COURSE OVERVIEW FE0753-3D
Visual Testing Level II Training & Certification
(ASNT, SNT-TC-1A)

Course Title
Visual Testing Level II Training & Certification *(ASNT, SNT-TC-1A)*

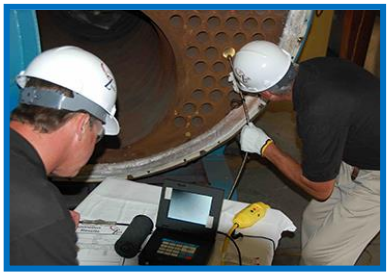
Course Reference
FE0753-3D

Course Duration/Credits
Three days/1.6 CEUs/16 PDHs

Course Date/Venue

Session(s)	Date	Venue
1	January 15-17, 2024	Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE
2	April 15-17, 2024	Club B Meeting Room, Ramada Plaza by Wyndham Istanbul City Center, Istanbul, Turkey
3	July 08-10, 2024	Ajman Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
4	October 14-16, 2024	Al Aziziya Hall, The Proud Hotel Al Khobar, Al Khobar, KSA

Course Description



This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.

This course will provide participants the advanced concepts and principles of Visual Testing (VT) as per the ASNT Recommended Practice No. SNT-TC-1A for Personnel Qualification and Certification in Nondestructive Testing.

This course covers the visual testing and remote visual inspection; the fundamentals of vision, vision limitations and employer's visual acuity examination methods; the fundamentals of light and light measurement; the material attributes; and the environmental and physiological factors.

Further, the course will also discuss the principles and theory of optics and video technology; the standard lighting, special lighting, magnification, mirrors, gages, micrometers, calipers, templates, scales, etc; and the various application techniques for recommended lighting levels, light techniques for inspection, metallic materials, mineral-based material and other materials and products.

During this interactive course, participants will learn the evaluation and disposition criteria for environmental, infrastructure, power generation, petrochemical processing, manufacturing, aviation and military; the visual testing and remote visual inspection requirements covering its codes, standards and procedures; the proper recording and documentation for techniques reports, data reports, and image recording methods; and the terminology and definition of visual testing.

Sample Questions for general examinations are presented in the separate question booklets that can be obtained from ASNT International Service Center. Participants will further demonstrate familiarity with and ability to operate the necessary equipment for VT, record and analyze the resultant information to the degree required as well as test flawed specimen and component and analyze the results of NDT as part of the practical training.

At the completion of the course, participants will be appearing for a Level II exam. Each candidate will be a *Certified ASNT NDT Level II in Visual Testing* upon successfully passing the examination with a minimum passing composite grade of at least 80 percent (%) which will be administered and graded by Haward Technology through its Certified ASNT Level-III instructors.

Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Get certified as a *"Certified ASNT Level II in Visual Testing"*
- Carryout Introduction of visual testing and remote visual inspection
- Discuss the fundamentals of vision, vision limitations and employer's visual acuity examination methods
- Identify the fundamentals of light and lighting measurements
- Recognize material attributes covering cleanliness, color, condition, shape, size, temperature, texture and type
- Determine the environmental and physiological factors comprising of atmosphere, cleanliness, comfort, distance, elevation, fatigue, health, humidity, mental attitude, relative position, temperature and perception
- Explain the principles and theory of optics and video technology
- Identify the standard lighting, special lighting, magnification, mirrors, gages, micrometers, calipers, templates, scales, etc.
- Illustrate various application techniques for recommended lighting levels, light techniques for inspection, metallic materials, mineral-based material and other materials and products
- Carryout evaluation and disposition criteria for environmental, infrastructure, power generation, petrochemical processing, manufacturing, aviation and military
- Employ visual testing and remote visual inspection requirements covering its codes, standards and procedures
- Apply proper recording and documentation for techniques reports, data reports and image recording methods
- Discuss the terminology and definition of visual testing

Exclusive Smart Training Kit - H-STK®

*Participants of this course will receive the exclusive "Haward Smart Training Kit" (**H-STK®**). The **H-STK®** consists of a comprehensive set of technical content which includes **electronic version** of the course materials, sample video clips of the instructor's actual lectures & practical sessions during the course conveniently saved in a **Tablet PC**.*

Who Should Attend

This course provides an overview of all significant aspects and considerations of visual testing in accordance with the ASNT international standard for all engineers and other technical staff working in the field of welding technology and quality assurance of welded joints using visual testing and in order to investigate material with such technique.

All Participants of this course must have Level-I in VT before they can attend this Level-II course.

Exam Eligibility & Structure

Exam candidates shall have the following minimum pre-requisites:-

All Participants of this course must have Level I in VT before they can attend this Level II course

Initial Training & Experience Levels			
Level	**Training Hours**	**Minimum Hours in VT Method**	**Total Hours in NDT**
I	8	70	130
II	16	140	270

The experience shall consist of time at NDT Level I or equivalent. If a person is being qualified directly to NDT Level II with no time at NDT Level I, the experience (both Method and Total NDT) shall consist of the sum of the hours for NDT Level I and Level II and the training shall consist of the sum of the hours for NDT Level I and Level II.

Examinations Category & Criteria

Vision Examinations

- Near-Vision Acuity
    - This examination will ensure natural or corrected near-distance acuity in at least one eye such that the applicant is capable of reading a minimum of Jaeger Number 2 or equivalent type and size letter at the distance designated on the chart but not less than12 inches (30.5 cm) or a standard Jaeger test chart. The ability to perceive an Ortho-Rater minimum of 8 or similar test pattern is also acceptable. This examination shall be administered annually.

- Color Contrast Differentiation
    - This examination will demonstrate the capability of distinguishing and differentiating contrast among colors or shades of gray used in the applicable NDT method. This shall be conducted upon initial certification and at five-year intervals thereafter.

General (Written)

- This examination will address the basic principles of the applicable method
- The NDT Level III will provide appropriate questions covering the applicable method to the degree required by the employer's written practice
- The minimum number of examination questions that will be given is 40

Specific (Written)

- This examination will address the equipment, operating procedures and NDT techniques that the individual may encounter during specific assignments to the degree required by the employer's written practice
- The specific examination will also cover the specifications or codes and acceptance criteria used in the employer's NDT procedures
- The minimum number of examination questions that will be given is 20

Practical

- The candidate shall demonstrate familiarity with and ability to operate the necessary NDT equipment, record and analyse the resultant information to the degree required
- At least one flawed specimen or component shall be tested and the results of the NDT analysed by the candidate
- The description of the specimen, the NDT procedure including check points and the results of the examination shall be documented
- Proficiency shall be demonstrated in selecting and performing the Liquid Penetrant Testing technique within the method and in interpreting and evaluating the results on one or more specimens or machine problems approved by the NDT Level III. At least ten (10) different checkpoints requiring an understanding of NDT variables and the employer's procedural requirements will be included. The candidate shall detect all discontinuities and conditions specified by the NDT Level III

Note: While it is normal to score the practical on a percentile basis, practical examinations shall contain check points that failure to successfully complete will result in failure of the examination

Additional Criteria

All written examinations will be closed-book except that necessary data such as graphs, tables, specifications, procedures, codes, etc., may be provided during the examination. All questions are approved by the responsible NDT Level III.

Qualification Certificate(s)

(1) Internationally recognized Wall Competency Certificates and Plastic Wallet Card Certificates will be issued to participants who completed a minimum of 80% of the total tuition hours and successfully passed the exam at the end of the course. Successful candidate will be certified as a *"Certified ASNT NDT Level II in Visual Testing"*. Qualification Certificate is valid for 5 years.

Qualification Certificate

Haward Technology Middle East

Saudi Electricity Company

This is to certify that

Ahmed Al-Hajri

has met the established & published Requirements for Certification by ASNT in accordance with SNT-TC-1A (2020) and the company's Written Practice as

ASNT NDT Level II

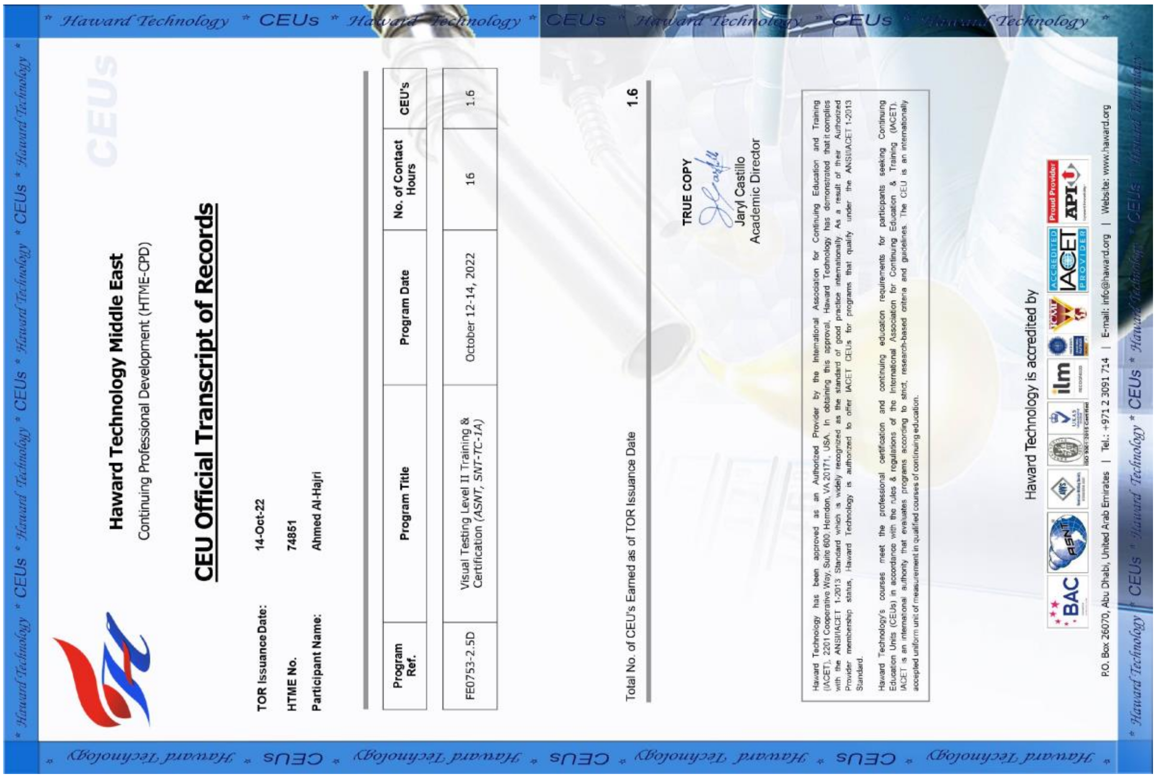
in the following Nondestructive Testing Methods:

Method	Product Form	Certificate No.	Issue Date	Expiry Date
Visual Testing	All Forms	74851/01/FE0753-2.5D/DXB/14.10.22	10/22	10/27

ASNT Level III Examiner
Mr. Luis Lopez (ASNT# 219655)
Signature & Stamp:

Mr. Jaryl Castillo
Academic Director

(2) Official Transcript of Records will be provided to the successful delegates with the equivalent number of ANSI/IACET accredited Continuing Education Units (CEUs) earned during the course.



Haward Technology Middle East
Continuing Professional Development (HTME-CPD)

CEU Official Transcript of Records

TOR Issuance Date: 14-Oct-22
HTME No. 74851
Participant Name: Ahmed Al-Hajri

Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
FE0753-2.5D	Visual Testing Level II Training & Certification (ASNT, SNT-TC-1A)	October 12-14, 2022	16	1.6

Total No. of CEU's Earned as of TOR Issuance Date: 1.6

TRUE COPY
Jaryl Castillo
Academic Director

Haward Technology is accredited by

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations:-

- The American Society for Nondestructive Testing (ASNT)

  Haward Technology has certain instructors who are certified by **The American Society for Nondestructive Testing** (**ASNT**) and are authorized to conduct ASNT's certification programs for specific NDT methods. ASNT is the world's largest technical society for nondestructive testing (NDT) that provides a forum for exchange of NDT technical information, NDT educational materials and programs, and standards and services for the qualification and certification of NDT personnel.

- The International Accreditors for Continuing Education and Training (IACET - USA)

  Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

  Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

  Haward Technology Middle East will award **1.6 CEUs** (Continuing Education Units) or **16 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

- British Accreditation Council (BAC)

  Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:

Mr. Luis Lopez is a **Senior Inspection Engineer** with extensive experience within the **Oil & Gas**, **Petrochemical** and **Refinery** industries. His expertise widely covers in the areas of **Thermography**, **Thermal Infrared** Testing, **Radiographic Film** Interpretation, **Visual** Testing, **Phased Array Ultrasonic** Testing, **Ultrasonic** Testing, **Magnetic Particle** Testing, **Liquid Penetrant** Testing, **Non-destructive Testing**, **NDT** Methods & Applications, **Electromagnetic** Testing, **Hydrostatic Leak** Testing, **Eddy Current** Testing, **Valve Inspection & Testing**, Codes & Standards Interpretation, **Corrosion** Engineering, **Corrosion & Metallurgy**, **Welding & Corrosion** Engineering, **Welding** Metrology, International Welding Codes, Practical **Welding** Technology, Plastic Pipe Welding, **Welding** Inspection, **Welding** Defects Analysis, **Welding** Joints & Coating Inspection, Post Weld Heat Treatment, Hardness Testing, **Welding** Electrodes Monitoring & Control, **Pipe** Testing, **Piping** System, **Steel** Structures, Metals Casting, Crane Functional Testing & Load Testing, **Hydrotesting**, **Pressure Testing** Procedure, **Pressure Equipment** Calibration, Stream Inspection, **Corrosion** Evaluation, **Casting** Products Inspection and Raw Materials Inspection. He is currently the **Senior NDT Instructor** of **SETE** wherein he is deeply involved in thermography, NDT qualification and certification of personnel.

During his career life, Mr. Lopez gained his practical and field experience through his various significant positions and dedication as the **Technical Manager**, **NDT Instructor**, **NDT Manager & Instructor**, **NDT Inspector**, **NDT Offshore Inspector & Quality Control**, **Phased Array Ultrasonic Technician** and **Radiographic Testing Technician** for various international companies such as the JP Inspections, Nova Inspection, NSD Services, Cotemar, UNISPEC Inspection and Ruiver.

Mr. Lopez holds a **Diploma** in **Professional Mechanical & Electrical Technician**. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership and Management** (**ILM**), a **Certified ASNT-NDT Level III Inspector** in Infrared & Thermal Testing (**IR**), Liquid Penetrant Testing (**PT**), Magnetic Particle Testing (**MT**), Ultrasonic Testing (**UT**), Visual Testing (**VT**), Radiography Testing (**RT**), Leak Testing (**LT**), Electromagnetic Testing (**ET**), Certified Welding Inspection & Metallurgy Professional (**API 577**) and a **Certified AWS-CWI Welding Inspector**. He has further delivered numerous trainings, courses, workshops, seminars and conferences internationally.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

30% Lectures
20% Practical Workshops & Work Presentations
30% Hands-on Practical Exercises & Case Studies
20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Fee

Dubai	**US$ 3,500** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Istanbul	**US$ 4,000** per Delegate **+ VAT**. This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Abu Dhabi	**US$ 3,500** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Al Khobar	**US$ 3,500** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Introduction of Visual Testing & Remote Visual Inspection*** *History ● Applications ● Advantages & Limitations*
0930 – 0945	*Break*
0945 – 1030	***Fundamentals*** *Vision ● Vision Limitations ● Employer's Visual Acuity Examination Methods*

1030 – 1130	***Lighting*** *Fundamentals of Light ● Lighting Measurements*
1130 – 1230	***Material Attributes*** *Cleanliness ● Color ● Condition ● Shape ● Size ● Temperature ● Texture ● Type*
1230 – 1245	*Break*
1245 – 1420	***Environmental & Physiological Factors*** *Atmosphere ● Cleanliness ● Comfort ● Distance ● Elevation ● Fatigue ● Health ● Humidity ● Mental Attitude ● Relative Positions ● Temperatures ● Perception*
1420 - 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day One*

Day 2

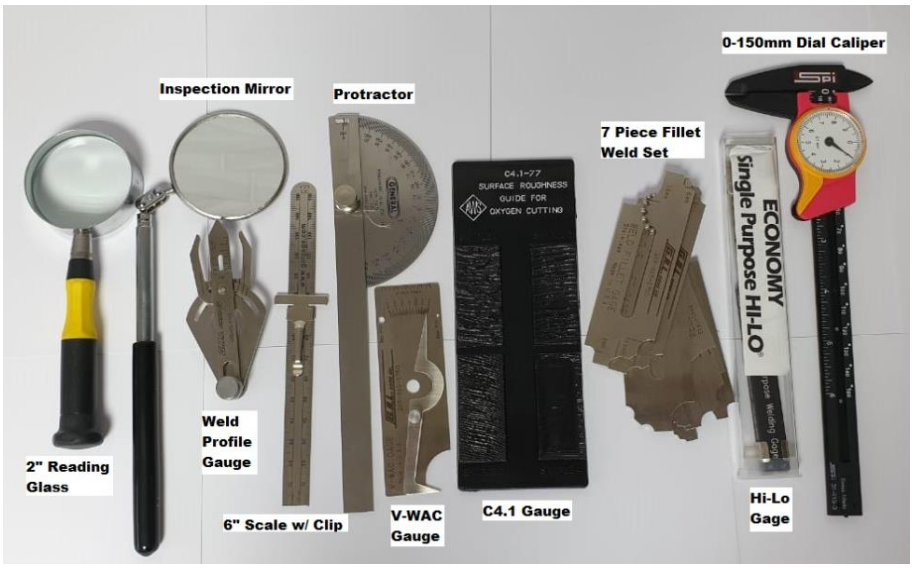
0730 – 0830	***Principles & Theory*** *Optics ● Video Technology*
0830 - 0930	***Equipment*** *Lighting ● Direct ● Indirect (Remote)*
0930 – 0945	*Break*
0945 - 1115	***Application & Techniques*** *Recommended Lighting Levels ● Light Techniques for Inspection ● Metallic Materials ● Mineral-Based Material ● Other Materials & Products*
1115 - 1230	***Evaluation & Disposition Criteria*** *Environmental ● Infrastructure ● Power Generation ● Petrochemical Processing ● Manufacturing ● Aviation ● Military*
1230 – 1245	*Break*
1245 – 1420	***Visual Testing & Remote Visual Inspection Requirements*** *Codes ● Standards ● Procedures*
1420 - 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Two*

Day 3

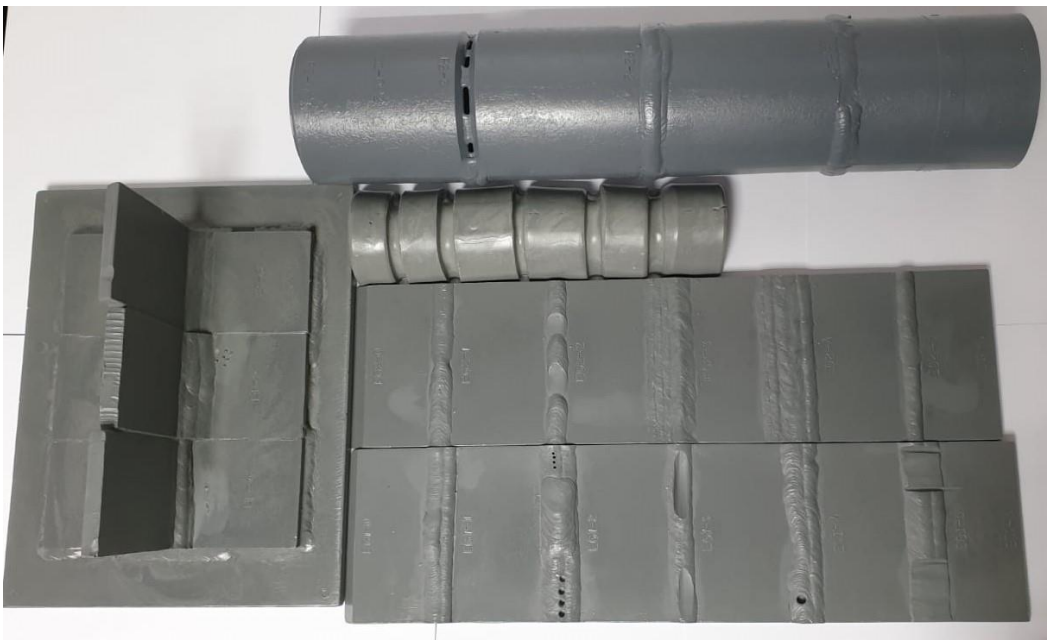
0730 – 0830	***Recording & Documentation*** *Technique Reports ● Data Reports ● Image Recording Methods*
0830 - 0930	***Terminology & Definitions***
0930 – 0945	*Break*
0945 - 1145	***Theoretical Examination***
1145 – 1200	*Break*
1200 – 1300	***Theoretical Examination (cont'd)***
1300 - 1400	***Practical Examination***
1400 - 1415	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course*
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Practical Sessions

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout welding inspection using the "AWS Tool Kit", "Structural Weld Replica Kit" and liquid penetrant testing and calibration using the "Liquid Penetrant Testing Kit" suitable for classroom training.



AWS Tool Kit



Structural Weld Replica Kit

micro CA-300 Inspection Camera

RIDGID

See It. Find It. Solve It.®

Extra-Large 3.5" Screen


Ultra-Bright Aluminum Imager Head with 4 LEDs


Interchangeable Imager Heads Compatible with microDrain, microReel and nanoReel


360° Rotation in 90° Increments


Rechargeable 3.7V Li-Ion Battery


TV Out, USB, SD Card Storage

Speaker, Mic, Head Set Jack, AC Power Input


USB Cord, 4GB SD Card, RCA Cable, Hook, Magnet, Mirror, AC Adapter

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Diagnostic Product Family

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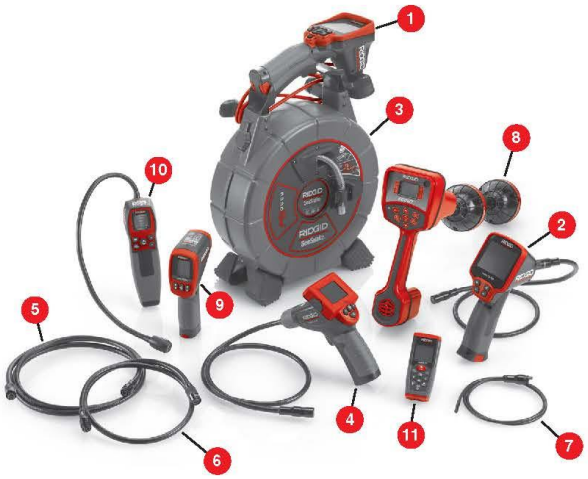

Cameras
1 37888 micro CA-300 Inspection Camera
2 36738 micro CA-100 Inspection Camera
3 40818 nanoReel + CA-300 Inspection Camera
4 40043 micro CA-25 Inspection Camera

Camera Accessories
5 37113 6' Cable Universal Extension
6 37108 3' Cable Universal Extension
7 37098 6mm Imager Head 3'

Locating
8 19238 NaviTrack® Scout™ Locator

Test and Measurement
9 36153 micro IR-100 Non-Contact Infrared Thermometer
10 36163 micro CD-100 Combustible Gas Detector
11 36158 micro LM-100 Laser Distance Meter

Distributor

For the complete selection of the RIDGID product line, please refer to the Ridge Tool Catalog or www.RIDGID.com.

RIDGID

Course Coordinator
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