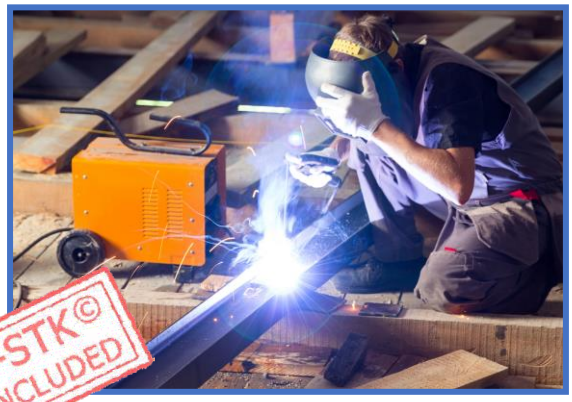
COURSE OVERVIEW FE0866-10D

AWS Certified Welding Inspector 9-year Recertification

Course Title

AWS Certified Welding Inspector 9-Year Recertification



Course/Exam Date/Venue

Session 1: August 04-15, 2024/Business Center, Concorde Hotel Doha, Doha, Qatar
Session 2: November 03-14, 2024/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Exam Date : TBA
Exam Venue : TBA
Exam Registration Closing Date: 8 weeks before the course date

Course Reference

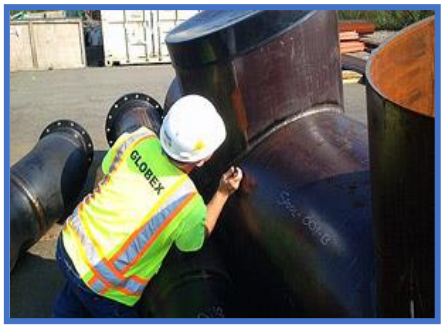
FE0866-10D

Course Duration/Credits

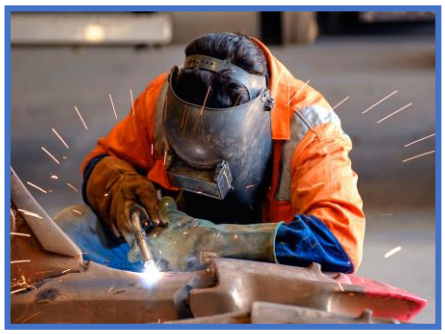
Ten days (80 hours)/8.0 CEUs/80 PDHs

Course Description

This practical and highly-interactive course includes practical sessions and exercises where participants carryout welding inspection. Theory learnt in the class will be applied using the "American Welding Society (AWS) Tool Kit" and "Structural Weld Replica Kit" suitable for in-class training.



As an AWS Certified Welding Inspector or Senior Certified Welding Inspector, you must renew your certification every three years. Every nine years, you must recertify, either by examination, obtaining approved endorsements, by recertification course, or by demonstrating 80 hours of continuing education, along with other requirements. Neglecting to recertify prior to your expiration will result in the loss of your certification status and will require you to retest on all parts of the original exam to regain your certification.



Upon the successful completion of this 80 PDHs CWI-9Y course, participants are exempted from undertaking any AWS examinations. To renew, simply submit your 9-Year renewal application accompanied by a copy of the Haward Certificate for this 80 PDHs course.

This course is designed by Haward Technology to prepare Welding Inspectors for the American Welding Society (AWS) Examination, in order to certify them as "*AWS Certified Welding Inspector*". This course is a combination of the following three courses which jointly constitute this Certified Welding Inspector Exam Preparation course:-

1. *Fundamental Welding Inspection Preparation Course:*
   This course is designed as a preparation for the AWS CWI (QC-1) Exam, part A, Fundamental Welding Inspection Exam. The participant will learn how to take the exam and the basic fundamentals of welding inspection. Information for inspector training is emphasized in this dual goal course
2. *Practical Welding Inspection Preparation Course:*
   This course is designed as a preparation for the AWS CWI (QC-1) Exam, Part B, Practical Welding Inspection (hands-on) Exam. This course is a must for the nine-year renewal CWI. The participant will learn how to use the tools required for the exam, as well as the AWS Specifications Book
3. *API 1104 Preparation Course:*
   This course is designed as a preparation for the AWS CWI (QC-1) Part C Code Book Exam. The participant will learn how to use the code book to solve inspection problems

The participant will receive in-depth instruction pertaining to passing the AWS CWI (QC-1) exam, as well as insight into the intricacy's students may expect to encounter in the working environment. This course is offered as both an in-house and an open enrollment class.

Additionally, quizzes are given at the end of each section; homework is handed out at the end of each class day, and is reviewed at the beginning of the following day, and a practice" exam is administered at the end of the course.

Course Objectives

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

- Renew your AWS-CWI Certificate without sitting for any AWS Examination
- Discuss the aspects of welding inspection, CWI and CWE tests as well as the skills, responsibilities and qualities of an effective inspector
- Carryout safe practices for welding inspectors as well as the method of metal joining and cutting processes
- Identify the weld joint geometry and welding symbols including the features, terminology and application
- Employ documentation governing weld inspection and qualification and describe the metal properties and destructive testing
- Distinguish the various metric practices for welding inspector
- Explain the welding metallurgy for the welding inspector, weld and base metal discontinuities and illustrate visual inspection and other NDE methods and symbols
- Recognize welding of pipelines and related facilities in accordance with API 1104
- Use tools properly for measuring and weld examination

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 conveniently saved in a **Tablet PC**.*

Who Should Attend

The course is intended for AWS Certified Welding Inspectors or Senior Certified Welding Inspectors who need to renew their certification every 9 years as mandated by AWS.

Required Codes & Standards

Listed below are the effective editions of the publications required for the current Welding Inspector Certification Examination. **Each participant must purchase these documents separately and have them available for use during the class as their cost is not included in the course fees**:-

- **CODE SUBJECTS AVAILABLE AND CURRENT EXAM EDITIONS (applicants must provide own codebook for exam)**
  - AWS D1.1- Structural Steel Code: 2020 Edition
  - API 1104 - Pipelines 21st Edition, December 2008/ Errata 1 April 2014
  - AWS D1.2 - Structural Aluminum Code: 2014 Edition
  - AWS D1.5 - Bridge Welding Code: 2015 Edition (including Clause 12)
  - AWS D15.1 - Railroad: 2012 Edition
  - AWS D17.1 - Aerospace: 2017 w/ Amendment 1
  - ASME BPVC Sec IX, Power (B31.1) and Process (B31.3) Piping
  - ASME BPVC Sec IX (2019 Edition), B31.1 (2018) and B31.3 (2018)
  - ASME BPVC Sec VIII, Div. 1 (2015) and Sec IX (2015)

Note: The editions listed above apply to the English editions only. To verify the edition being used with language-assisted exams, please contact the AWS Certification department or the Agent.

- **AWS - RECOMMENDED SELF-STUDY (Examination Preparatory Material)**

AWS Publications	Order Number
○ AWS Certification Manual for Welding Inspectors	CM
○ AWS Welding Inspection Handbook	WI: 2015
○ AWS Structural Welding Code-Steel	D1.1/D1.1M: 2020
○ AWS Code Clinic Reference Manual	CCRM: 2020 D1.1
○ AWS Study Guide for API Standard 1104 Welding of Pipelines	API-M: 2017
○ AWS Welding Inspection Technology	WIT-T-2020
○ AWS Welding Inspection Technology (Workbook)	WIT-W: 2020
○ AWS Welding Inspection Technology Sample CWI Fundamentals Examination & Key	WIT-E: 2020

○ AWS Standard Welding Terms and Definitions	A3.0M/A3.0:2020
○ AWS Standard Symbols for Welding, Brazing, and Nondestructive Examination	A2.4: 2020
○ AWS Guide for the Nondestructive Examination of Welds	B1.10M/B1.10:2016
○ AWS Specification for the Qualification of Welding Inspectors	B5.1: 2013-AMD1

♦ **OTHER RECOMMENDATIONS**	**Order Number**
○ AWS Welding Handbook Series	WHB-ALL
○ AWS Guide for the Visual Examination of Welds	B1.11: 2015
○ AWS Safety in Welding, Cutting and Allied Processes	ANSI Z49.1: 2012
○ AWS Standard Methods for the Mechanical Testing of Welds	B4.0: 2016
○ AWS Specification for Welding Procedure and Performance Qualification	B2.1: 2014
○ Standard for AWS Certification of Welding Inspectors	QCI: 2016

Training Methodology

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:-

30% Lectures
20% Workshops & Work Presentations
30% Case Studies & Practical Exercises
20% Software, Simulators & Videos

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

Training Fee

Doha	**US$ 11,000** per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Dubai	**US$ 10,000** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Exam Fees

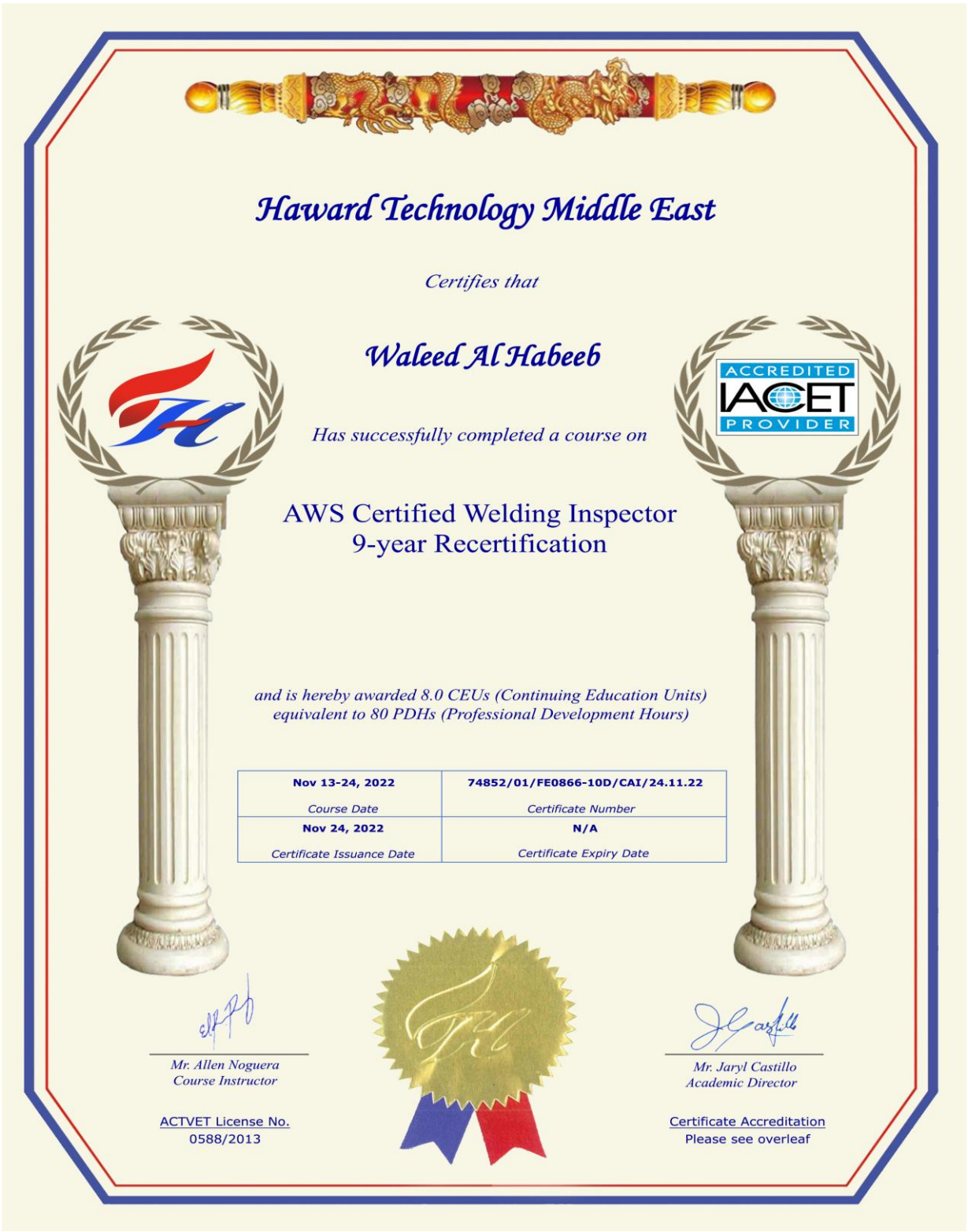
US$ 3,015 per Delegate + **VAT**.

Accommodation

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

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.



Haward Technology Middle East

Certifies that

Waleed Al Habeeb

Has successfully completed a course on

AWS Certified Welding Inspector
9-year Recertification

and is hereby awarded 8.0 CEUs (Continuing Education Units)
equivalent to 80 PDHs (Professional Development Hours)

Nov 13-24, 2022 Course Date	74852/01/FE0866-10D/CAI/24.11.22 Certificate Number
Nov 24, 2022 Certificate Issuance Date	N/A Certificate Expiry Date

Mr. Allen Noguera
Course Instructor

ACTVET License No.
0588/2013

Mr. Jaryl Castillo
Academic Director

Certificate Accreditation
Please see overleaf

Certificate Accreditations

Haward Technology is accredited by the following international accreditation organizations:-

- American Welding Society (AWS)

Haward Technology is the **International Agent** of the **American Welding Society (AWS)** and the Authorized Provider of AWS international certification examinations outside the USA. Haward Technology exhibits compliance and adherence to **AWS Quality Control Standards** in the development, conduct and delivery of certification courses and exams for welding and inspection professionals on behalf of the American Welding Society.

The American Welding Society's certification programs are internationally recognized and are used as a benchmark of quality workmanship and skills within the welding industry around the world.

- 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 **8.0 CEUs** (Continuing Education Units) or **80 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. Essam Hammad, BSc, ASNT-NDT, AWS-CWI, API, is a **Senior Engineer** with over **20 years** of extensive years within the **Oil & Gas**, **Refineries**, **Petrochemical** and **Power industries**. His expertise lies extensively in the areas of **Maintenance Management** of Building & Facilities, **Welded Tanks** for Oil Storage, **Storage Tank**, **Tank** Emissions Monitoring & Prevention, **Tank** Inspection, **Tank** Repair & Maintenance, **Tank** Construction & Maintenance, **Tank** Settlement, **Pressure Vessel** Inspection, **Welding** Engineering, **Welding** Technology, **Welding** & **Corrosion** Engineering, **Welding** & **Fabrication**, **Welding Inspection** & **Metallurgy**, **Welding** Defects Analysis, **Welding** Procedure Specification, **Welding** Quality & Control, Plastic Pipe Welding, **Piping Design & Welding**, **Piping** Inspection, **Gas Compressors**, **Process & Pressure Piping**, **Piping & Pipe** Support Systems Troubleshooting, **Plant Utility Piping** System, Pipe Support Design & **Piping Stress** Analysis, **Piping Integrity** Management, **Non-Destructive Testing** Procedure, Liquid Penetrant Testing (**PT**), Magnetic Particle Testing (**MT**), Ultrasonic Testing (**UT**), Radiography Testing (**RT**), **HRSG**, **Boiler**, **Flanges**, Fittings, **Fabricated Valves**, Rotating Equipment, Gear Boxes, **Pressure Vessels**, Silos, **Material** Classification & Testing, PWHT & FAT Procedure, **Damage Mechanisms**, **Failure Mode Analysis**, **Root Cause** Analysis, **Risk Based Inspection & Asset Integrity** Management, **ASME Sec IX Welding & Brazing**, Settlement Surveys, Steel Structure and Site Welder Qualification.

During his career life, Mr. Essam has worked with numerous multi-national companies such as the **Intertek**, Arab Steel Fabrication, IBSF, Tatweer, Petrojet, Total, SEC, ASORC, SABIC, Aramco MAG Engineering & Construction, Bechtel-Maaden Aluminum and Worley Parsons McDermott holding various key positions as a **Metallurgical Engineer**, **QC Engineer**, **Vendor Inspection Engineer**, **Senior Inspection Engineer**, **Senior Welding Inspector**, **QA/QC Engineer**, **Technical Training Manager**, **Business Development Manager**, **API Authorized In-service Inspector**, **Vendor Expeditor**, **Senior Lecturer**, **Emergency First Responder**, **Inspection Team leader & Technical Consultant** and **NDE Operator**.

Mr. Essam has a **Bachelor's** degree in **Metallurgical Engineering**. Further, he is a **Certified Instructor/Trainer**, a **Certified Welding Inspector** (**AWS-CWI**), a **Certified ASNT-NDT Level II Inspector** in Liquid Penetrant Testing (**PT**), Magnetic Particle Testing (**MT**), Ultrasonic Testing (**UT**) and Radiography Testing (**RT**), a **Certified API 510** In-Service Pressure Vessel Inspector, a **Certified API 653** In-Service Tank Inspector, a **Certified API 570** In-Service Piping Inspector, an **ISO 22301 Lead Auditor** and an **ISO 9001 & OHSAS 18001 Internal Auditor**. He has further delivered numerous courses, trainings, seminars and conferences internationally.

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*** *Aspects of Welding Inspection • Skills & Responsibilities of the Inspector • Aspects of the CWI & CWE Tests • Qualities of an Effective Inspector*
0930 – 0945	*Break*
0945 – 1200	***Safe Practices for Welding Inspectors (Z 49.1)*** *General Aspects • Potential Hazards • Personal Protective Equipment • Safety Program & Management Support*
1200 – 1300	*Lunch*
1300 – 1500	***Safe Practices for Welding Inspectors (Z 49.1) (cont'd)*** *Safety Training • Material Safety Data Sheets • Threshold Limit Value • Protective Screens • Fire Prevention*
1500 – 1515	*Break*
1515 – 1630	***Safe Practices for Welding Inspectors (Z 49.1) (cont'd)*** *Hot Work Permits • Explosion Hazards • Fume Exposure Factors • Electrical Shock • Section Quiz • Safety Video*
1630 – 1700	***Quiz***
1700 – 1730	***Distribute Homework & Recap***
1730	*End of Day One*

Day 2

0730 – 0830	***Homework Review***
0830 – 0930	***Metal Joining & Cutting Processes*** *High Speed Welding Video*
0930 – 0945	*Break*
1045 – 1200	***Metal Joining & Cutting Processes (cont'd)*** *Common Features of Welding Processes*
1200 – 1300	*Lunch*
1300 – 1500	***Metal Joining & Cutting Processes (cont'd)*** *Basic Process Groups*
1500 – 1515	*Break*
1515 – 1630	***Weld Joint Geometry & Welding Symbols (A2.4)*** *Joint Arrangement • Joint Design • Joint Geometry • Edge Shapes • Weld Joint Features*
1630 – 1700	***Quiz***
1700 – 1730	***Distribute Homework & Recap***
1730	*End of Day Two*

Day 3

0730 – 0830	***Homework Review***
0830 – 0930	***Weld Joint Geometry & Welding Symbols (A2.4) (cont'd)*** *Weld Terminology • Penetration Terminology • Weld Size Terminology • Weld Application • Standard Welding Symbols*
0930 – 0945	*Break*
1045 – 1200	***Documentation Governing Weld Inspection & Qualification*** *General Information • Document Types • Fabrication Drawings • Dimensions • Tolerances • Notes*
1200 – 1300	*Lunch*
1300 – 1500	***Documentation Governing Weld Inspection & Qualification (cont'd)*** *Welding Details • Hold Points • Inspection Information • Types of Codes/Standards • Specifications*
1500 – 1515	*Break*
1515 – 1630	***Documentation Governing Weld Inspection & Qualification (cont'd)*** *Control of Materials • Material Test Reports • Material Control Systems • Material Control Methods • Alloy Identification Systems • Qualification*
1630 – 1700	***Quiz***
1700 – 1730	***Distribute Homework & Recap***
1730	*End of Day Three*

Day 4

0730 – 0830	***Homework Review***
0830 – 0930	***Metal Properties & Destructive Testing*** *Metal Properties • Strength • Behavior Under Load • Temperature Effects • Ductility • Directional Properties*
0930 – 0945	*Break*
1045 – 1200	***Metal Properties & Destructive Testing (cont'd)*** *Hardness • Indenter Types • Toughness • Stress Riser • Transition Temperature • Fatigue Strength*
1200 – 1300	*Lunch*
1300 – 1500	***Metal Properties & Destructive Testing (cont'd)*** *Endurance Limit • Chemical Properties • Elements in Steels • Dissolved Gases • Aluminum Alloys • Nickel Alloys • Copper Alloys*
1500 – 1515	*Break*
1515 – 1630	***Testing***
1630 – 1700	***Quiz***
1700 – 1730	***Distribute Homework & Recap***
1730	*End of Day Four*

Day 5

0730 – 0830	***Homework Review***
0830 – 0930	***Metric Practices for Welding Inspection*** *Metric System*
0930 – 0945	*Break*
1045 – 1200	***Metric Practices for Welding Inspection (cont'd)*** *Metric System*
1200 – 1300	*Lunch*

1300 – 1500	***Welding Metallurgy for The Welding Inspector***
1500 – 1515	*Break*
1515 – 1630	***Welding Metallurgy for The Welding Inspector (cont'd)***
1630 – 1700	***Quiz***
1700 – 1730	***Distribute Homework & Recap***
1730	*End of Day Five*

Day 6

0730 – 0830	***Homework Review***
0830 – 0930	***Weld & Base Metal Discontinuities (B1.11)***
0930 – 0945	*Break*
1045 – 1200	***Weld & Base Metal Discontinuities (B1.11) (cont'd)***
1200 – 1300	*Lunch*
1300 – 1500	***Visual Inspection & Other NDE Methods & Symbols (B1.10)***
1500 – 1515	*Break*
1515 – 1630	***Visual Inspection & Other NDE Methods & Symbols (B1.10) (cont'd)***
1630 – 1700	***Quiz***
1700 – 1730	***Distribute Homework & Recap***
1730	*End of Day Six*

Day 7

0730 – 0830	***Homework Review***
0830 – 0930	***Two (2) Hour Timed Test (150 Questions)***
0930 – 0945	*Break*
1045 – 1145	***Two (2) Hour Timed Test (150 Questions) (cont'd)***
1145 – 1245	*Lunch*
1245 – 1500	***Discussion/Review***
1500 – 1515	*Break*
1515 – 1630	***Welding of Pipelines & Related Facilities (API 1104)*** *General • Referenced Publications • Definition of Terms*
1630 – 1700	***Quiz***
1700 – 1730	***Distribute Homework & Recap***
1730	*End of Day Seven*

Day 8

0730 – 0830	***Homework Review***
0830 – 0930	***Welding of Pipelines & Related Facilities (API 1104) (cont'd)*** *Specifications • Qualification of Welding Procedures for Welds Containing Filler-Metal Additives*
0930 – 0945	*Break*
1045 – 1200	***Welding of Pipelines & Related Facilities (API 1104) (cont'd)*** *Qualification of Welders • Design & Preparation of a Joint for Production Welding*
1200 – 1300	*Lunch*
1300 – 1500	***Welding of Pipelines & Related Facilities (API 1104) (cont'd)*** *Inspection & Testing of Production Welds • Acceptance Standards for Nondestructive Testing*
1500 – 1515	*Break*

1515 – 1630	***Welding of Pipelines & Related Facilities (API 1104) (cont'd)*** *Repair & Removal of Defects • Alternative Acceptance Standards for Girth Welds*
1630 – 1700	***Quiz***
1700 – 1730	***Distribute Homework & Recap***
1730	*End of Day Eight*

Day 9

0730 – 0830	***Homework Review***
0830 – 0930	***Welding of Pipelines & Related Facilities (API 1104) (cont'd)*** *In-Service Welding • Procedures for Nondestructive Testing*
0930 – 0945	*Break*
1045 – 1200	***Welding of Pipelines & Related Facilities (API 1104) (cont'd)*** *Automatic Welding • Automatic Welding without Filler-Metal Additions*
1200 – 1300	*Lunch*
1300 – 1500	***API 1104 Exercise***
1500 – 1515	*Break*
1515 – 1630	***API 1104 Exercise (cont'd)***
1630 – 1700	***Quiz***
1700 – 1730	***Distribute Homework & Recap***
1730	*End of Day Nine*

Day 10

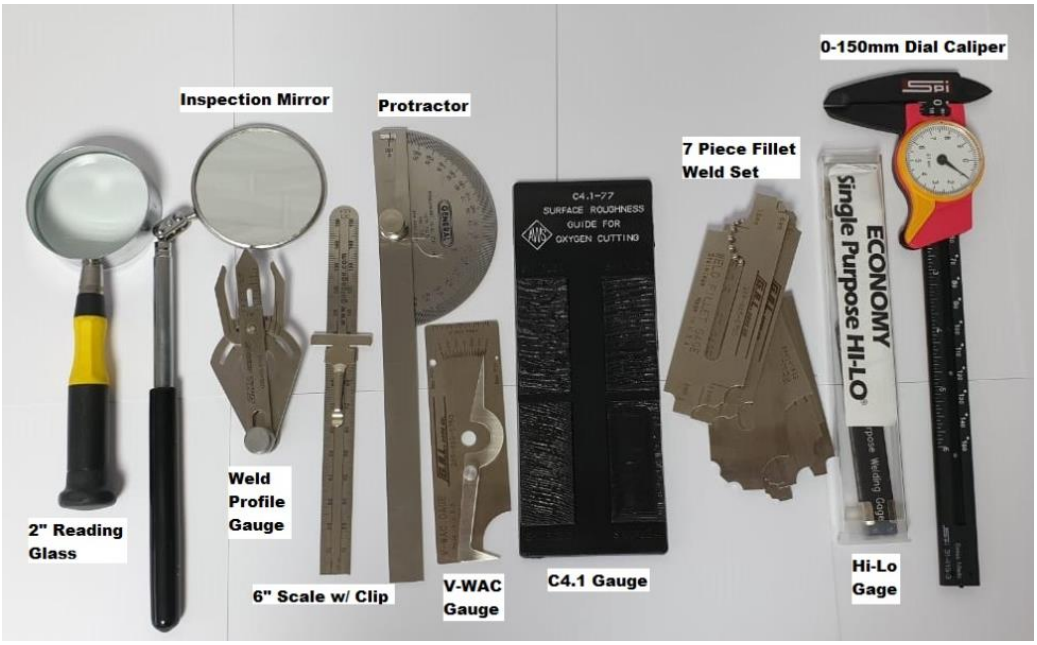
0730 – 0930	***VIDEO (Use of Measuring Tools for The AWS CWI Hands-On Exam)***
0930 – 0945	*Break*
0945 – 1200	***Hands-On Workshop*** *Use of Tools for Measuring & Weld Examination*
1200 – 1300	*Lunch*
1300 – 1430	***Hands-On Workshop (cont'd)*** *Use of Tools for Measuring & Weld Examination (cont'd)*
1430 - 1530	***Part B Exam***
1530 – 1545	*Break*
1545 - 1645	***Part B Exam (cont'd)***
1645 - 1700	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course*
1700 - 1715	***POST-TEST***
1715 – 1730	*Presentation of Course Certificates*
1730	*End of Course*

MOCK Exam

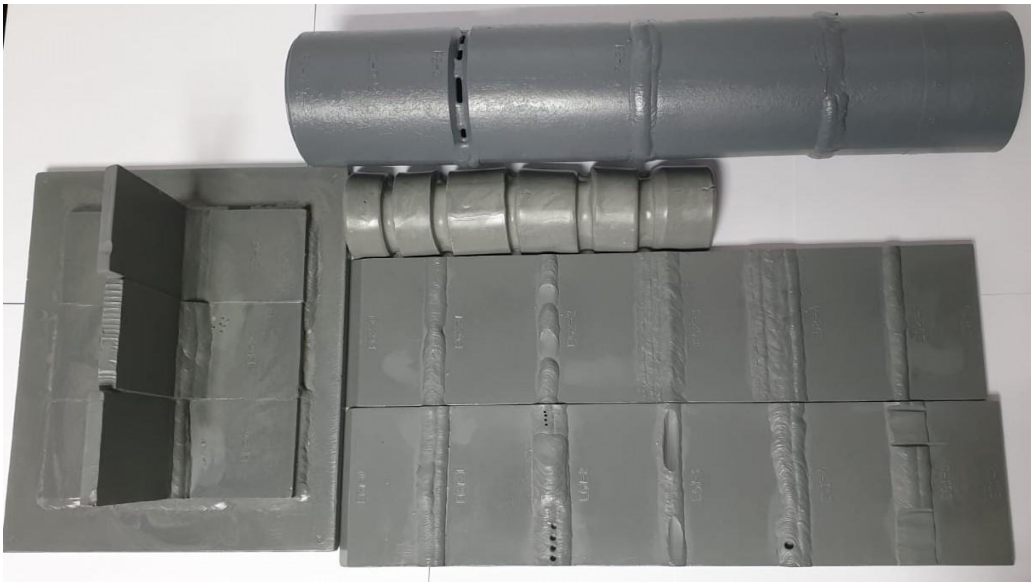
Upon the completion of the course, participants have to sit for a MOCK Examination similar to the exam of the Certification Body through Haward's Portal. Each Participant will be given a username and password to log in Haward's Portal for the Mock exam during the 7 days following the course completion. Each participant has only one trial for the MOCK exam within this 7-day examination window. Hence, you have to prepare yourself very well before starting your MOCK exam as this exam is a simulation to the one of the Certification Body.

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 "American Welding Society (AWS) Tool Kit" and "Structural Weld Replica Kit", suitable for classroom training.



AWS Tool Kit



Structural Weld Replica Kit

Course Coordinator

Mari Nakintu, Tel: +971 2 30 91 714, Email: mari1@haward.org