

COURSE OVERVIEW IE0315
Maintain QMI (Analysers and Sample Systems)

Course Title

Maintain QMI (Analysers and Sample Systems)

Course Date/Venue

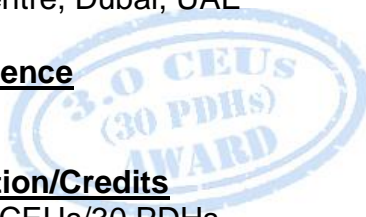
February 25-29, 2024/The Mouna Meeting Room, The H Dubai Hotel, Sheikh Zayed Rd - Trade Centre, Dubai, UAE

Course Reference

IE0315

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 fundamental overview of Maintain QMI (Analysers & Sample Systems). It covers the QMI analysers and sample systems including the basics of quality measurement instruments (QMI) in the context of process systems; the different types of analysers and their roles in maintaining process quality; the purpose and function of analysers in process systems using process and instrumentation diagrams (P&IDs) and how these instruments integrate into the larger process system; the components of analyser sample systems and their functions and importance in the overall system;



Further, the course will also discuss the procedure on how to obtain, interpret and use relevant drawings and specification data for testing and diagnosing faults in QMI equipment and sample systems; and the safety protocols and isolation techniques focusing on how to safely isolate and depressurize analysers in preparation for maintenance activities.

During this interactive course, participants will learn the routine maintenance procedures covering standard maintenance protocols for QMI analysers and sample systems including scheduled checks and cleaning processes; the advanced troubleshooting techniques and methods for identifying and rectifying common issues in analyser systems; the calibration and validation analysers; the techniques and best practices for calibrating analysers to ensure accuracy and reliability; the performance testing and analysis and how to conduct performance tests on QMI equipment; and interpreting results to assess system health and efficiency.

Course Objectives

At the end of this course, the trainee will be able to:-

- Apply and gain a fundamental knowledge on maintenance of QMI (Analysers & Sample Systems)
- Explain the purpose of analysers in the process system using P&IDs
- Explain the functions of the individual components of analyser sample systems
- Obtain, interpret and use relevant drawings and specifications data for testing and fault diagnosis of QMI (Analyser Equipment and Sample Systems) to be tested or maintained
- Perform isolation and depressurization of analysers in preparation for maintenance activities
- Discuss QMI analysers and sample systems covering the basics of quality measurement instruments (QMI) in the context of process systems as well as identify different types of analysers and their roles in maintaining process quality
- Determine the purpose and function of analysers in process systems using process and instrumentation diagrams (P&IDs) and explain how these instruments integrate into the larger process system
- Identify the components of analyser sample systems and explain their functions and importance in the overall system
- Obtain, interpret and use relevant drawings and specification data for testing and diagnosing faults in QMI equipment and sample systems
- Carryout safety protocols and isolation techniques focusing on how to safely isolate and depressurize analysers in preparation for maintenance activities
- Implement routine maintenance procedures covering standard maintenance protocols for QMI analysers and sample systems including scheduled checks and cleaning processes
- Apply advanced troubleshooting techniques and methods for identifying and rectifying common issues in analyser systems
- Calibrate and validate analysers as well as carryout techniques and best practices for calibrating analysers to ensure accuracy and reliability
- Carryout performance testing and analysis and conduct performance tests on QMI equipment and interpret results to assess system health and efficiency

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 basic overview of maintenance of QMI (Analysers & Sample Systems) for all personnel who operate and maintain quality measurement instruments (QMI) as well as those who have use the results. This includes plant instrumentation engineers, maintenance engineers, lab managers, plant chemists, maintenance supervisors and technicians.

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 accredited by the following international accreditation organizations: -

- 

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.

- 

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. Anouar Dhifallah, MSc, BSc, is a Senior Instrumentation & Control Engineer with over **20** years of extensive experience within the **Power & Water Utilities** and other **Energy** sectors. His expertise widely covers in the areas of **Actuators & Valve Selection, Process Control & Automation, Batch Process & Sequential Control, Analog Control, Operator Interfaces, Data Communication, Networking Design and Configurations, Instrumentation & Control, General Instrumentation & Process Control, System Checkout & Testing, Advanced Control with PLC's, Ladder Logic, Process Instrumentation & Control, Control Valve Maintenance, Process Automation & Control Instrumentation, Foxboro, ABB, Rosemount, Yokogawa, Pneumatic & Electronic, Level Measurement, HV/LV Equipment, High Voltage Electrical Safety, LV & HV Electrical System, HV Equipment Inspection & Maintenance, HV Switchgear Operation & Maintenance, LV Distribution Switchgear & Equipment, Electrical Safety, Electrical Maintenance, Inspection, Testing & Risk Assessment, Electrical Generator Protection, Electrical Generator Testing & Maintenance, Programmable Logic Controller (PLC), Distribution Control System (DCS), Temperature, Flow & Level Measurement, Pneumatic & Hydraulic Technologies, Substation Automation Systems & Application, Testing & Maintenance of Electrical Substations, Electrical Substation 33/11KV Design, Electrical Power Substation Maintenance, Electrical Equipment Inspection, Testing & Troubleshooting, Lighting Installation Design, Electric Distribution System, Load Forecasting Methods, Transmission & Distribution Analysis, Circuit Breakers Inspection & Maintenance, Protective Relaying, Electrical & Control System, Switchgears, Transformers, Medium & High Voltage Equipment, Circuit Breakers, Cable & Overhead Line Troubleshooting & Maintenance, HV/MV Cable Splicing, High Voltage Circuit Breaker Inspection & Repair, Cable & Over Head Power Line, HV Cable Design, Cable Splicing & Termination, Cable Jointing Techniques, High Voltage Power System, Electrical Standards, Electrical Drawing & Schematics, Voltage Distribution, Power Distribution, Filters, Automation System, Electrical Variable Speed Drives, Power Systems, Power Generation, Diesel Generators, Power Stations, Uninterruptible Power Systems (UPS), Battery Chargers, AC & DC Transmission, CCTV Installation, Data & Fire Alarm System, Security Systems, Evacuation Systems and Electrical Motors & Variable Speed Drives, Renewable Energy and Installation & Control of Electrical and Electronic devices.**

During Mr. Anouar's career life, he has gained his practical experience through several significant positions and dedication as the **Electrical & Instrumentation Department Head, Technical Services Manager, Field Engineer, Electrical Engineer, Electrical Instructor/Trainer, Faculty Coach** and **Instructor/Trainer** from various companies, colleges and institutes like the Technical School of Zarzis, Ambatovy Training Center, Tunisian National Oil Co., Rancho Santiago College, Al Baha Technical College, **ARAMCO, PDO**, Tunisie Telecom Co., Al Seeb Institute, Russyal Institute and Technical College of Tunisia.

Mr. Anouar has a **Master's** degree in **Electronics & Telecommunication Engineering** and a **Bachelor's** degree in **Electrical & Instrumentation Engineering**. Further, he is a **Certified Instructor/Trainer, a Certified Coach** from the International Coaching Federation (ICF) and delivered numerous trainings, courses, workshops, 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: Sunday, 25th of February 2024

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	Introduction to QMI Analysers & Sample Systems: The Basics of Quality Measurement Instruments (QMI) in the Context of Process Systems. This will include an Overview of Different Types of Analysers and their Roles in Maintaining Process Quality
0930 – 0945	Break
0945 – 1030	Purpose & Function of Analysers in Process Systems: The Purpose of Analysers using Process and Instrumentation Diagrams (P&IDs). This will help in Understanding How these Instruments Integrate into the Larger Process System
1030 – 1230	Purpose & Function of Analysers in Process Systems: The Purpose of Analysers using Process and Instrumentation Diagrams (P&IDs). This will help in Understanding How these Instruments Integrate into the Larger Process System (cont'd)
1230 – 1245	Break
1245 – 1420	Purpose & Function of Analysers in Process Systems: The Purpose of Analysers using Process and Instrumentation Diagrams (P&IDs). This will help in Understanding How these Instruments Integrate into the Larger Process System (cont'd)
1420 – 1430	Recap
1430	Lunch & End of Day One

Day 2: Monday, 26th of February 2024

0730 – 0930	Components of Analyser Sample Systems: The Individual Components of Analyser Sample Systems, Explaining their Functions and Importance in the Overall System
0930 – 0945	Break
0945 – 1100	Components of Analyser Sample Systems: The Individual Components of Analyser Sample Systems, Explaining their Functions and Importance in the Overall System (cont'd)
1100 – 1230	Interpreting Drawings & Specifications: Obtaining, Interpreting and Using Relevant Drawings and Specification Data. This is crucial for Testing and Diagnosing Faults in QMI Equipment and Sample Systems
1230 – 1245	Break
1245 – 1420	Interpreting Drawings & Specifications: Obtaining, Interpreting and Using Relevant Drawings and Specification Data. This is crucial for Testing and Diagnosing Faults in QMI Equipment and Sample Systems (cont'd)
1420 – 1430	Recap
1430	Lunch & End of Day Two



Day 3: Tuesday, 27th of February 2024

0730 – 0930	Safety Protocols & Isolation Techniques: Necessary Safety Protocols, Focusing on How to Safely Isolate and Depressurize Analysers in Preparation for Maintenance Activities
0930 – 0945	Break
0945 – 1100	Safety Protocols & Isolation Techniques: Necessary Safety Protocols, Focusing on How to Safely Isolate and Depressurize Analysers in Preparation for Maintenance Activities (cont'd)
1100 – 1230	Routine Maintenance Procedures: Standard Maintenance Protocols for QMI Analysers and Sample Systems including Scheduled Checks and Cleaning Processes
1230 – 1245	Break
1245 – 1420	Routine Maintenance Procedures: Standard Maintenance Protocols for QMI Analysers and Sample Systems including Scheduled Checks and Cleaning Processes (cont'd)
1420 – 1430	Recap
1430	Lunch & End of Day Three

Day 4: Wednesday, 28th of February 2024

0730 – 0930	Advanced Troubleshooting Techniques: Advanced Methods for Identifying and Rectifying Common Issues in Analyser Systems
0930 – 0945	Break
0945 – 1100	Advanced Troubleshooting Techniques: Advanced Methods for Identifying and Rectifying Common Issues in Analyser Systems (cont'd)
1100 – 1230	Calibration & Validation of Analysers: Techniques and Best Practices for Calibrating Analysers to Ensure Accuracy and Reliability
1230 – 1245	Break
1245 – 1420	Calibration & Validation of Analysers: Techniques and Best Practices for Calibrating Analysers to Ensure Accuracy and Reliability (cont'd)
1420 – 1430	Recap
1430	Lunch & End of Day Four

Day 5: Thursday, 29th of February 2024

0730 – 0930	Case Studies: Real-World Applications: Analyzing Real-World Scenarios Where QMI Analysers and Sample Systems Have Played a Critical Role, Discussing Lessons Learned and Best Practices
0930 – 0945	Break
0945 – 1100	Case Studies: Real-World Applications: Analyzing Real-World Scenarios Where QMI Analysers and Sample Systems Have Played a Critical Role, Discussing Lessons Learned and Best Practices (cont'd)
1100 – 1230	Performance Testing & Analysis: How to Conduct Performance Tests on QMI Equipment, Interpreting Results to Assess System Health and Efficiency
1230 – 1245	Break
1245 – 1345	Performance Testing & Analysis: How to Conduct Performance Tests on QMI Equipment, Interpreting Results to Assess System Health and Efficiency (cont'd)
1345 – 1400	Course Conclusion
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

Kamel Ghanem, Tel: +971 2 30 91 714, Email: kamel@haward.org