COURSE OVERVIEW HE0150-4D
Safety Engineering & Risk Management

Course Title
Safety Engineering & Risk Management

Course Reference
HE0150-4D

Course Duration/Credits
Four days/2.4 CEUs/24 PDHs

Course Date/Venue

Session(s)	Date	Venue
1	January 15-18, 2024	Cheops Meeting Room, Radisson Blu Hotel, Istanbul Sisli, Turkey
2	February 19-22, 2024	Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE
3	March 04-07, 2024	Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE
4	March 04-07, 2024	Business Center, Concorde Hotel Doha, Doha, Qatar
5	July 15-18, 2024	Jubail Hall, Signature Al Khobar Hotel, Al Khobar, KSA
6	October 07-10, 2024	Ajman Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Course Description

This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulator.

This course provides understanding of the quantitative and qualitative analysis methods of safety engineering & risk management. The course also provides guidance in planning, implementing and managing an overall safety engineering program. It includes coverage of such applicable science and engineering principles as risk, human reliability, fault logic, failure modes, incident cost and prediction.

The course is presented in an applied format where several different types of industries are discussed such as Oil, gas, Chemical, Petrochemical, Power and manufacturing industries. Regulatory influence on system and process safety is discussed. Quantitative aspects of the course include application of risk analysis, fault tree analysis, process hazard and operability analysis (HAZOP), vapor-cloud dispersion modeling, human reliability analysis, failure modes and effects analysis, etc.

The course is also intended to provide a background in managing an overall safety program and its application to several industries, therefore, cost and effectiveness measurement are covered in the material.

Course Objectives

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

- Apply and gain a comprehensive knowledge on safety engineering and risk management
- Demonstrate the proper application of the appropriate science and engineering principles and quality applicable aspects of risk, human reliability, fault logic, failure modes, incident cost and incident prediction
- Employ the following system-safety analysis techniques and methods:
  - Hazard and Operability Study (HAZOP)
  - Fault Tree Analysis (FTA)
  - Risk Assessment and Analysis
  - Energy Trace and Barrier Analysis
  - Failure Modes and Effects Analysis (FMEA)
  - Other techniques to discuss including Technique for Human Error Rate Prediction (THERP)
- Explain the planning and management principles of a system safety program
- Determine what elements of a system safety program are critical to assessing the effectiveness of an overall program
- Employ safety conditions in the workplace and the need for formal written procedures
- Discuss the analysis of potentially dangerous conditions for risk management
- Identify hazardous chemicals and discuss confined spaces, excavations & elevated areas
- Describe the safety aspects of gases & pressure vessels and emergency procedures
- Discuss how the safety auditing system can gauge the company's safety status as well as technical reports and accident investigations to reduce future risks
- Develop an understanding on overall Management of Risk Process
- Apply a variety of techniques to determine and quantify potential risks & risk assessment and apply the Safety Life Cycle

Who Should Attend

This course provides an overview of all significant aspects and considerations of managing risk, reliability and loss prevention in production operations for all safety and reliability management specialists, managers, engineers and personnel responsible for the safety of the process plant. Further, the course is also beneficial for operators I and II in production operations.

Accommodation

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

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

Istanbul	**US$ 5,000** per Delegate + **VAT**. This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Dubai	**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.
Doha	**US$ 5,500** per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Al Khobar	**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.
Abu Dhabi	**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

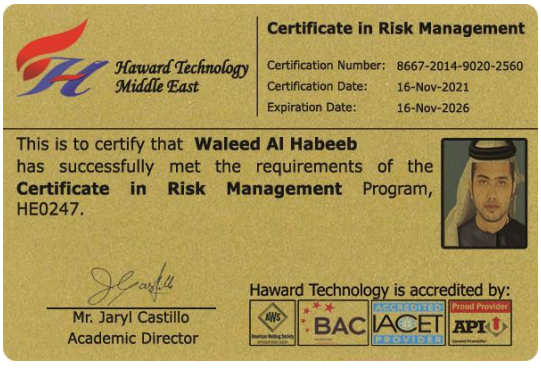
Course Certificate(s)

(1) Internationally recognized Wall Competency Certificates and Plastic Wallet Card Certificates 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.

Recertification is FOC for a Lifetime.

Sample of Certificates

The following are samples of the certificates that will be awarded to course participants:-



(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 * CEUs * Haward Technology * CEUs * Haward Technology * CEUs * Haward Technology *

Haward Technology Middle East

Continuing Professional Development (HTME-CPD)

CEU Official Transcript of Records

TOR Issuance Date: 16-Nov-21

HTME No. 8667-2014-9020-2560

Participant Name: Waleed Al Habeeb

Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
HE0247	Certificate in Risk Management	November 12-16, 2021	28	2.8

Total No. of CEU's Earned as of TOR Issuance Date **2.8**

TRUE COPY

Jaryl Castillo
Academic Director

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 1-2013 Standard which is widely recognized as the standard of good practice internationally. As a result of their Authorized Provider membership status, 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) in accordance with the rules & regulations of the International Association 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 is accredited by

P.O. Box 26070, Abu Dhabi, United Arab Emirates | Tel.: +971 2 3091 714 | Fax: +971 2 3091 716 | E-mail: info@haward.org | Website: www.haward.org

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 **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.

- 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. John Taljard is an **International Health**, **Safety & Environment** (**HSE**) **Expert** within **Oil**, **Gas** and **Petrochemical** industries. His expertise includes **Accident/Incident Investigation & Risk Management**, **Risk Assessment** within Production Operation, **Hazard Identification**, **Quantified Risk Assessment**, **Process Hazard Analysis** (**PHA**), **Construction Safety** (**STOP**), **Process Safety Management**, **HAZOP Studies & Leadership**, **FMEA**, Waste Management, Industrial Effluents, **Hazardous Material**, Chemical Handling, **Firefighting**, Emergency Response Services, **HAZCOM**, **HAZWOPER** and **HAZMAT** with over **30 years** of practical experience in the **process** industry. His wide experience also includes **Environmental Management** (**ISO 14001**), **Safety Management** (**OHSAS 18001**), **Quality Management** (**ISO 9001**). He is the **Founder** of **ISTEC**, an international health & safety management and consultancy company where he is greatly involved in the development and implementation of **SHEQ standards & procedures**, **HAZOP Studies**, **HAZOP Leadership**, **FMEA**, **PHA**, operational safety guidelines, inspections & auditing techniques.

While Mr. Taljard has been very active in the process industry for almost three decades, he has likewise headed Consultancy projects for major **petrochemical**, aviation, engineering & construction, mining & chemical industries. In all his projects, he utilizes a systems approach which includes **risk management**, **process safety**, health & environmental management, human behaviour and quality management. Furthermore, he has come to share his expertise through the **numerous international trainings** he has held on **PHA**, **HAZOP**, **Risk Assessment**, Handling **Hazardous Materials** & Chemicals, Petroleum Products Handling & Transportation, **Fire Fighting & Fire Rescue**, **Safety Auditing**, **Hazard Identification** & Site Inspection and **Accident Investigation** for several significant clientele among these are **ARAMCO**, **SABIC**, **ZADCO**, **ORPC**, **KOTC**, and **AADC**. Moreover, he completed various assignments as a consultant, trainer, facilitator, auditor & designer and conducted numerous licensed international Safety, Technology and Auditing Awareness & Implementing training courses including **IMS**, **ISO 9001**, **ISO 14001**, **ISO 27001**, **ISO 17799**, **OHSAS 18001** audits & assessments. With his accomplishments and achievements, he had been a **Safety Superintendent**, **Senior Safety Official** and **Senior Process Controller** for several international petrochemical companies.

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: Risk, Safety & Accidents***
0900 – 0930	***Video***
0930 – 0945	*Break*

0945 – 1015	***Process Safety Management (PSM) Standard***
1015 – 1100	***PSM Elements***
1100 - 1145	***Employee Participation***
1145 – 1230	***Chemical, Fire & Explosive Hazards***
1230 - 1245	*Break*
1245 – 1300	***System Safety Engineering***
1300 – 1315	***Operating Procedures***
1315 – 1330	***Training***
1330 – 1400	***Contractors***
1400 - 1420	***Case Study, Review & Exercises***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0800	***Pre-Start-up Safety Review***
0800 – 0815	***Mechanical Integrity***
0815 - 0830	***Video***
0830 – 0900	***Hot Work Permit***
0900 – 0930	***Management of Change***
0930 – 0945	*Break*
0945 – 1015	***Incident Investigation***
1015 – 1100	***Emergency Planning & Response***
1100 – 1145	***Compliance Audits***
1145 – 1230	***Trade Secrets***
1230 – 1245	*Break*
1245 – 1330	***Hazard Classification & Control***
1330 – 1420	***Case Study, Review & Exercises***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

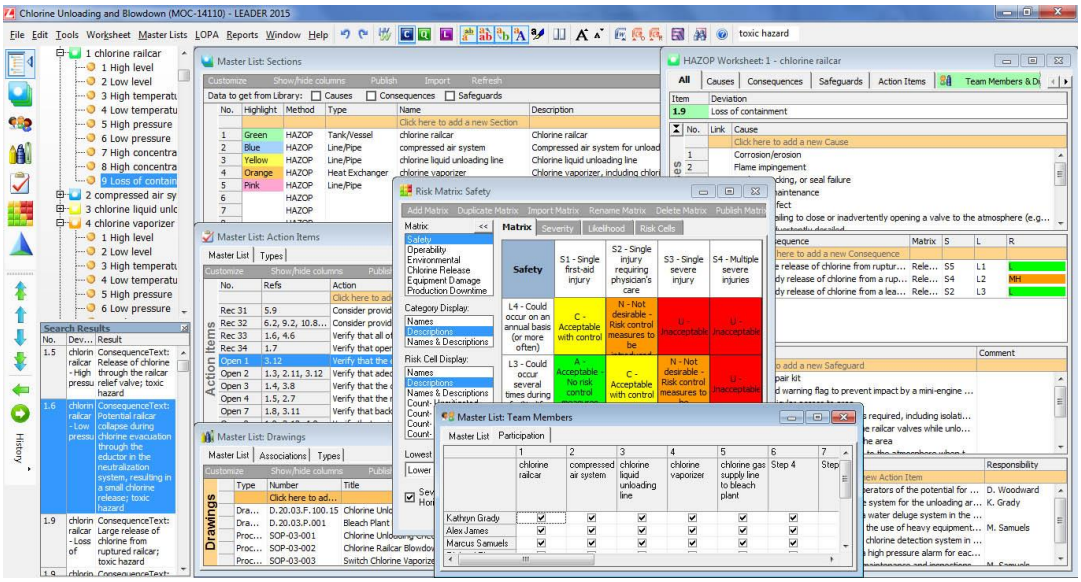
0730 – 0800	***Video***
0800 - 0830	***System Safety Management***
0830 - 0900	***Risk Assessment Matrix***
0900 – 0930	***Preliminary Risk Analysis***
0930 – 0945	*Break*
0945 – 1030	***What-if Analysis***
1030 – 1130	***Failure Modes & Effects Analysis (FMEA)***
1130 – 1215	***Fault Tree Analysis***
1215 – 1230	*Break*
1230 – 1330	***Hazard & Operability (HAZOP) Analysis***
1330 – 1420	***Case Study, Review & Exercises***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0800	***Video***
0800 - 0830	***Event Tree Analysis***
0830 – 0900	***Pareto Analysis***
0900 - 0915	*Break*
0915 - 1000	***Checklist Analysis***
1000 – 1100	***Change Analysis***
1100 – 1115	*Break*
1115 - 1200	***Alternative Hazard Identification Methods***
1200 – 1300	***Human Reliability Assessment (HRA)***
1300 - 1345	***Video***
1345 - 1400	***Course Conclusion***
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Simulator (Hands-on 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 various exercises using our state-of-the-art "Haward PHA/HAZOP" simulator.



Haward PHA/HAZOP Simulator

Course Coordinator

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