COURSE OBJECTIVES/ASSESSMENT MEASURES

COURSE OBJECTIVES	ASSESSMENT MEASURES
1. Understand the purpose of liquid penetrant testing.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
2. Learn the certification levels and the requirements of each.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
3. Be able to recognize the types of equipment used.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
4. Understand visible and ultraviolet lighting requirements	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Title:	LIQUID PENETRANT TESTING (PT) AEROSPACE SUPPLEMENT (NDT Career Program)	
Course Prefix & No.: PTNAS410	**Course length** **Online / Hands-on:** 12 hours / 4 hours	**Clock Hours:** 16

COURSE DESCRIPTION:
The course provides supplemental training for liquid penetrant testing specific to the aerospace industry. This includes variations of the NDT method which may be rarely used in general industry but quite common within aerospace applications. This course fulfills the additional training requirements for liquid penetrant testing in the aerospace industry.

COURSE PREREQUISITE(S):
Capable of passing a near vision acuity test, either corrected or uncorrected.
Capable of passing a color-contrast test.

RATIONALE:
This course is intended to provide a foundation for all individuals pursuing a role as a liquid penetrant technician in the aerospace industry.

REQUIRED TEXTBOOK (S) and/or MATERIALS:

Title: Liquid Penetrant Testing PT Classroom Training Book
Edition: Second
Author: Personnel Training Publications PTP

Title: NIA Liquid Penetrant Testing Aerospace Supplement Online
Edition: First
Author: The National Inspection Academy

Computer/Smartphone: Students are required to have a computer/smartphone with internet access and a webcam/front facing camera.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: LIQUID PENETRANT TESTING (PT) AEROSPACE SUPPLEMENT

COURSE OBJECTIVES:

1. Understand the purpose of liquid penetrant testing.
2. Learn the certification levels and the requirements of each.
3. Be able to recognize the types of equipment used.
4. Understand visible and ultraviolet lighting requirements.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

NAS 410 Overview
- Introduction to aerospace industry requirements.
- Development of aerospace standards.
- Nas 410 Purpose.
- Responsibilities.
- Levels of Qualification & Certification.
- Training & experience requirements.
- Experience requirements.
- Emerging NDT methods.
- Certification requirements.

Liquid Penetrant Material Properties
- Fluid mechanics of liquid penetrant.
- Penetrant - wetting ability.
- Capillary action.
- Physical properties.
  - Viscosity.
  - Specific gravity.
  - Flash point.
  - Volatility.
  - Thermal stability.
  - Storage temperature stability.
- Chemical properties.
  - Inertness.
  - Toxicity.
  - Solvent ability.
  - Removability.
  - Water tolerance.
  - Fluorescence mechanism.
  - Brightness.

Liquid Penetrant Testing Equipment
- Portable equipment.
- Stationary equipment - general purpose.
- Small parts inspection systems.
- Automated inspection systems.
- Inspection lamp sources.
  - Incandescent and carbon arc systems.
  - Low pressure fluorescent “bl” bulbs.
  - Mercury vapor bulbs.
    - Mercury vapor bulb Warm-up requirement.
    - Care of Mercury Vapor Bulbs.
  - Micro gas discharge (MGD) lamps.
  - Light emitting diodes (LED).

Testing Standards & Specifications
- Common aerospace standards.
- ASTM E165 vs E1417.
- AMS 2644.
- Aerospace requirements for pt specifications.
- Pt specification sections.
  - Materials.
  - Equipment.
- Process control information.
  - Water contamination.
  - Developers.
  - Materials selection.
- Specification for personnel qualification.
- Written procedures.

Hands-on Equipment Familiarization Training Includes:
(All hands-on training is directed and supervised by a minimum of 1 instructor)
Achieving acceptable cleanliness of test objects using Class 1 Solvent.
Application and removal of Type II Method C penetrant.
Application of Form e developers.
Utilize Solvent Class 1, Type II Method C penetrant, and Form e developer on test specimens.
Evaluate test results to NIA PT procedures.
Evaluate test results to common industry standards.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

COURSE OBJECTIVES/ASSESSMENT MEASURES

COURSE OBJECTIVES	ASSESSMENT MEASURES
1. Understand the purpose of liquid penetrant testing.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
2. Learn the certification levels and the requirements of each.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
3. Be able to recognize the types of equipment used.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
4. Understand visible and ultraviolet lighting requirements	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.

NATIONAL INSPECTION ACADEMY

COURSE OUTLINE FORM

Course Title:	**Visual Testing Level I (NDT Career Program)**	
Course Prefix & No.: VT1	**Course length** **Online / Hands-on:** 4 hours / 4 hours	**Clock Hours:** 8

COURSE DESCRIPTION:
The Visual Testing Level I course begins with the fundamental aspects of visual inspection and the various equipment used in the inspection process. Students will gain insight into how manufacturing processes can lead to discontinuities and the specific types of discontinuities that arise at different stages of production. Through a combination of online and hands-on practice, students will become adept at utilizing various visual testing (VT) equipment.

COURSE PREREQUISITE(S):
Capable of passing a near vision acuity test, either corrected or uncorrected.
Capable of passing a color-contrast test.

RATIONALE:
This course is intended to provide a foundation for all individuals pursuing a level I role as a visual testing technician. Course content complies all applicable sections of ASNT CP-105.

REQUIRED TEXTBOOK (S) and/or MATERIALS:

Title: Visual Testing Classroom Training Book
Edition: First
Author: Personnel Training Publications PTP

Title: NIA Visual Testing Level I Online
Edition: First
Author: The National Inspection Academy

Computer/Smartphone: Students are required to have a computer/smartphone with internet access and a webcam/front facing camera.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

NATIONAL INSPECTION ACADEMY

COURSE OUTLINE FORM

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: Visual Testing Level I PREFIX/NO: VT1

COURSE OBJECTIVES:

1. Understand the basics of visual inspection.
2. Understand the certification levels and the requirements.
3. Recognize the various types of techniques used in visual inspection.
4. Understand the equipment that can be used to aid in visual inspection.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

Introduction
Definition of visual testing (VT) History of VT
Overview of VT applications Definitions
Standard terms and their meaning
Fundamentals
Vision Lighting
Material attributes
Environmental factors Visual perception
Direct and indirect methods Equipment
Mirrors Magnifiers
Borescopes Fiber borescopes
Video borescopes
Remote visual inspection systems Light sources and special lighting Gauges
Automated systems Computer-enhanced systems
Employer-Defined Applications
Mineral-based materials
Metallic materials, including welds Organic-based materials
Other materials (employer defined) VT to specific Procedures
Selection of parameters
Test standards/ standardization Classification of indications per acceptance criteria
Reports and documentation

Level I Hands-On: 1/2 Day (All hands-on training is directed and supervised by a minimum of 1 instructor)
Exercise: Familiarization of visual inspection gauges.
Exercise: Use of visual inspection gauges to measure welding discontinuities.

NATIONAL INSPECTION ACADEMY

COURSE OUTLINE FORM

COURSE OBJECTIVES/ASSESSMENT MEASURES

COURSE OBJECTIVES	ASSESSMENT MEASURES
1. Understand the basics of visual inspection.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
2. Understand the certification levels and the requirements.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
3. Recognize the various types of techniques used in visual inspection.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
4. Understand the equipment that can be used to aid in visual inspection.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.

NATIONAL INSPECTION ACADEMY

COURSE OUTLINE FORM

Course Title:	**Visual Testing Level II (NDT Career Program)**	
Course Prefix & No.: VT2	**Course length** **Online / Hands-on:** 12 hours / 4 hours	**Clock Hours:** 16

COURSE DESCRIPTION:
The Visual Testing Level II course offers advanced visual inspection techniques. Students will learn how to use various inspection gauges used in the inspection industry. This course will also cover the use of rigid borescopes as well as in-direct borescopes. Students will learn how to detect discontinuities and will be able to complete reports with their findings follow codes and standards used in visual testing.

COURSE PREREQUISITE(S):
Capable of passing a near vision acuity test, either corrected or uncorrected.
Capable of passing a color-contrast test.

RATIONALE:
This course is intended to provide a foundation for all individuals pursuing a level II role as a visual testing technician. Course content complies all applicable sections of ASNT CP-105.

REQUIRED TEXTBOOK (S) and/or MATERIALS:

Title: Visual Testing Classroom Training Book
Edition: First
Author: Personnel Training Publications PTP

Title: NIA Visual Testing Level II Online
Edition: First
Author: The National Inspection Academy

Computer/Smartphone: Students are required to have a computer/smartphone with internet access and a webcam/front facing camera.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

NATIONAL INSPECTION ACADEMY

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: Visual Testing Level II PREFIX/NO: VT2

COURSE OBJECTIVES:

1. Understand the basics of visual inspection.
2. Understand the certification levels and the requirements.
3. Recognize the various types of techniques used in visual inspection.
4. Understand the equipment that can be used to aid in visual inspection.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

Purpose and Scope of VT
Scope Discontinuities Time of application
Elements of Vision
Mechanics of vision Adaptation and accommodation Vision limitations
Vision acuity examination and charts Elements of Lighting
Fundamentals of light Light sources Adequate light levels
Glare and Fatigue
General lighting requirements Contrast and Resolution
Reflection at smooth and rough/ textured surfaces
Law of illumination Luminous contrast
Influence of cleanliness on contrast Surface geometry and contrast
Optics
Transmission of light through solid and liquid media
Refraction of light Refractive indexes of glasses
How prisms change the direction of light How lenses focus and disperse light Lens optics and lens trains
Fiber optics and fiber bundles
Digitization and digital technology
VT Equipment
Generic tools such as magnifiers and mirrors Rigid borescopes
Fiber borescopes Video borescopes
Measurement techniques Specialized inspection systems
Visual Appearance of Discontinuities
Primary manufacturing discontinuities Secondary manufacturing discontinuities Service-induced discontinuities
Inherent discontinuities
Evaluation and Reporting
General evaluation scheme Evaluation criteria Evaluation techniques
Reporting and documentation
Codes, Standards and Specifications
VT as an engineering task VT as a technician task
US Standards European standards ISO standards
Employer-specific Topics
Applications and techniques
Specifications
Lighting techniques Material testing
Special evaluation criteria Safety Rules

Level II Hands-On: 1/2 Day (All hands-on training is directed and supervised by a minimum of 1 instructor)
Afternoon:
Exercises: Use of visual inspection gauges to measure and evaluate weld discontinuity acceptance in accordance with visual testing procedures.
Exercises: Use of visual inspection gauges to measure and evaluate weld discontinuity acceptance in accordance with various industry codes.

NATIONAL INSPECTION ACADEMY

COURSE OBJECTIVES/ASSESSMENT MEASURES

COURSE OBJECTIVES	ASSESSMENT MEASURES
1. Understand the basics of visual inspection.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
2. Understand the certification levels and the requirements.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
3. Recognize the various types of techniques used in visual inspection.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
4. Understand the equipment that can be used to aid in visual inspection.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Title:	**Radiographic Testing Level I (NDT Career Program)**	
Course Prefix & No.: RT1	**Course length** **Online / Hands-on:** 32 hours / 8 hours	**Clock Hours:** 40

COURSE DESCRIPTION:
The level I radiographic testing course will begin with a review of the physics of radiation and how it interacts with matter. Students will learn the difference between X- and gamma radiation. Once complete the student will be able to calculate the parameters of a quality radiographic exposer.

COURSE PREREQUISITE(S):
Capable of passing a near vision acuity test, either corrected or uncorrected.
Capable of passing a color-contrast test.

RATIONALE:
This course is intended to provide a foundation for all individuals pursuing a level I role as a radiographer. Course content complies all applicable sections of ASNT CP-105.

REQUIRED TEXTBOOK (S) and/or MATERIALS:

Title: Radiographic Testing RT Classroom Training Book
Edition: Second
Author: Personnel Training Publications PTP

Title: NIA Radiographic Testing Level I Online
Edition: First
Author: The National Inspection Academy

Computer/Smartphone: Students are required to have a computer/smartphone with internet access and a webcam/front facing camera.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: Radiographic Testing Level I PREFIX/NO: RT1

COURSE OBJECTIVES:

1. Understand the basic principles of radiographic testing.
2. Understand the equipment used in radiographic testing.
3. Recognize the various types of techniques used in radiographic testing.
4. Understand the different types and sources of radiation.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

Online

Basic Radiographic Testing Physics Course
Introduction
History and discovery of radioactive materials Definition of industrial radiographic testing (RT) Radiation protection
Basic math review – exponents, square root, etc Fundamental properties of matter
Elements and atoms Molecules and compounds
Atomic particles – properties of protons, electrons and neutrons
Atomic structure Atomic structure
Atomic number and weight Isotope versus radioisotope
Radioactive Material Production
Stable versus unstable (radioactive) atoms Becquerel – the unit of activity
Half-life of radioactive materials Plotting of radioactive decay Specific activity – becquerels/gram
Types of Radiation
Particulate radiation – properties: alpha, beta and neutron
Electromagnetic radiation – Xray, gamma ray X-ray production
Gamma ray energy
Energy characteristics of common radioisotopes sources
Energy characteristics of X-ray machines
Interaction of Radiation with matter Ionization
Radiation interaction with matter Unit of radiation exposure
Emissivity of commonly used radiographic sources Emissivity of X-ray exposure devices
Attenuation of electromagnetic radiation – shielding Half-value layers (HVL), tenth-value (TVL) Inverse Square Law
Exposure Devices and Radiation Sources
Radioisotope sources
Radioisotope exposure devices characteristics Electronic radiation low, medium and high energy Fluoroscopic radiation sources
Radiographic Safety Principles Review
As low as reasonably achievable (ALARA) concept Radiation-detection equipment
Exposure-device operating characteristics

Radiographic Technique Course Introduction
Process of radiography
Types of electromagnetic radiation sources Electromagnetic spectrum
Penetrating ability of "quality" of X-ray and gamma rays
Spectrum of X-ray tube source
Spectrum of gamma radioisotopes sources
X-ray tube – change of mA or kVp effect on "quality" and intensity

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Basic Principles of Radiography
Geometric exposure principles
Radiographic screens Radiographic cassettes
Composition of industrial radiographic film The "heel effect" with X-ray tubes
Radiographs
Formation of the latent image on film Inherent unsharpness
Arithmetic of radiographic exposure Characteristic curve
Film speed and class descriptions Selection of film for particular purpose
Radiographic Image Quality
Radiographic sensitivity
Radiographic contrast Film contrast
Subject contrast
Definition
Film graininess and screen mottle effects Image quality indicators (IQIs)

Film Handling, Loading and Processing Safelight and darkroom practices Loading bench and cleanliness
Opening of film boxes and packets Loading of film and sealing cassettes Handling techniques for "green film" Elements of manual film processing
Exposure Techniques – Radiography
Single-wall radiography Double-wall radiography Panoramic radiography
Use of multiple-film loading Specimen configuration
Fluoroscopic Techniques
Dark adaptation and eye sensitivity Special scattered radiation techniques Personnel protection
Sensitivity Limitations
Direct-screen viewing
Indirect- and remote-screen viewing

Level I Hands-On: 1 Day (All hands-on training is directed and supervised by a minimum of 1 instructor)
Exercises: Proper safety measures, area surveys, ALARA practices.
Exercises: Setup mock field radiographic imaging setups using training gamma camera.
Exercises: Setup mock field radiographic imaging setups using x-ray tube.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

COURSE OBJECTIVES/ASSESSMENT MEASURES

COURSE OBJECTIVES	ASSESSMENT MEASURES
1. Understand the basic principles of radiographic testing.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
2.Understand the equipment used in radiographic testing.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
3. Recognize the various types of techniques used in radiographic testing.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
4. Understand the different types and sources of radiation.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Title:	**Radiographic Testing Level II (NDT Career Program)**	
Course Prefix & No.: RT2	**Course length** **Online / Hands-on:** 24 hours / 16 hours	**Clock Hours:** 40

COURSE DESCRIPTION:
The level II course will build on the foundation of the level I course and expand into more advanced radiographic principles. The student will learn how to view the radiographic image and be able to interpret discontinuities within the test specimens. The hands-on portion will have students setting up exposures and processing film as if they were on a jobsite in the industry. The student will follow procedures on how to place image quality indicators and sample their images for proper sensitivity levels.

COURSE PREREQUISITE(S):
Capable of passing a near vision acuity test, either corrected or uncorrected.
Capable of passing a color-contrast test.

RATIONALE:
This course is intended to provide a foundation for all individuals pursuing a level II role as a radiographer. Course content complies all applicable sections of ASNT CP-105.

REQUIRED TEXTBOOK (S) and/or MATERIALS:

Title: Radiographic Testing RT Classroom Training Book
Edition: Second
Author: Personnel Training Publications PTP

Title: NIA Radiographic Level II Online
Edition: First
Author: The National Inspection Academy

Computer/Smartphone: Students are required to have a computer/smartphone with internet access and a webcam/front facing camera.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: Radiographic Testing Level II PREFIX/NO: RT2

COURSE OBJECTIVES:

1. Understand how to set up radiographic exposures.
2. Determine the best technique to use during inspection.
3. Recognize the various types of techniques used in radiographic testing.
4. Become familiar with the different types of radiography.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

Upon completion of this course, the student will be able to:

Basic Radiographic Testing Physics Course
Introduction
History and discovery of radioactive materials Definition of industrial radiographic testing (RT) Radiation protection
Basic math review – exponents, square root, etc Fundamental properties of matter
Elements and atoms Molecules and compounds
Atomic particles – properties of protons, electrons and neutrons
Atomic structure Atomic structure
Atomic number and weight Isotope versus radioisotope
Radioactive Material Production
Stable versus unstable (radioactive) atoms Becquerel – the unit of activity
Half-life of radioactive materials Plotting of radioactive decay Specific activity – becquerels/gram
Types of Radiation
Particulate radiation – properties: alpha, beta and neutron
Electromagnetic radiation – Xray, gamma ray X-ray production
Gamma ray energy
Energy characteristics of common radioisotopes sources
Energy characteristics of X-ray machines Interaction of Radiation with matter
Ionization
Radiation interaction with matter Unit of radiation exposure
Emissivity of commonly used radiographic sources
Emissivity of X-ray exposure devices
Attenuation of electromagnetic radiation – shielding Half-value layers (HVL), tenth-value (TVL)
Inverse Square Law
Exposure Devices and Radiation Sources
Radioisotope sources
Radioisotope exposure devices characteristics Electronic radiation low, medium and high energy Fluoroscopic radiation sources
Radiographic Safety Principles Review
As low as reasonably achievable (ALARA) concept Radiation-detection equipment
Exposure-device operating characteristics

Radiographic Technique Course
Introduction
Process of radiography
Types of electromagnetic radiation sources Electromagnetic spectrum
Penetrating ability of "quality" of X-ray and gamma rays
Spectrum of X-ray tube source
Spectrum of gamma radioisotopes sources
X-ray tube – change of mA or kVp effect on "quality" and intensity
Basic Principles of Radiography Geometric exposure principles Radiographic screens
Radiographic cassettes
Composition of industrial radiographic film The "heel effect" with X-ray tubes
Radiographs
Formation of the latent image on film Inherent unsharpness
Arithmetic of radiographic exposure Characteristic curve
Film speed and class descriptions Selection of film for particular purpose

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Radiographic Image Quality
Radiographic sensitivity
Radiographic contrast Film contrast
Subject contrast Definition
Film graininess and screen mottle effects Image quality indicators (IQIs)
Film Handling, Loading and Processing Safelight and darkroom practices Loading bench and cleanliness Opening of film boxes and packets
Loading of film and sealing cassettes Handling techniques for "green film" Elements of manual film processing
Exposure Techniques – Radiography
Single-wall radiography Double-wall radiography Panoramic radiography
Use of multiple-film loading Specimen configuration
Fluoroscopic Techniques
Dark adaptation and eye sensitivity Special scattered radiation techniques Personnel protection
Sensitivity Limitations
Direct-screen viewing
Indirect- and remote-screen viewing

Level II Hands-On: 2 Days (All hands-on training is directed and supervised by a minimum of 1 instructor)

Day 1
Exercises: Determination of geometric unsharpness, exposure time, characteristic curve.
Exercises: Film handling, opening, loading, elements of manual film processing.
Exercises: Film packaging and setup locators, identification labeling, image quality indicator selection.

Day 2
Exercises: Handling of processed film.
Exercises: Determination of film density
Exercises: Film evaluation for correct identification, image quality indicator to NIA RT procedures.
Exercises: Film evaluation for artifact identification.
Exercises: Film evaluation for discontinuities to NIA RT procedures.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

COURSE OBJECTIVES/ASSESSMENT MEASURES

COURSE OBJECTIVES	ASSESSMENT MEASURES
1. Understand how to set up radiographic exposures.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
2. Determine the best technique to use during inspection.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
3. Recognize the various types of techniques used in radiographic testing.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
4. Become familiar with the different types of radiography.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Title:	**Ultrasonic Testing Level I (NDT Career Program)**	
Course Prefix & No.: UT1	**Course length** **Online / Hands-on:** 32 hours / 8 hours	**Clock Hours:** 40

COURSE DESCRIPTION:
The level I Ultrasonic Testing course will begin with an introduction to acoustic principles. The student will learn the basic principles of sound propagation and how the inspection process can locate discontinuities. The student will learn the types of equipment used in the various industries. The hands-on portion will have students performing standardization of the equipment and how to perform longitudinal testing on flawed specimens.

COURSE PREREQUISITE(S):
Capable of passing a near vision acuity test, either corrected or uncorrected.
Capable of passing a color-contrast test.

RATIONALE:
This course is intended to provide a foundation for all individuals pursuing a level I role as an ultrasonic inspector. Course content complies all applicable sections of ASNT CP-105.

REQUIRED TEXTBOOK (S) and/or MATERIALS:

Title: Ultrasonic Testing UT Classroom Training Book
Edition: Second
Author: Personnel Training Publications PTP

Title: NIA Ultrasonic Level I Online
Edition: First
Author: The National Inspection Academy

Computer/Smartphone: Students are required to have a computer/smartphone with internet access and a webcam/front facing camera.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: Ultrasonic Testing Level I PREFIX/NO: UT1

COURSE OBJECTIVES:

1. Understand the basic principles of acoustics.
2. Understand the certification levels and the requirements.
3. Recognize the various types of techniques used in ultrasonic testing.
4. Understand the different modes of sound.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

Online

Introduction

Definition of ultrasonics, History of ultrasonic testing, Applications of ultrasonic energy, Basic math review, Responsibilities of levels of certification

Basic Principles of Acoustics

Nature of sound waves, Modes of sound-wave generation, Velocity, frequency, and wavelength of sound waves, Attenuation of sound waves, Acoustic impedance, Reflection, Refraction and mode conversion, Snell's law and critical angles, Fresnel and fraunhofer effects

Equipment

Basic pulse-echo instrumentation
Electronics – time base, pulser, receiver, and various monitor displays
Control functions
Calibration
Basic instrument calibration, Calibration blocks (types and use)
Digital thickness instrumentation Transducer
operation and theory
Piezoelectric effect, Types of transducer elements Frequency, Near field and far field, Beam spread Construction, materials, and shapes, Types (straight, angle, dual, etc.), Beam-intensity characteristics, Sensitivity, resolution, and damping, Mechanical vibration into part
Other type of transducers (Laser UT, EMAT, etc.), Couplants

Testing Methods

Contact
Straight beam and Angle beam, Surface-wave and plate waves, Pulse-echo transmission, Multiple transducer, Curved surfaces, Flat entry surfaces, Cylindrical and tubular shapes
Immersion
Transducer in water, water column, wheels, etc., Submerged test part, Sound beam path – transducer to part, Focused transducers and Curved surfaces, Plate waves, Pulse-echo and through-transmission

Calibration (Electronic and Functional)

Equipment
Monitor displays (amplitude, sweep, etc.), Recorders Alarms, Automatic and semiautomatic systems, Electronic distance/amplitude correction, Transducers
Calibration of equipment electronics
Variable effects, Transmission accuracy, Calibration requirements, Calibration reflectors, Inspection calibration
Comparison with reference blocks, Pulse-echo variables, Reference for planned tests, Transmission factors, Transducers, Couplants, Materials

Straight & Angle Beam Examination to Specific Procedures

Selection of parameters
Test standards, Evaluation of results, and Test reports

Hands-On

Level I Hands-On: 1 Day (All hands-on training is directed and supervised by a minimum of 1 instructor)

Exercises: Ultrasound scope settings review.
Exercises: Calibration procedures for compression wave testing.
Exercises: Compression wave testing for material thickness measurement operations.
Exercises: Compression wave testing for ID section loss determination and measurement.
Exercises: Compression wave testing for corrosion location and mapping.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

COURSE OBJECTIVES/ASSESSMENT MEASURES

COURSE OBJECTIVES	ASSESSMENT MEASURES
1. Understand the basic principles of acoustics.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
2. Understand the certification levels and the requirements.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
3. Recognize the various types of techniques used in ultrasonic testing.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
4. Understand the different modes of sound.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Title: Ultrasonic Testing Level II (NDT Career Program)		
Course Prefix & No.: UT2	**Course length** **Online / Hands-on:** 16 hours / 24 hours	**Clock Hours:** 40

COURSE DESCRIPTION:
This course covers the evaluation of base material through the manufacturing process and will give students and understanding of the discontinuities that can be formed along the way. Students will learn how to detect such discontinuities and will be able to complete reports with their findings. The hands-on portion will have students calibrate flaw detection units and perform inspection of test specimens with known defects using their knowledge obtained in this course to follow a procedure and interpret signals from test specimens.

COURSE PREREQUISITE(S):
Capable of passing a near vision acuity test, either corrected or uncorrected.
Capable of passing a color-contrast test.

RATIONALE:
This course is intended to provide a foundation for all individuals pursuing a level II role as an ultrasonic inspector. Course content complies with all applicable sections of ASNT CP-105.

REQUIRED TEXTBOOK (S) and/or MATERIALS:

Title: Ultrasonic Testing UT Classroom Training Book
Edition: Second
Author: Personnel Training Publications PTP

Title: NIA Ultrasonic Level II Online
Edition: First
Author: The National Inspection Academy

Computer/Smartphone: Students are required to have a computer/smartphone with internet access and a webcam/front facing camera.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: Ultrasonic Testing Level II PREFIX/NO: UT2

COURSE OBJECTIVES:

1. Understand the principles of acoustics.
2. Understand equipment calibration for compression and shear wave testing to industry standards.
3. Recognize the various types of ultrasonic testing applications.
4. Understand the different discontinuities associated with material manufacturing.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

Online

Principles of ultrasonics
Equipment
A-scan, B-scan, C-scan
Computerized systems
Testing techniques
Calibration
Straight beam
Angle beam
Resonance
Special applications
Evaluation of Base-Material Product Forms
Ingots, Plate and sheet, Bar and rod, Pipe and tubular products, Forgings, Castings, Composite structures
Process review
Types, origin and typical orientation of discontinuities
Response of ultrasound to discontinuities
Applicable codes/standards
Evaluation of Weldments
Welding processes Weld geometries Welding discontinuities
Origin and typical orientation of discontinuities
Response of discontinuities to ultrasound Applicable codes/standards
Evaluation of Bonded Structures
Manufacturing processes Types of discontinuities
Origin and typical orientation of discontinuities
Response of discontinuities to ultrasound Applicable codes/standards

Discontinuity Detection
Sensitivity to reflections
Size, type, and location of discontinuities
Techniques used in detection
Wave characteristics
Material and velocity
Resolution
Standard reference comparisons History of part
Probability of type of discontinuity Degrees of operator discrimination Effects of ultrasonic frequency Damping effects
Inspection calibration
Comparison with reference blocks
Pulse-echo variables
Reference for planned tests (straight beam, angle beam, etc.)
Transmission factors
Transducer Couplants
Materials
Straight Beam Examination to Specific Procedures
Selection of parameters
Test standards Evaluation of results Test reports
Angle Beam Examination to Specific Procedures
Selection of parameters
Test standards Evaluation of results
Test reports

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Level II Hands-On: 3 Day (All hands-on training is directed and supervised by a minimum of 1 instructor)

Day 1
Exercises: Longitudinal calibration without autocalibration features.
Exercises: Longitudinal calibration with autocalibration features.
Exercises: Shearwave calibration without autocalibration IIW Block for AWS criteria.
Exercises: Shearwave calibration without autocalibration DSC Block for AWS criteria.
Exercises: Raster scanning techniques for weldments.
Exercises: Longitudinal/Shearwave examination of welds using AWS static acceptance criteria.

Day 2
Exercises: Shearwave calibration with autocalibration IIW Block for AWS criteria.
Exercises: Shearwave calibration with autocalibration DSC Block for AWS criteria.
Exercises: Equipment configuration using the trigonometry calculator
Exercises: Longitudinal/Shearwave examination of welds using AWS cyclic acceptance criteria.

Day 3
Exercises: Shearwave calibration with autocalibration IIW Block for Distance Amplitude Correction Curve.
Exercises: Shearwave calibration with autocalibration for Time Corrected Gain function.
Exercises: Longitudinal/Shearwave examination of test specimens using ASME BPVC acceptance criteria.
Exercises: Longitudinal/Shearwave examination of test specimens using ASME B31.1 acceptance criteria.
Exercises: Longitudinal/Shearwave examination of test specimens using API 1104 acceptance criteria.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

COURSE OBJECTIVES/ASSESSMENT MEASURES

COURSE OBJECTIVES	ASSESSMENT MEASURES
1. Understand the principles of acoustics.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
2. Understand equipment calibration for compression and shear wave testing to various standards.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
3. Recognize the various types of ultrasonic testing applications.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
4. Understand the different discontinuities associated with material manufacturing.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Title: Eddy Current Testing Level I (NDT Career Program)		
Course Prefix & No.: ECT1	**Course length** **Online / Hands-on:** 32 hours / 8 hours	**Clock Hours:** 40

COURSE DESCRIPTION:
Eddy Current Testing uses electromagnetic induction produced from alternating current to yield information regarding the quality and characteristics of the testing material. Students will become familiar with electromagnetic theory, types of eddy current sensing elements, and readout mechanisms. The course will also demonstrate lift off effects, frequency effects, conductivity effects, and the effects of scan speed. During the hands-on portion students will become familiar with the equipment and perform the demonstrations themselves.

RATIONALE:
This course is intended to provide the education required for all individuals pursuing a level I certification in electromagnetic testing. The course content follows the applicable outline in ASNT CP-105 and meets the training requirements of SNT-TC-1C.

REQUIRED TEXTBOOK (S) and/or MATERIALS:

Title: Electromagnetic Testing ET Classroom Training Book
Edition: Second
Author: Personnel Training Publications PTP

Title: NIA Eddy Current Testing Level I Online Course
Edition: First
Author: The National Inspection Academy

Computer/Smartphone: Students are required to have a computer/smartphone with internet access and a webcam/front facing camera.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: Eddy Current Testing Level I PREFIX/NO: ECT1

COURSE OBJECTIVES:

1. Understand the basic principles of electromagnetic induction.
2. Understand the certification levels and the requirements.
3. Recognize the various types of techniques used in electromagnetic testing.
4. Understand the readout mechanisms used in electromagnetic testing.
5. Demonstrate the ability to set up conductivity, lift-off, and thickness curves.
6. Understand the effects impedance plane display.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

Introduction to Eddy Current Testing
Historical and developmental process
Basic physical and controlling principles
Electromagnetic Theory
Eddy current theory Lab
Demonstration
Generation of Z-curves with conductivity samples
Generation of liftoff curves Types of
Eddy Current Sensing Elements
Probes
Factors affecting choice of sensing elements Selection of Inspection Parameters
Frequency
Coil drive: current/voltage
Hall element drive: current/ voltage Channel gain
Display sensitivity selections Standardization
Filtering
Thresholds

Readout Mechanisms
Calibrated or uncalibrated meters Impedance plane display
Data recording systems
Alarming, and gates Numerical readouts Marking systems
Sorting gates and tables
Conductivity sorting
Automation and feedback Lab demonstration
Demo filter effects. Demo liftoff effects. Demo frequency effects
Demo material thickness effect.
Generate a conductivity curve, and lift-off curve with conductivity standards, and shims

Hands-On
Level I Hands-On: 1 Day (All hands-on training is directed and supervised by a minimum of 1 instructor)
Exercises: Setting up Eddy Current equipment for Conductivity curves using the absolute probe method.
Exercises: Setting up Eddy Current equipment for Lift-off curves using the absolute probe method.
Exercises: Setting up Eddy Current equipment for Thickness curves using the absolute probe method.
Exercises: Setting up Eddy Current equipment using different test frequencies using the absolute probe method.
Exercises: Demonstrating what effects, the frequency changes have on Conductivity curves, Lift-off curves, and Thickness curves.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

COURSE OBJECTIVES/ASSESSMENT MEASURES

COURSE OBJECTIVES	ASSESSMENT MEASURES
1. Understand the basic principles of electromagnetic induction.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
2. Recognize the various types of eddy current test methods.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
3. Recognize the various types of eddy current probes and standards	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
4. Understand the effects of the frequency change that it has on the Z- curves.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
5. Demonstrate lift-off, conductivity, and thickness curves on sample materials.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Title: Eddy Current Testing Level II (NDT Career Program)		
Course Prefix & No.: ECT2	**Course length** **Online / Hands-on:** 24 hours / 16 hours	**Clock Hours:** 40

COURSE DESCRIPTION:
The ECT level II course will begin with a review of electromagnetic theory. The student will learn to understand signal to noise and how to select testing frequencies. Attention will be given to field design considerations and other techniques and applications. The hands-on portion will have students inspecting parts using equipment from the trade. The students will learn the criteria for accepting or rejecting flaws.

COURSE PREREQUISITE(S):
Capable of passing a near vision acuity test, either corrected or uncorrected.
Capable of passing a color-contrast test.

RATIONALE:
This course is intended to provide a foundation for all individuals pursuing a level II role as an electromagnetic testing technician. Course content complies all applicable sections of ASNT CP-105.

REQUIRED TEXTBOOK (S) and/or MATERIALS:

Title: Electromagnetic Testing ET Classroom Training Book
Edition: Second
Author: Personnel Training Publications PTP

Title: NIA Eddy Current Testing Level II Online
Edition: First
Author: The National Inspection Academy

Computer/Smartphone: Students are required to have a computer/smartphone with internet access and a webcam/front facing camera.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: Eddy Current Testing Level II PREFIX/NO: ECT2

COURSE OBJECTIVES:

1. Understand the factors that affect coil impedance.
2. Understand the certification levels and the requirements.
3. Recognize the methods to improve signal to noise ratio.
4. Understand the reasons for selecting certain test frequencies.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

Online

Review of Electromagnetic Theory
Eddy Current Theory
Types of eddy current sensing probes Factors that Affect Coil Impedance
Test part Test systems
Signal-to-Noise Ratio
Definition
Relationship to eddy current testing
Methods of improving signal-to-noise ratio (SNR) Selection of Test Frequency
Relationship of frequency to type of test
Considerations affecting choice of test
Coupling
Fill factor Liftoff
Field Design Considerations
Amplification Phase detection
Differentiation of filtering Techniques and applications
Explanation of standards and specifications Inspection System Output
Accept/reject criteria
Signal classification processes Detection of signals of interest Flaw sizing techniques
Calculation of flaws frequency
Sorting for properties related to conductivity
Thickness evaluation
Measurement of ferromagnetic properties

Hands-On

Level II Hands-On: 2 Day (All hands-on training is directed and supervised by a minimum of 1 instructor)

Day 1

Exercises: Determining proper test frequency for inspection.
Exercises: Setting up Eddy Current equipment for conductivity, lift-off, and thickness curves.
Exercises: Calibration of Eddy Current system for surface breaking defects.
Exercises: Inspection of surface breaking defects with absolute probes.

Day 2

Exercises: Calculating proper frequency and fill factor for bobbin probes.
Exercises: Setting up Eddy Current equipment for bobbin probe eddy current.
Exercises: Calibration of Eddy Current systems for tubing inspections.
Exercises: Inspection of tubing defects with bobbin probes.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

COURSE OBJECTIVES/ASSESSMENT MEASURES

COURSE OBJECTIVES	ASSESSMENT MEASURES
1. Understand the factors that affect coil impedance.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
2. Recognize the various types of techniques used in electromagnetic testing.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
3. Recognize the methods to improve signal to noise ratio.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
4. Understand the reasons for selecting certain test frequencies.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Title: Magnetic Flux Leakage Level I (NDT Career Program)		
Course Prefix & No.: MFL1	**Course length** **Online / Hands-on:** 10 hours / 4 hours	**Clock Hours:** 14

COURSE DESCRIPTION:
The Magnetic Flux Leakage Level I course will give students all the required information layout in ASNT CP-105. The course will begin with a review of electromagnetic principles. The student will learn how to perform MFL inspections, and the equipment used in the inspection method. The hands-on portion of the course will give students the opportunity to perform calibrations and participate in inspections common in NDT.

COURSE PREREQUISITE(S):
Capable of passing a near vision acuity test, either corrected or uncorrected.
Capable of passing a color-contrast test.

RATIONALE:
This course is intended to provide a foundation for all individuals pursuing a level I role as a magnet flux leakage technician. Course content complies with all applicable sections of ASNT CP-105.

REQUIRED TEXTBOOK (S) and/or MATERIALS:

Title: Electromagnetic Testing ET Classroom Training Book
Edition: Second
Author: Personnel Training Publications PTP

Title: NIA Magnetic Flux Leakage Level I Online
Edition: First
Author: The National Inspection Academy

Computer/Smartphone: Students are required to have a computer/smartphone with internet access and a webcam/front facing camera.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: Magnetic Flux Leakage Testing Level I PREFIX/NO:MFL1

COURSE OBJECTIVES:

1. Understand magnetic flux theory.
2. Understand the certification levels and the requirements.
3. Understand sensing elements, and hysteresis curves.
4. Understand magnetization by means of electric current and permanent magnets.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

Online

Principles
Theory
Magnets and magnetism Flux density.
Sensors and signal processing Flux Fields
Direct current Alternating current
Effects of Discontinuities on Materials
Design factors
Relationship to load-carrying ability Flaw depth, volume, shape.
Material permeability and thickness.
Magnetization by means of Electric Current
Magnetization by means of Permanent magnets.
Circular techniques
Longitudinal technique
Selecting the proper method of magnetization
Alloy, shape and condition of part Type of magnetizing current Direction of magnetic field
Sequence of operations Value of flux density
Demagnetization Procedures
Need for demagnetization of parts
Current, and field orientation Heat factors and precautions

Equipment
Portable type Stationary type Automatic types
Types of Discontinuities In tubing
In drill casings In wire rope In tank floors
Evaluation Techniques
Calibration of MFL equipment Use of standards
Defect appraisal
Quality Control of Equipment and Processes
Malfunctioning of equipment
Proper magnetic sensing units. Proper magnetization field strength Proper Lift-off
Proper Scanning Speed

Hands-On

Hands-On: 1 Day (All hands-on training is directed and supervised by a minimum of 1 instructor)
Review of Magnetic Flux Theory
Exercises: Setting up equipment for magnetic yoke inspection. Exercises:
Determine the proper MFL techniques for testing of materials. Exercises:
Setting up MFL tank floor equipment
Exercises: Calibration of MFL tank floor equipment.
Exercises: Inspection of tank floor defects with MFL tank floor equipment.

COURSE OBJECTIVES/ASSESSMENT MEASURES

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

COURSE OBJECTIVES	ASSESSMENT MEASURES
1. Understand magnetic flux theory.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
2. Recognize the methods of inducing magnetic flux and saturation.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
3. Understand the magnetic flux testers, sensing units and, the factors affecting signal amplitude.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
4. Calibration and set up of Magnetic Flux testing system	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Title: Magnetic Flux Leakage Level II (NDT Career Program)		
Course Prefix & No.: MFL2	**Course length** **Online / Hands-on:** 10 hours / 4 hours	**Clock Hours:** 14

COURSE DESCRIPTION:
The Magnetic Flux Leakage level II course begins with an overview of MFL inspection and the theory of magnetic fields. Students will learn how to perform MFL inspections while following NIA procedures to complete MFL reports.

COURSE PREREQUISITE(S):
Capable of passing a near vision acuity test, either corrected or uncorrected.
Capable of passing a color-contrast test.

RATIONALE:
This course is intended to provide a foundation for all individuals pursuing a level II role as a magnet flux leakage technician. Course content complies with all applicable sections of ASNT CP-105.

REQUIRED TEXTBOOK (S) and/or MATERIALS:

Title: Electromagnetic Testing ET Classroom Training Book
Edition: Second
Author: Personnel Training Publications PTP

Title: NIA Magnetic Flux Leakage Level II Online
Edition: First
Author: The National Inspection Academy

Computer/Smartphone: Students are required to have a computer/smartphone with internet access and a webcam/front facing camera.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: Magnetic Flux Leakage Testing Level II PREFIX/NO: MFL

COURSE OBJECTIVES:

1. Understand magnetic flux theory.
2. Understand the certification levels and the requirements.
3. Understand sensing elements, and hysteresis curves.
4. Understand magnetization by means of electric current and permanent magnets.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

Online

Principles
Theory
Magnets and magnetism Flux density.
Sensors and signal processing Flux Fields
Direct current Alternating current
Effects of Discontinuities on Materials
Design factors
Relationship to load-carrying ability Flaw depth, volume, shape.
Material permeability and thickness.
Magnetization by means of Electric Current
Magnetization by means of Permanent magnets.
Circular techniques
Longitudinal technique
Selecting the proper method of magnetization
Alloy, shape and condition of part Type of magnetizing current Direction of magnetic field
Sequence of operations Value of flux density
Demagnetization Procedures
Need for demagnetization of parts
Current, and field orientation Heat factors and precautions

Equipment
Portable type Stationary type Automatic types
Types of Discontinuities In tubing
In drill casings In wire rope In tank floors
Evaluation Techniques
Calibration of MFL equipment Use of standards
Defect appraisal
Quality Control of Equipment and Processes
Malfunctioning of equipment
Proper magnetic sensing units. Proper magnetization field strength Proper Lift-off
Proper Scanning Speed

Hands-On

Level II Hands-On: 1 Day (All hands-on training is directed and supervised by a minimum of 1 instructor)
Exercises: Review of Magnetic Flux Theory
Exercises: Setting up equipment for magnetic yoke inspection. Exercises:
Determine the proper MFL techniques for testing of materials. Exercises:
Setting up MFL tank floor equipment
Exercises: Calibration of MFL tank floor equipment.
Exercises: Inspection of tank floor defects with MFL tank floor equipment.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

:

COURSE OBJECTIVES/ASSESSMENT MEASURES

COURSE OBJECTIVES	ASSESSMENT MEASURES
1. Understand magnetic flux theory.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
2. Recognize the methods of inducing magnetic flux and saturation.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
3. Understand the magnetic flux testers, sensing units and, the factors affecting signal amplitude.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
4. Calibration and set up of Magnetic Flux testing system	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.
5. Demonstrate the ability to identify, evaluate and document various discontinuities in accordance with applicable standards.	• Class participation and quizzes. • Reading discussion and questions. • Developmental exercises.

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Title: Introduction to NDT (NDT Career Program)		
Course Prefix & No.: Intro	**Course length** **Online / Hands-on:** 8 hours / N/A	**Clock Hours:** 8

COURSE DESCRIPTION:
This course will give students an introduction to the industry. The course covers the certifications levels and requirements, material processing, and covers the basic principles of the 16 inspection methods that are recognized by the American Society for Nondestructive Testing. This course is online only.

COURSE PREREQUISITE(S):
Capable of passing a near vision acuity test, either corrected or uncorrected.
Capable of passing a color-contrast test.

RATIONALE:
This course is intended to provide a foundation for all individuals pursuing a career in nondestructive testing. This course will provide an understanding of the NDT profession.

REQUIRED TEXTBOOK (S) and/or MATERIALS

Title: NIA Introduction to NDT Online
Edition: First
Author: The National Inspection Academy

Computer/Smartphone: Students are required to have a computer/smartphone with internet access and a webcam/front facing camera.

Attached course outline written by: Brent Moulton	Date: 07/01/023
Reviewed / Revised by: Thomas Stokke	Date 01/31/2024

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

Course Objectives, Topical Unit Outlines, and Unit Objectives must be attached to this form.

TITLE: Introduction to NDT PREFIX/NO: Intro

COURSE OBJECTIVES:

1. Understand the NDT profession
2. Understand the certification levels and the requirements.
3. Understand sensing elements, and hysteresis curves.
4. Recognize the various types of inspection methods.
5. Understand the effects of discontinuities on materials.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

Online

- The NDT Profession
  - Certification levels
  - Requirements
- NDT in Industry
  - Codes and standards used in NDT
- Manufacturing Processes
  - Castings
  - Machined
  - Composites
  - Forgings
  - Other various material processing
- NDT Indications
  - Defects
  - Discontinues
  - Accept / Reject Indications
- Overview of ASNT Inspection Methods
  - Visual Testing
  - Liquid Penetrant Testing
  - Magnetic Particle Testing
  - Magnetic Flux Leakage Testing
  - Electromagnetic Testing
  - Ultrasonic Testing
  - Radiographic Testing
  - Neutron Radiographic Testing
  - Guided Wave
  - Acoustic Emission
  - Ground Penetrating Radar
  - Laser Method Testing

NATIONAL INSPECTION ACADEMY
COURSE OUTLINE FORM

COURSE OBJECTIVES/ASSESSMENT MEASURES

COURSE OBJECTIVES	ASSESSMENT MEASURES
1. Understand the NDT profession	• Class participation • Reading discussion
2. Understand the certification levels and the requirements	• Class participation • Reading discussion
3. Recognize the various types of inspection methods.	• Class participation • Reading discussion
4. Understand the effects of discontinuities on materials.	• Class participation • Reading discussion