

COURSE OVERVIEW HE1863-4D Master Class Process Safety Competence

Course Title

Master Class Process Safety Competence

Course Date/Venue

October 07-10, 2024/ Fujairah Meeting Room,
Grand Millennium Al Wahda Hotel, Abu Dhabi,
UAE

Course Reference

HE1863-4D

Course Duration/Credits

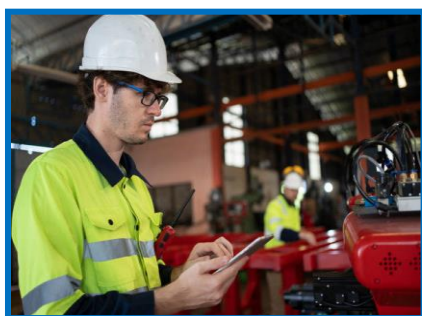
Four days/2.4 CEUs/24 PDHs



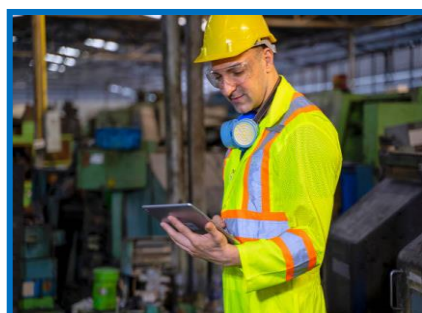
Course Description



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 Masterclasses designed to provide participants with a detailed and up-to-date overview of Master Class Process Safety Competence. It covers the incidents that shaped process safety and the essential elements of the process safety management system; the relation with ISO 9001, 14001, 18001 (OHSAS) and 50001; the guidance with roles and responsibilities and the “anatomy of a disaster”; the process safety with the API-754 and ICCA standards, leading and lagging indicators, defining useful performance indicators (SMART KPI’s); the SEVESO directives, key aspects and safety report and scenario’s; the practical aspects of ATEX explosion safety and learn about pressure equipment directive (PED) for pressure vessels; the chemical storage in tanks (PGS 29) and packed chemicals (PGS-15) and BEVB: underground pipelines



Further, the course will also discuss the industrial hygiene exposure validation. REACH, MSDS and transport (ADR & AND) and waste regulations; the process hazards from run-away reactions to BLEVE and risk definition, useful risk matrix, acceptance criteria, ALARP; the barrier thinking and ‘SWISS cheese ‘model; quality of barriers and process hazard analysis techniques including HAZOP workshop; the instrumental systems and safety integrity level (SIL) and HAZOP execution and leadership including a real exercise.

During this course, participants will learn the HAZOP execution and leadership including a real exercise, layers of protection analysis: LOPA and specific hazards from the oil and gas industry; common unit operations hazards, such as distillation, reactors, heat exchangers, flares, compressors, and furnaces; the management of change: MOC & PSSR applied with best practices and reliability centered maintenance for mechanical integrity; the risk based inspection for pressure vessel inspection frequencies, corrosion mechanisms and pressure vessel systems: safeties, thermal reliefs, breather valves; the effective turnaround management strategies and contractor management; the inherently safer design principle, safety of people in buildings and learn from incidents root cause investigation techniques; the auditing and closure of the DEMING circle and process safety culture and leadership theory and how to create this in practice and process safety fundamentals.

Course Objectives

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

- Apply and gain an in-depth knowledge on master class process safety competence
- Discuss the incidents that shaped process safety and the essential elements of the process safety management system
- Recognize the relation with ISO 9001, 14001, 18001 (OHSAS) and 50001
- Organize guidance with roles and responsibilities and the “anatomy of a disaster”
- Measure process safety with the API-754 and ICCA standards, leading and lagging indicators, defining useful performance indicators (SMART KPI’s)
- Discuss SEVESO directives, key aspects and safety report and scenario’s
- Implement practical aspects of ATEX explosion safety and learn about pressure equipment directive (PED) for pressure vessels
- Carryout chemical storage in tanks (PGS 29) and packed chemicals (PGS-15) and BEVB: underground pipelines
- Recognize industrial hygiene exposure validation. REACH, MSDS and transport (ADR & AND) and waste regulations
- Discuss process hazards from run-away reactions to BLEVE and risk definition, useful risk matrix, acceptance criteria, ALARP
- Carryout barrier thinking and ‘SWISS cheese ‘model; quality of barriers and process hazard analysis techniques including HAZOP workshop
- Analyze instrumental systems and safety integrity level (SIL) and HAZOP execution and leadership including a real exercise
- Recognize the HAZOP execution and leadership including a real exercise, layers of protection analysis: LOPA and specific hazards from the oil and gas industry
- Identify and analyze common unit operations hazards, such as distillation, reactors, heat exchangers, flares, compressors, and furnaces
- Learn management of change: MOC & PSSR applied with best practices and reliability centered maintenance for mechanical integrity



- Explore risk-based inspection for pressure vessel inspection frequencies, corrosion mechanisms and pressure vessel systems: safeties, thermal reliefs, breather valves
- Learn effective turnaround management strategies and contractor management
- Discuss inherently safer design principle, safety of people in buildings and learn from incidents root cause investigation techniques
- Recognize auditing and closure of the DEMING circle and process safety culture and leadership theory and how to create this in practice and process safety fundamentals

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 process safety competence for team leaders, board operators, operational leaders engineers, operational supervisors, superintendents, inspectors 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\$ 4,500 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: -

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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 **2.4 CEUs** (Continuing Education Units) or **24 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:



Mr. Attalla Ersan, PEng, MSc, BSc, is a **Senior HSE Consultant** with over **35 years** of extensive experience within the Project Safety **Oil & Gas, Hydrocarbon** and **Petrochemical** industries. His expertise widely covers the areas of **Accident Investigation, Health & Safety, Occupational Safety & Security, Safety Risks** in Urea Plants, **Advanced Incident Investigation & Confidential Reporting, Facilities Management, Environmental Health & Safety Management, Products Specification,**

HSSE Performance & Effectiveness, HAZOP Facilitation, Hazardous Materials, Material Safety Data Sheets (MSDS), Hazardous Wastes, Hazards of Chemical Incidents, Shipping Configurations, Respiratory Protection, Protective Clothing, Donning and Doffing Procedures, Boiler & Steam System Management, Waste Heat Recovery, Boiler Plant Safety, Boiler Controls, Steam Distribution Systems, Steam Traps, Pollution Control, Cracked Gas Compressor, Reboilers, Sulphur Unit Air Blower, Steam Turbine, Distillation Columns, Gas Treatment, Waste & Water Treatment Units, Process Plant Operations, Process Plant Startup & Operating Procedure, Ethylene & Vinyl Chloride, Ethane Cracking Furnaces Operations, Ethylene & Polyethylene Operation, Acid Gas Treatment, Sulphur Recovery, EDC & VCM, Caustic Soda Storage, Debottle-necking, Loss Prevention, Process Operation, Safety Audits, Process Engineering, Root Cause Investigations, Pyrolysis Cracking, Gas Plant Commissioning, Loss Prevention Techniques, Occupational Hazards, Hot Tapping & Tie-Ins, Pre-Start-Up Safety Review (PSSR), Standard Operating Procedure (SOP), Emergency Operating Procedure (EOP), Permit to Work Systems (PTW), Hazard and Operability (HAZOP) Study, Process Hazards Analysis (PHA), Consequence Analysis Application, Gas Detectors Operation, Accident/Incident Investigation (Why Tree Method), Occupational Exposure Assessment, Fire Fighting & First Aid, Environmental Management, Basic Safety Awareness, Steam Cracking, Steam Generation, Binary Fractionators Operations, Tanks Farm & Metering Station Techniques, Gas Treatment, Sulphur Recovery Process Unit Operation, Permit to Work System and Emergency Response Planning. Further, he is also well-versed in Project Management, Human Resources Consultancy, Manpower Planning, Job Design & Evaluation, Recruitment, Training & Development and Leadership, Creative Problem Solving Skills, Work Ethic, Job Analysis Evaluation, Training & Development Needs, Bidding & Tendering, Technical Report Writing, Supervisory Leadership, Effective Communication Skills and Total Quality Management (TQM). He is currently the **CEO of Ersan Petrokimya Teknoloji Company Limited** wherein he is responsible for the design and operation of Biogas Process Plants.

During his career life, Mr. Ersan has gained his practical and field experience through his various significant positions and dedication as the **HSE Field Engineer, Safety Engineer, Policy, Organization & Manpower Development Head, Training & Development, Head, Ethylene Plant – Pyrolysis Furnace Engineer, Production Engineer, HSE Advisor, Process Training Coordinator, Ethylene Plant Shift Supervisor, Ethylene Plant Panel & Fit Operator, Process Training & Development Coordinator, Technical Consultant, and Instructor/Trainer** for Qatar Vinyl Company Limited and Qatar Petroleum Company (QAPCO).

Mr. Ersan is a **Registered Professional Engineer** and has a **Master's degree of Education in Educational Training & Leadership** and a **Bachelor's degree of Petrochemical Engineering**. Further, he is a **Certified Instructor/Trainer** and has delivered numerous trainings, courses, workshops, conferences and seminars 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: **Monday 07th of October 2024**

0730 - 0800	Registration & Coffee
0800 - 0815	Welcome & Introduction
0815 - 0830	PRE-TEST
0830 - 0900	Historic Perspective: The Incidents that Shaped Process Safety
0900 - 0930	The Essential Elements of the Process Safety Management System
0930 - 0945	Break
0945 - 1015	The Relation with ISO 9001, 14001, 18001 (OHSAS) & 50001
1015 - 1045	Organization Guidance with Roles & Responsibilities
1045 - 1115	Workshop "Anatomy of a Disaster"
1115 - 1145	Measure Process Safety with the API-754 & ICCA Standards
1145 - 1215	Leading & Lagging' Indicators, Defining Useful Performance Indicators (SMART KPI's)
1215 - 1230	Break
1230 - 1330	Seveso Directives, Key Aspects
1330 - 1420	Safety Report & Scenario's
1420 - 1430	Recap
1430	Lunch & End of Day One

Day 2: **Tuesday 08th of October 2024**

0730 - 0800	ATEX Explosion Safety: Practical Implementation
0800 - 0830	Pressure Equipment Directive (PED) for Pressure Vessels
0830 - 0900	BEVB: Underground Pipelines
0900 - 0930	Chemical Storage in Tanks (PGS 29) & Packed Chemicals (PGS-15)
0930 - 0945	Break
0945 - 1030	Industrial Hygiene: Exposure Validation. REACH, MSDS
1030 - 1100	Transport (ADR & AND) & Waste Regulations
1100 - 1215	Process Hazards: From Run-Away Reactions to BLEVE
1215 - 1230	Break
1230 - 1300	Risk Definition, Useful Risk Matrix, Acceptation Criteria, ALARP
1300 - 1330	Barrier Thinking & 'Swiss Cheese 'Model; Quality of Barriers
1330 - 1420	Process Hazard Analysis Techniques Including HAZOP Workshop
1420 - 1430	Recap
1430	Lunch & End of Day Two

Day 3: **Wednesday 09th of October 2024**

0730 - 0800	Instrumental Systems & Safety Integrity Level (SIL)
0800 - 0830	HAZOP Execution & Leadership Including a Real Exercise
0830 - 0900	Layers of Protection Analysis: LOPA
0900 - 0930	Specific Hazards from the Oil & Gas Industry
0930 - 0945	Break
0945 - 1030	Hazards of Common Unit Operations Like Distillation, Reactors, Heat Exchangers, Flares, Compressors, Furnaces
1030 - 1100	Inherently Safer Design Principles
1100 - 1215	Management of Change: MOC & PSSR Applied with Best Practices





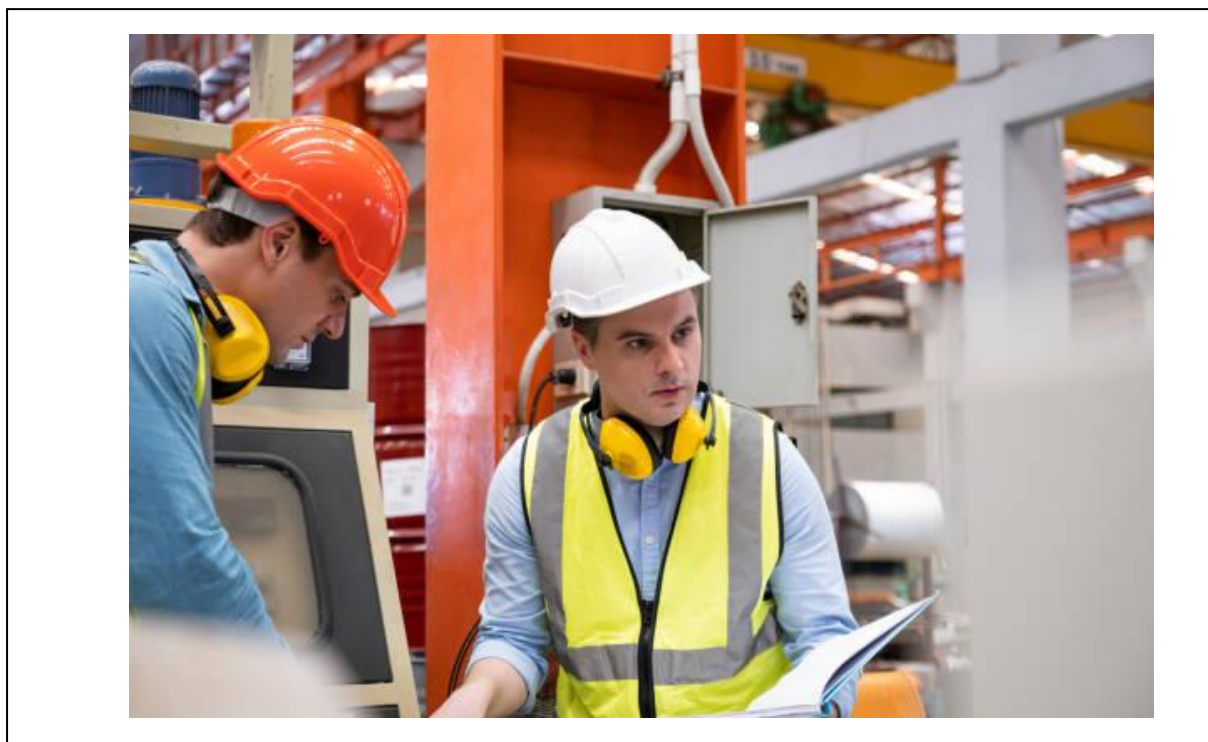
1215 - 1230	Break
1230 - 1300	Reliability Centered Maintenance for Mechanical Integrity
1300 - 1330	Risk Based Inspection for Pressure Vessel Inspection Frequencies
1330 - 1420	Corrosion Mechanisms
1420 - 1430	Recap
1430	Lunch & End of Day Three

Day 4: Thursday 10th of October 2024

0730 - 0815	Pressure Vessel Systems: Safeties, Thermal Reliefs, Breather Valves
0815 - 0845	Turn Around Management & Contractor Management
0845 - 0930	Inherently Safer Design Principle
0930 - 0945	Break
0945 - 1045	Facility Siting: Safety of People in Buildings
1045 - 1130	Learning from Incidents: Root Cause Investigation Techniques
1130 - 1215	Auditing & Closure of the Deming Circle
1215 - 1230	Break
1230 - 1315	Process Safety Culture & Leadership: Theory & How to Create this in Practice
1315 - 1345	Process Safety Fundamentals: Operational Principles
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

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