COURSE OVERVIEW FE0860
Certified Welding Engineer (American Welding Society)

Course Title
Certified Welding Engineer (American Welding Society)

Course Date/Venue
Session 1: July 06-July 10, 2025/Boardroom, Sheraton Dubai Creek Hotel & Towers, Dubai UAE
Session 2: December 07-11, 2025/Meeting Plus 9, City Centre Rotana, Doha Qatar

Course Reference
FE0860

Course Duration/Credits
Five days (40 hours)/4.0 CEUs/40 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 "AWS Tool Kit" and "Structural Weld Replica Kit" suitable for in-class training.

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 intricacies 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:-

- Prepare for the AWS welding inspector exam and have enough knowledge and skills to pass such exam in order to get the AWS Welding Inspector Certification
- 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 inspection, piping and welding engineers who are seeking AWS CWI (QC-1) certification. Other engineers, managers and technical staffs who are dealing with welding and fabrication will also benefit.

AWS Certification

Delegates will be certified by AWS based on their exam scoring as per the following:-

CWI : Completion of Parts A, B and C with a minimum score of 72% in each part.
CAWI : Completion of Parts A, B and C with a minimum score of 60% in each part.
CWE : Completion of Parts A and B with a minimum score of 60% in each part.

Training Fee

Dubai	**US$ 5,500** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Doha	**US$ 6,750** per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Exam Fees

US$ 2,000 per Delegate + **VAT**. This rate includes the Classroom Practical Exam conducted by Haward Technology and the Online Theoretical Exam organized by Prometric.

Exam Eligibility & Structure

To qualify as a Certified Welding Inspector, you must pass a vision test and have a combination of qualifying education and work experience, with supporting documentation. Your education and experience should match at least one of the combinations in any one of the grids below:-

MINIMUM EDUCATION	MINIMUM WORK EXPERIENCE
Bachelor or higher degree in welding engineering or welding technology – four (4) years maximum substitution	Minimum of one (1) year welding based work experience
Associate or higher degree in welding or non-welding related engineering technology, engineering, or a physical science – three (3) years maximum substitution	Minimum of two (2) years welding based work experience
Engineering/Technical courses that can be applied to Bachelor or higher degree in Welding – two (2) years maximum substitution	Minimum of three (3) years welding based work experience
Trade/Vocational courses – one (1) year maximum substitution for successfully completed courses	Minimum of four (4) years welding based work experience
High school diploma or approved high school equivalency diploma	Minimum of five (5) years welding based work experience
8th grade level of schooling	Minimum of nine (9) years welding based work experience
Less than 8th grade	Minimum of twelve (12) years welding based work experience

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.

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
  - AWS 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

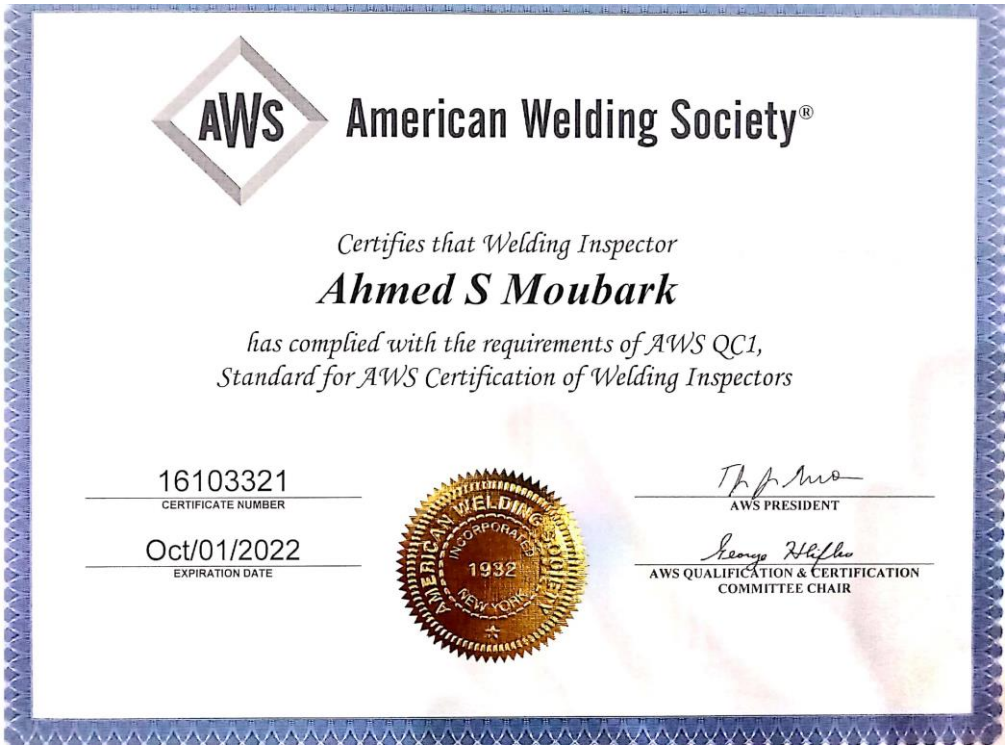
- **OTHER RECOMMENDATIONS**

	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

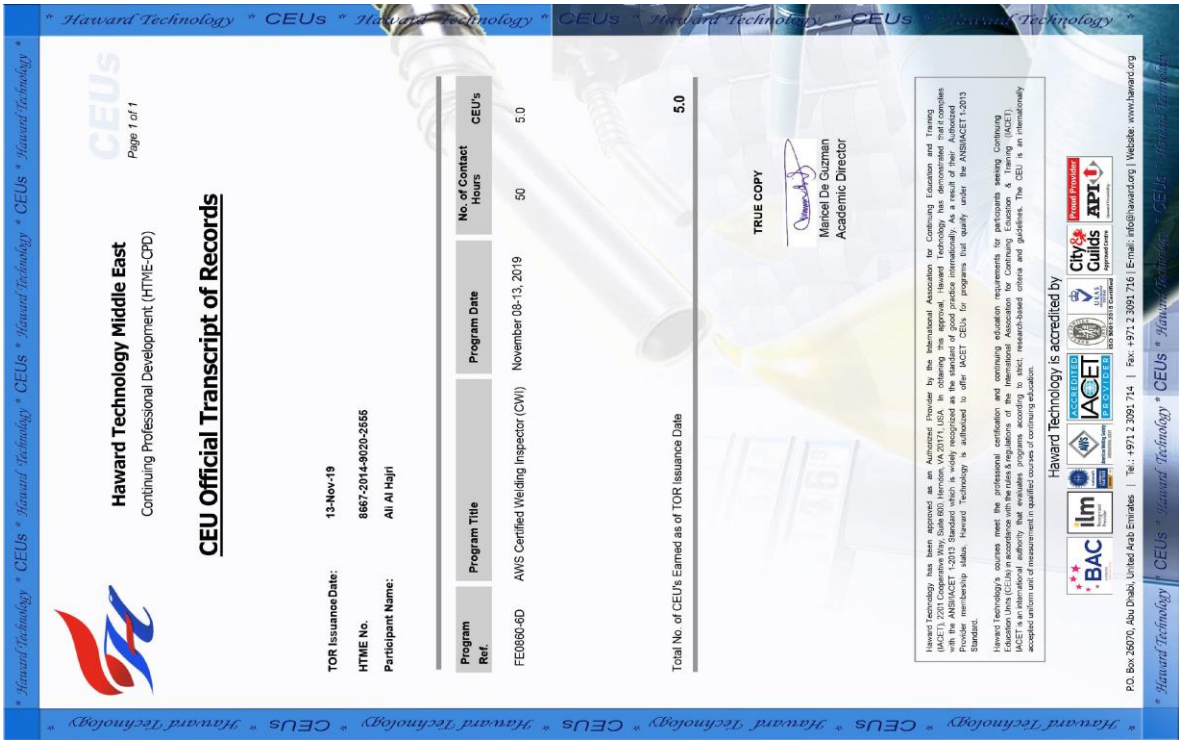
AWS publications may be ordered directly through **Haward Publications** at +971 2 30 91 714. Orders may also be faxed to +971 2 30 91 716, or e-mail info@haward.cc. More information is available at www.haward.cc. When calling to order, please identify yourself as an exam candidate and/or AWS member.

Course Certificate(s).

(1) Internationally recognized Competency Certificates and Plastic Wallet Cards 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. Certificates are valid for 5 years. Successful candidate will be certified as a *"Certified Welding Inspector (CWI)"*.



(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)

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CEU Official Transcript of Records

TOR Issuance Date: 13-Nov-19
HTME No. 8667-2014-9020-2555
Participant Name: Ali Al Hajri

Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
FE0860-6D	AWS Certified Welding Inspector (CWI)	November 08-13, 2019	50	5.0

Total No. of CEUs Earned as of TOR Issuance Date: **5.0**

TRUE COPY

Maricel De Guzman
Academic Director

Haward Technology is accredited by

Haward Technology has been approved as an Authorized Provider by the International Association for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this approval, Haward Technology has demonstrated that it complies with the ANSI/IACET Standard which is recognized internationally as a leading standard for providers of continuing education and training. As an IACET Authorized Provider, Haward Technology is authorized to offer IACET CEUs for programs that qualify under the ANSI/IACET 1-2013 Standard.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking Continuing Education Units (CEUs) under the rules and regulations of the International Association for Continuing Education and 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.

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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.

- 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.

- 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 **4.0 CEUs** (Continuing Education Units) or **40 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.

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. Allen Noguera, BSc, ASNT-NDT, AWS-CWI, API, is a **Senior Inspection Engineer** with almost **20 years** of extensive industrial experience within the **Oil & Gas**, **Refinery** and **Petrochemical** industries. His expertise widely covers in the areas of **Piping & Pipeline**, **Piping System Repair & Maintenance**, **Piping** Integrity Management, **Pipeline** System Maintenance, **Piping** Support, **Piping Inspection**, **Source Inspection** Performance, **Source Inspection** Planning, **Source Inspection** Continuous Improvement, **Source Inspection** Management, **Pressure Vessel** Inspection, **Risk Based** Inspection, **Above Ground Storage** Inspection, **Corrosion & Material** Management, **Refractory** Inspection, **Welding Inspection & Metallurgy**, **Asset Integrity** Management, **Welding & Fabrication**, **Pipelines**, Risk-Based Inspection (**RBI**), Fitness-for-Service (**FFS**), Asset Integrity Management (**AIM**), **Plant Inspection & Corrosion** Engineering, **Metallurgy**, **Corrosion** & **Prevention**, **Material** Selection & Properties, **Welding** Technology, Welded Steel Tanks for Oil Storage, **Cathodic Protection**, **Damage Mechanisms**, **Mechanical & Metallurgical** Failure Mechanisms, Atmospheric & Low-Pressure **Storage Tank Inspection**, **Welding Inspection** & **Metallurgy** Pressure Design Thickness Calculation, **Metallurgy**, **Corrosion**, **Mechanical Integrity** Assessment, **Vibration Analysis** and Non-destructive Testing (**NDT**). Further, he is also well-versed in AutoCAD 2015, Inventor Autodesk 2014, Caesar II 4.5, SAP PM & MM, Primavera Plot Planner, Ansys CFX, Meridium, Ultrapipe, RBI Software, Raptor and Crystall Ball. He is currently the **Senior Assessment Integrity Engineer** of INSERCOR for ECOPETROL wherein he is responsible in reviewing, assessing and updating integrity management and inspection data for pressure systems, pipelines and structures.

During his career life, Mr. Noguera has gained his practical and field experience through his various significant positions and dedication as the **Welding Inspector**, **Senior Assessment Integrity Engineer**, **Offshore/Onshore Assessment Integrity Engineer**, **Project Mechanical Engineer**, **Mechanical Inspector Engineer Mechanical Integrity Consultant**, **NDT Consultant** and **Senior Technical Instructor/Lecturer** for various international companies like the PDVSA, Cicontrol C.A., Inspecta S.A., Techint Group C.A., Refinería de Sonangol and INSERCOR for ECOPETROL.

Mr. Noguera has a **Bachelor** degree in **Industrial Mechanical Engineering** from the **Universidad de Los Andes** and holds a **Diploma** in **Industrial System Reliability** from the **Universidad Simon Bolivar**. Further, he is a **Certified Instructor/Trainer**, a Certified Source Inspector-Fixed Equipment (**API-SIFE**), a Certified Source Inspector-Rotating Equipment (**API-SIRE**), a Certified Refractory Personnel (**API-936**), a Certified Above Ground Storage Tank Inspector (**API 653**), a Certified Pressure Vessels Inspector (**API 510**), a Certified Piping Inspector (**API 570**), a Certified Welding Inspection & Metallurgy Professional (**API 577**), a Certified Risk Based Inspector (**API 580**), a Certified Corrosion & Material Specialist (**API 571**), a Certified Pipeline Construction Inspector (**API 1169**) and an **ASNT-NDT Certified Level III ASNT-TC-1A** in Radiographic Testing (**RT**), Magnetic Particle Testing (**MT**), Visual Testing (**VT**), Magnetic Flux Leakage Testing (**ML**), and Liquid Penetrant Testing (**PT**). Moreover, he is a **Certified Welding Inspector** from the American Welding Society (**CWI-AWS**), an **Authorized Inspector** from the National Board for Boilers and Pressure Vessels and has further delivered innumerable trainings, courses, seminars, conferences and workshops 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 – 0900	***Introduction*** *Aspects of Welding Inspection • Skills & Responsibilities of the Inspector • Aspects of the CWI & CWE Tests • Qualities of an Effective Inspector*
0900 – 1030	***Safe Practices for Welding Inspectors (Z 49.1)*** *General Aspects • Potential Hazards • Personal Protective Equipment • Safety Program & Management Support • Safety Training • Material Safety Data Sheets • Threshold Limit Value • Protective Screens • Fire Prevention • Hot Work Permits • Explosion Hazards • Fume Exposure Factors • Electrical Shock • Section Quiz • Safety Video*
1030 – 1045	*Break*
1045 – 1200	***Metal Joining & Cutting Processes*** *High Speed Welding Video • Common Features of Welding Processes • Basic Process Groups*
1200 – 1300	*Lunch*
1300 – 1400	***Metal Joining & Cutting Processes (cont'd)***
1400 – 1500	***Metal Joining & Cutting Processes (cont'd)***
1500 – 1515	*Break*
1515 – 1545	***Quiz***
1545 – 1630	***Weld Joint Geometry & Welding Symbols (A2.4)*** *Joint Arrangement • Joint Design • Joint Geometry • Edge Shapes • Weld Joint Features • Weld Terminology • Penetration Terminology • Weld Size Terminology • Weld Application*
1630 – 1730	***Distribute Homework & Recap***
1730	*End of Day One*

Day 2

0730 – 0830	***Homework Review***
0830 – 0930	***Weld Joint Geometry & Welding Symbols (A2.4) (cont'd)*** *Standard Welding Symbols*
0930 – 0945	*Break*
0945 – 1015	***Quiz***
1015 – 1230	***Documentation Governing Weld Inspection & Qualification*** *General Information • Document Types • Fabrication Drawings • Dimensions • Tolerances • Notes • Welding Details • Hold Points • Inspection Information • Types of Codes/Standards • Specifications • Control of Materials • Material Test Reports • Material Control Systems • Material Control Methods • Alloy Identification Systems • Qualification*
1230 – 1330	*Lunch*

1330 – 1530	***Metal Properties & Destructive Testing*** *Metal Properties • Strength • Behavior Under Load • Temperature Effects • Ductility • Directional Properties • Hardness • Indenter Types • Toughness • Stress Riser • Transition Temperature • Fatigue Strength • Endurance Limit • Chemical Properties • Elements in Steels • Dissolved Gases • Aluminum Alloys • Nickel Alloys • Copper Alloys*
1530 – 1545	*Break*
1545 – 1630	***Testing***
1630 – 1730	***Distribute Homework & Recap***
1730	*End of Day Two*

Day 3

0730 – 0830	***Homework Review***
0830 – 0930	***Metric Practices for Welding Inspection*** *Metric System*
0930 – 0945	*Break*
0945 – 1045	***Welding Metallurgy for The Welding Inspector***
1045 – 1115	***Quiz***
1115 – 1200	***Weld & Base Metal Discontinuities (B1.11)***
1200 – 1300	*Lunch*
1300 – 1400	***Weld & Base Metal Discontinuities (B1.11) (cont'd)***
1400 – 1500	***Visual Inspection & Other NDE Methods & Symbols (B1.10)***
1500 – 1515	*Break*
1515 – 1600	***Quiz***
1600 – 1730	***Distribute Homework & Recap***
1730	*End of Day Three*

Day 4

0730 – 0800	***Homework Review***
0800 – 1000	***Two (2) Hour Timed Test (150 Questions)***
1000 – 1015	*Break*
1015 – 1115	***Discussion/Review***
1115 – 1230	***Welding of Pipelines & Related Facilities (API 1104)*** *General • Referenced Publications • Definition of Terms • Specifications • Qualification of Welding Procedures for Welds Containing Filler-Metal Additives • Qualification of Welders • Design & Preparation of a Joint for Production Welding*
1230 – 1330	*Lunch*
1330 – 1445	***Welding of Pipelines & Related Facilities (API 1104) (cont'd)*** *Inspection & Testing of Production Welds • Acceptance Standards for Nondestructive Testing • Repair & Removal of Defects • Alternative Acceptance Standards for Girth Welds • In-Service Welding*
1445 – 1500	*Break*
1500 – 1600	***Welding of Pipelines & Related Facilities (API 1104) (cont'd)*** *Procedures for Nondestructive Testing • Automatic Welding • Automatic Welding without Filler-Metal Additions*
1600 – 1630	***API 1104 Exercise***
1630 – 1730	***Distribute Homework & Recap***
1730	*End of Day Four*

Day 5

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 – 1500	***Hands-On Workshop (cont'd)*** *Use of Tools for Measuring & Weld Examination (cont'd)*
1500 – 1515	*Break*
1515 – 1730	***AWS-CWI-Part-B Practical Examination***
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 30 days following the course completion. Each participant has only one trial for the MOCK exam within this 30-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 "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