COURSE OVERVIEW HE1142(AD6)
HI and HAZOP Study

Course Title
HI and HAZOP Study

Course Date/Venue
Please see page 3

Course Reference
HE1142(AD6)

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 hazard identification and HAZOP study. It covers the seminar introduction, aims and objectives; the risk assessment framework and the role of HAZOP; the HAZOP methodology, roles and responsibilities; the information needed for HAZOP; the stages of HAZOP study consist of initial meeting, introduction, terms of reference, scope of the review, HAZOP team composition and roles, etc; the project health, safety, environmental plan and role of HAZOP; the project h, s and e reviews 'PHSER's; the stages of PHSER; the role and responsibilities of PHSER team leader and members; the HAZOP report; the HAZOP actions, planning and implementing; the HAZOP software – Dnv pro 97 and example of HAZOP study reports.

During this interactive course, participants will learn the planning and implementing; the role of HAZOP within quantified risk assessment 'QRA'; the HAZOP and human reliability assessment; the human factors and types of human error; the latent, active error; the task-based HAZOP procedure and syndicate exercise of the task-based HAZOP; the analysis of the consequences of toxic & flammable release; the types of fire & explosion; the latest commercial software for modeling flammable/toxic releases and fire/explosion – Dnv Phast; the professional 5.3 & Bp AMOCO Sirrus 6.1; the overview of quantified risk assessment 'QRA'; the general conduct of HAZOP team leader and members.

Course Objectives

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

- Apply and gain advance knowledge in hazard identification and HAZOP study
- Discuss the seminar introduction, aims and objectives
- Explain the risk assessment framework and the role of HAZOP
- Discuss the HAZOP methodology, roles and responsibilities
- Identify the information needed for HAZOP
- Discuss the stages of HAZOP study consist of initial meeting, introduction, terms of reference, scope of the review, HAZOP team composition and roles , etc
- Explain the project health, safety, environmental plan and role of HAZOP
- Discuss the project h, s and e reviews 'PHSER's
- Identify the stages of PHSER
- Discuss the role and responsibilities of PHSER team leader and members
- Demonstrate how to prepare HAZOP report
- Recognize the HAZOP actions, planning and implementing
- Discuss the HAZOP software – Dnv pro 97 and example of HAZOP study reports
- Demonstrate planning and implementing
- Explain the role of HAZOP within quantified risk assessment 'QRA'
- Discuss the HAZOP and human reliability assessment
- Identify the human factors and types of human error
- Discuss the latent, active error as well as task-based HAZOP procedure and syndicate exercise of the task-based HAZOP
- Explain the analysis of the consequences of toxic and flammable release
- Identify the types of fire and explosion
- Discuss the latest commercial software for modeling flammable/toxic releases and fire/explosion – Dnv Phast as well as professional 5.3 and Bp AMOCO Sirrus 6.1
- Explain the overview of quantified risk assessment 'QRA'
- Discuss the general conduct of HAZOP team leader & members

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 hazard identification and HAZOP study for all personnel involved in the process of risk assessment drawn from every level of process operations, productions, designs, maintenance and health and safety.

Course Date/Venue

Session(s)	Date	Venue
1	June 23-27, 2025	Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
2	August 24-28, 2025	Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE
3	October 20-24, 2025	Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
4	December 14-18 , 2025	Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations:-

- 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 **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.

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. Raymond Tegman is a **Senior HSE Consultant** with extensive experience within the **Oil & Gas**, **Petrochemical** and **Refinery** industries. His broad expertise widely covers in the areas of **Rigging** Safety Rules, Machinery & Hydraulic **Lifting Equipment**, Handling **Hazardous Chemicals**, Spill Containment, **Fire** Protection, **Fire** Precautions, **Incidents & Accidents** Reporting, **HSEQ** Audits & Inspection, **HSEQ** Procedures, **Environmental** Awareness, **Waste** Management Monitoring, **Emergency Planning**, **Emergency** Management, **Working at Heights**, **Root Cause Analysis**, **HSE** Rules & Regulations, Process Safety Management (**PSM**), Process Hazard Analysis (**PHA**), Techniques, **HAZOP**, **HSE** Risk, **Pre-Start-up Safety** Reviews, **HSE Risk** Identification, Assessments & Audit, **HSE Risk** Assessment & Management Concepts, **HSE Management** Policy & Standards, **HSSE Emergency Response & Crisis Management** Operations, **Confined Space Entry**, **Quantitative Risk Assessment** (**QRA**), Hazardous Materials & Chemicals Handling, Safety Precaution & Response Action Plan, **Hazard & Risk** Assessment, Task Risk Assessment (**TRA**), **Incident Command**, **Accident & Incident Investigation**, **Emergency Response Procedures**, Job Safety Analysis (**JSA**), Behavioural Based Safety (**BBS**), **Fall Protection**, **Work Permit & First Aid**, Lock-out/Tag-out (**LOTO**), **Emergency Response**, **Construction** Supervision, **Scaffolding** Inspection, **HAZCHEM**, Manual Material Handling, **Road Traffic** Supervision, ISO 9001 and OHSAS 18001.

During his career life, Mr. Tegman has gained his practical and field experience through his various significant positions and dedication as the **Operations Manager**, **Safety & Maintenance Manager**, **Safety Manager**, **Road/Traffic Supervisor**, **Assessor/Moderator**, **Safety Consultant**, **Safety Advisor**, **Safety Officer** and **Liaison Officer** from Zero Harm, SHRA Training & Services (Health & Safety), Road Crete, Balwin Property Development, DEME International, Gladstone Australia, Godavari Gas Pipeline and New Castle NCIG.

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.

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.

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 – 0930	***Seminar Introduction – Aims & Objectives***
0930 – 0945	*Break*
0945 – 1045	***Risk Assessment Framework – the role of HAZOP***
1045 – 1130	***HAZOP Methodology – Roles & Responsibilities***
1130 – 1215	***Information Needed for HAZOP***
1215 – 1230	*Break*
1230 – 1420	***Stages of HAZOP Study:*** *Initial Meeting • Introduction • Terms of Reference • Scope of the Review • HAZOP Team Composition & Roles • Timetable • General Conduct of the Review • Report Preparation • Mechanism for Follow-Up & Review • Evaluation of Risks • HAZOP Workshop 1*
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 One*

Day 2

0730 – 0830	***Feedback from Workshop 1***
0830 – 0930	***Project Health, Safety & Environmental Plan – Role of HAZOP***
0930 – 0945	*Break*
0945 – 1045	***Project H, S & E Reviews 'PHSER's***
1045 – 1130	***Stages of PHSER***
1130 – 1215	***Role & Responsibilities of PHSER Team Leader & Members***
1215 – 1230	*Break*
1230 – 1330	***HAZOP Workshop 2***
1330 – 1420	***Report Back & Discussion***
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

0730 – 0830	***Preparing HAZOP Report***
0830 – 0930	***HAZOP Actions – Planning & Implementing***
0930 – 0945	*Break*
0945 – 1045	***HAZOP Software – Dnv Pro 97***
1045 – 1130	***Example of HAZOP Study Reports***
1130 – 1215	***Planning & Implementing***
1215 – 1230	*Break*
1230 – 1420	***The Role of HAZOP Within Quantified Risk Assessment 'QRA'***
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

0730 – 0830	***HAZOP & Human Reliability Assessment***
0830 – 0930	***Human Factors & Types of Human Error***
0930 – 0945	*Break*
0945 – 1100	***Latent & Active Error***
1100 – 1215	***Task-Based HAZOP Procedure***
1215 – 1230	*Break*
1230 – 1420	***Syndicate Exercise of the Task-Based HAZOP***
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

0730 – 0830	***Analysis of the Consequences of Toxic & Flammable Release***
0830 – 0930	***Types of Fire & Explosion***
0930 – 0945	*Break*
0945 – 1045	***Latest Commercial Software for Modeling Flammable/Toxic Releases & Fire/Explosion – Dnv Phast***
1045 – 1130	***Professional 5.3 & Bp Amoco Sirrus 6.1***
1130 – 1215	***Overview of Quantified Risk Assessment 'QRA'***
1215 – 1230	*Break*
1230 – 1345	***Discussion on the General Conduct of HAZOP Team Leader & Members***
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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