

COURSE OVERVIEW ME0756

Plumbing

Course Title

Plumbing

Course Date/Venue

July 13-17, 2025/Boardroom 1, Elite Byblos Hotel, Al Barsha, Sheikh Zayed Road, Dubai, UAE

Course Reference

ME0756

Course Duration/Credits

Five days/3.0 CEUs/30 PDHs



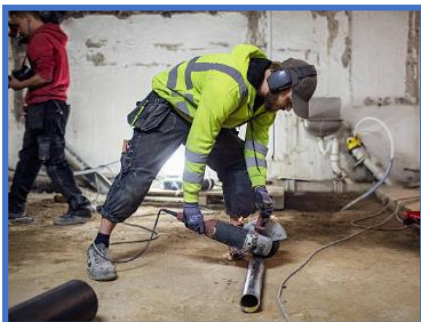
Course Description



This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.



This course is designed to provide participants with a detailed and up-to-date overview of Plumbing. It covers the basic principles of plumbing and its importance in district cooling systems; the types, key components and functions of plumbing systems; the common plumbing materials as well as the tools and equipment used in plumbing; the water supply systems, plumbing codes and standards and safety practices in plumbing; and the plumbing system design principles, piping and fittings, valves and controls, water heating systems and drainage systems.



Further, the course will also discuss the backflow prevention, soldering, brazing, pipe threading and joining techniques; integrating plumbing systems with district cooling; the water conservation techniques and the use of renewable energy in plumbing systems; the rainwater harvesting systems, greywater recycling systems and plumbing system automation; and the preventive maintenance and routine maintenance procedures for plumbing systems.

During this interactive course, participants will learn the common plumbing problems and solutions; the repair or replacement of valves and fixtures; the causes and effects of corrosion and scale; the methods for prevention and treatment; handling plumbing emergencies and the water quality testing and treatment; the energy efficiency in plumbing systems; the plumbing system audits including sustainable practices and technologies; the emerging trends in plumbing; and the regulatory and compliance updates.

Course Objectives

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

- Apply and gain a comprehensive knowledge on plumbing
- Discuss the basic principles of plumbing and its importance in district cooling systems
- Identify the types, key components and functions of plumbing systems
- List the common plumbing materials as well as the tools and equipment used in plumbing
- Recognize water supply systems, plumbing codes and standards and safety practices in plumbing
- Describe plumbing system design principles, piping and fittings, valves and controls, water heating systems and drainage systems
- Apply backflow prevention, soldering, brazing, pipe threading and joining techniques
- Integrate plumbing systems with district cooling and discuss water conservation techniques and the use of renewable energy in plumbing systems
- Recognize rainwater harvesting systems, greywater recycling systems and plumbing system automation
- Employ preventive maintenance and routine maintenance procedures for plumbing systems
- Identify the common plumbing problems and solutions as well as repair or replace valves and fixtures
- Recognize the causes and effects of corrosion and scale and the methods for prevention and treatment
- Handle plumbing emergencies, apply water quality testing and treatment and discuss energy efficiency in plumbing systems
- Apply plumbing system audits including sustainable practices and technologies
- Discuss the emerging trends in plumbing and the regulatory and compliance updates

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

This course provides an overview of all significant aspects and considerations of plumbing for experienced plumbers, mechanical technicians, entry-level plumbers, facility maintenance personnel, property maintenance supervisors, municipal inspectors and other technical staff.

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.

Course Fee

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.

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.

Certificate Accreditations

Certificates are accreditation by the following international accreditation organizations:

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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 **3.0 CEUs** (Continuing Education Units) or **30 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.

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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:



Dr. Tony Dimitry, PhD, MSc, BSc, is a **Senior Mechanical & Maintenance Engineer** with over **30 years** of industrial experience. His expertise covers **Mechanical Maintenance, Mechanical Equipment Maintenance, UT Maintenance Program: Mechanical & Rotating Equipment, Pressure Safety Relief Valve Repair & Recalibration, PSV/PRV Troubleshooting, PRV Testing & Repair, Valve Testing & Inspection, Valve Sealing, Valve Calibration, Process Equipment, Vibration Analysis, Heating Systems Maintenance & Troubleshooting, Heat Exchanger, Centrifugal Chiller Maintenance, Maintenance & Fault Finding of Central Air Conditioning Units and Chillers, Chiller Design, Installation, Maintenance & Troubleshooting, Siemens Steam Turbine Maintenance, Electromechanical Maintenance, Machinery Alignment, Lubrication Technology, Compressors, HVAC & Refrigeration Systems, Piping System, Blower & Fan, Shaft Repair, Control Valve & Actuator, Safety Relief Valves, Pipelines, Piping Vibration Analysis, Pressure Vessels, Dry Gas Seal, Process Equipment, Diesel Engine & Crane Maintenance, Maintenance Management (Preventive, Predictive, Breakdown), Reliability Management, Condition-Based Monitoring, Rotating Equipment, Tanks & Tank Farms, Pneumatic System, Static Equipment, Failure Analysis, FMEA, Corrosion, Metallurgy, Planning, Scheduling, Cost Control, Preventive and Predictive Maintenance.** Currently, he is the Maintenance Manager of the PPC Incorporation wherein he is responsible for the maintenance and upgrade of all plant components, monitoring the thermal stresses and the remaining life of steam pipes, turbine casing, mills, fans and pumps. He is in-charge of the metallurgical failure analysis and the usage of fracture mechanics for determining crack propagation in impellers of turbines, assessing all alterations and developments for upgrading the plant.

During his career life, Dr. Dimitry was a **Senior Engineer** in **Chloride Silent (UK)** wherein he was responsible for the mechanical, thermal and electrical modelling of battery problems for electric vehicles and satellites as well as an **Operations Engineer** of the **National Nuclear Corporation (UK)** wherein he was responsible for the optimization of the plant. Prior to this, he was a **Professor** at the **Technical University of Crete** and an Assistant **Professor** of the **University of Manchester (UK)**.

Dr. Dimitry has **PhD, Master** and **Bachelor** degrees in **Mechanical Engineering** from the **Victory University of Manchester** and the **University of Newcastle, UK** respectively. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management (ILM)** and an associate member of the American Society of Mechanical Engineers (**ASME**) and Institution of Mechanical Engineers (**IMechE**). He has further delivered various trainings, seminars, courses, workshops 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: Sunday, 13th of July 2025

0730 – 0800	<i>Registration & Coffee</i>
0800 – 0815	<i>Welcome & Introduction</i>
0815 – 0830	PRE-TEST
0830 – 0930	Fundamentals of Plumbing <i>Definitions and Basic Principles • Importance in District Cooling Systems</i>
0930 – 0945	<i>Break</i>
0945 – 1030	Overview of Plumbing Systems <i>Types of Plumbing Systems (Residential, Commercial, Industrial) • Key Components and Their Functions</i>
1030 – 1130	Materials & Equipment <i>Common Plumbing Materials (PVC, Copper, PEX, etc.) • Tools and Equipment Used in Plumbing</i>
1130 – 1230	Water Supply Systems <i>Sources of Water Supply • Design and Installation of Water Supply Systems</i>
1230 – 1245	<i>Break</i>
1245 – 1330	Plumbing Codes & Standards <i>International and Local Plumbing Codes • Compliance and Certification Requirements</i>
1330 – 1420	Safety Practices in Plumbing <i>Personal Protective Equipment (PPE) • Safe Work Practices and Procedures</i>
1420 – 1430	Recap <i>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</i>
1430	<i>Lunch & End of Day One</i>

Day 2: Monday, 14th of July 2025

0730 – 0830	Plumbing System Design Principles <i>Planning and Layout of Plumbing Systems • Hydraulic Calculations and Sizing</i>
0830 – 0930	Piping & Fittings <i>Types of Pipes and Fittings • Installation Techniques and Best Practices</i>
0930 – 0945	<i>Break</i>
0945 – 1145	Valves & Controls <i>Types of Valves (Gate, Globe, Ball, etc.) • Control Devices and Their Applications</i>
1145 – 1230	Water Heating Systems <i>Types of Water Heaters (Tank, Tankless, Solar) • Installation and Maintenance of Water Heaters</i>
1230 – 1245	<i>Break</i>
1245 – 1330	Drainage Systems <i>Design and Installation of Drainage Systems • Traps, Vents, and Cleanouts</i>
1330 – 1420	Backflow Prevention <i>Importance of Backflow Prevention • Devices and Methods for Preventing Backflow</i>



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: Tuesday, 15th of July 2025

0730 – 0830	Advanced Piping Techniques Soldering and Brazing • Pipe Threading and Joining Techniques
0830 - 0930	Plumbing for District Cooling Systems Integration of Plumbing Systems with District Cooling • Special Considerations and Challenges
0930 – 0945	Break
0945 – 1145	Green Plumbing Technologies Water Conservation Techniques • Use of Renewable Energy in Plumbing Systems
1145 – 1230	Rainwater Harvesting Systems Design and Installation of Rainwater Harvesting Systems • Applications and Benefits
1230 – 1245	Break
1245 – 1330	Greywater Recycling Systems Principles of Greywater Recycling • Design and Implementation
1330 - 1420	Plumbing System Automation Smart Plumbing Technologies • Remote Monitoring and Control
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 Three

Day 4: Wednesday, 16th of July 2025

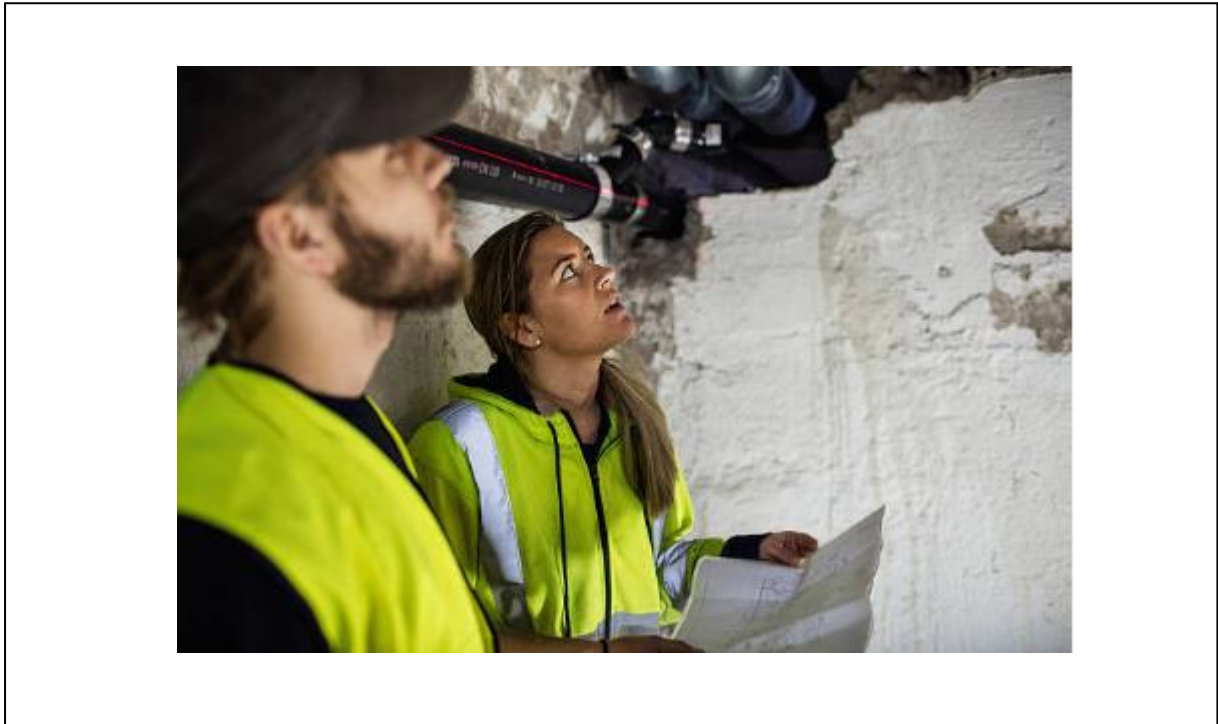
0730 – 0830	Preventive Maintenance for Plumbing Systems Importance of Preventive Maintenance • Routine Maintenance Procedures
0830 - 0930	Common Plumbing Problems & Solutions Identifying and Diagnosing Issues • Effective Troubleshooting Techniques
0930 – 0945	Break
0945 – 1145	Repair Techniques Fixing Leaks and Clogs • Repairing or Replacing Valves and Fixtures
1145 – 1230	Corrosion & Scale Prevention Causes and Effects of Corrosion and Scale • Methods for Prevention and Treatment
1230 – 1245	Break
1245 – 1330	Emergency Plumbing Repairs Handling Plumbing Emergencies • Quick Fixes and Long-Term Solutions
1330 - 1420	Water Quality Testing & Treatment Testing Methods for Water Quality • Treatment Options for Ensuring Safe Water
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 Four

Day 5: Thursday, 17th of July 2025

0730 – 0830	Energy Efficiency in Plumbing Systems Strategies for Reducing Energy Consumption • High-Efficiency Plumbing Fixtures and Appliances
0830 – 0930	Plumbing System Audits Conducting Audits to Identify Inefficiencies • Implementing Audit Recommendations
0930 – 0945	Break
0945 – 1030	Sustainability in Plumbing Sustainable Practices and Technologies • Role of Plumbing in Sustainable Building Design
1030 – 1130	Future Trends in Plumbing Emerging Technologies and Innovations • Impact of IoT and Smart Technologies
1130 – 1230	Regulatory & Compliance Updates Recent Changes in Plumbing Codes and Standards • Staying Compliant with New Regulations
1230 – 1245	Break
1245 - 1345	Workshop: Plumbing System Design & Optimization Interactive Session on Designing Efficient Plumbing Systems • Group Activities and Presentations
1345 - 1400	Course Conclusion Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course
1400 – 1415	POST-TEST
1415 – 1430	Presentation of Course Certificates
1430	Lunch & End of Course

Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises:-



Course Coordinator

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