COURSE OVERVIEW HE2014

Hazard Identification & Risk Assessment (HIRA)

Course Title

Hazard Identification & Risk Assessment (HIRA)

Course Date/Venue

Session 1: August 11-15, 2025/Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE

Session 2: October 05-09, 2025, 2025/Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE

Course Reference

HE2014

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 & Risk Assessment (HIRA). It covers the importance of HIRA, relationship between HIRA and incident prevention; integration with safety management systems (ISO 45001, OSHA); the types and classifications of hazards, review legal and regulatory framework, basic risk management principles; the risk management principles, HIRA process, roles and responsibilities in HIRA; and the preliminary hazard analysis (PHA).

Further, the course will also discuss the workplace inspection and observation, job safety analysis (JSA) and job hazard analysis (JHA); the task-based and process hazard identification, human factors and ergonomic hazards; using hazard identification tools; the quantitative versus qualitative risk assessment, risk matrix development and use; and the hazard operability study (HAZOP);

During this interactive course, participants will learn the failure modes and effects analysis (FMEA), bowtie risk analysis, risk ranking and prioritization and hierarchy of controls in practice; the risk control action plans; the integration of HIRA with permit-to-work (PTW), HIRA and management of change (MOC), incident investigation and link to HIRA; the emergency risk assessment, HIRA auditing and performance evaluation, behavioral aspects and worker participation; and the digital tools and software for HIRA.

Course Objectives

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

- Apply and gain an in-depth knowledge on hazard identification and risk assessment (HIRA)
- Discuss the importance of HIRA, relationship between HIRA and incident prevention as well as integration with safety management systems (ISO 45001, OSHA)
- Identify the types and classifications of hazards, review legal and regulatory framework, basic risk management principles
- Explain risk management principles, HIRA process, roles and responsibilities in HIRA and the preliminary hazard analysis (PHA)
- Carryout workplace inspection and observation and analyze job safety analysis (JSA) and job hazard analysis (JHA)
- Recognize task-based and process hazard identification, human factors and ergonomic hazards as well as the use of hazard identification tools
- Differentiate quantitative versus qualitative risk assessment, explain risk matrix development and use as well as discuss hazard operability study (HAZOP)
- Identify failure modes and effects analysis (FMEA), bowtie risk analysis, risk ranking and prioritization and hierarchy of controls in practice
- Develop risk control action plans and discuss integration of HIRA with permit-to-work (PTW), HIRA and management of change (MOC), incident investigation and link to HIRA
- Carryout emergency risk assessment, HIRA auditing and performance evaluation, behavioral aspects and worker participation, digital tools and software for HIRA

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 risk assessment (HIRA) for managers, safety engineers, supervisors, safety representatives and other technical staff.

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: -

- 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. Peter Christian is an **International Expert** in **Safety**, **Health**, **Environmental** and **Quality** with over **30 years** of practical and industrial experience in **NEBOSH** International General Certificate in Occupational Health & **Safety**, **Lifting & Rigging Equipment HAZOP**, **HAZWOPER**, **HAZMAT**, **HAZCOM**, **PHA** (**Process Hazard Analysis**), **FMEA**, **HAZID**, **ISO 14001**, **OHSAS 18001**, **ISO 9001**, Process Safety Management (**PSM**), Safety, Health, Environmental & Quality Management (**SHEQ**), **Behavioral Safety Management**, **Industrial Hygiene**, **Human Factors Engineering**, **Risk Assessment**, Fire Fighting, Rope Rescue Operations, Emergency Response within process industries. He is currently the **President** of **NKWE** and spearheads the companies major projects and business ventures, where he specializes in the areas of **SHEQ** solutions, **ISO**, **Quality Control** and **OSHA systems**. Previously, he has had much on–hand experience in the initiation and management of projects (technical as well organizational development) including involvement in **design of process plants**; **the commissioning & decommissioning** of process plants; the **operational and financial responsibility** for large process operations; **risk management**; **operational and maintenance management**, **crisis and emergency management**, **accident investigation**, **risk assessment**, **hazard identification** and **emergency preparedness & response** (oil spillage and gas explosions).

Much earlier in his career, Mr. Christian was a **HAZOP Team Leader** for numerous **HAZOP** studies and he has further managed the **Health, Safety & Environmental** and **Quality** requirements of a large process company. This included responsibilities as an auditor for compliance against **SHEQ standards**, **ISO standards** and the **Fatal Risk Control Protocols**. He then facilitated the development and implementation of the above standards as a group and at site level as part of the SHEQ council. Moreover, he established, trained and led a Rope rescue team and a high level emergency care clinic and ambulance service for many years. He still abseils recreationally and leads adventure groups during abseiling activities and serves as a rescue team member for mountain and water emergencies.

During his career life, Mr. Christian has gained his practical and field experience through his various significant positions as the **Plant Manager**, **Project Metallurgist**, **Metallurgist**, **HSE Team Leader**, **SHEC Superintendent**, **Mentor**, Instructor/Trainer, Acting **Technical Manager**, **Process Plant Superintendent**, Acting **Project Leader**, Acting **Plant Superintendent**, Appointed **Health & Safety & Environmental Superintendent**, Production Technician, Acting **Senior Shiftsman**, Foreman and Learner – Official Extraction Metallurgy from various companies such as the NKWE Consulting, SAMANCOR, Middleburg Mine Services (Pty) Ltd., Koomfontein Mines, Emelo Mine Services, Gencor Group and South African Defence Force.

Mr. Christian has a **Postgraduate Studies** in **Advanced Executive Programme** and a **National Higher Diploma** (**NHD**) & a **National Diploma** in **Extraction Metallurgy**. He is also a **Certified/Registered Tutor** in **NEBOSH International General Certificate**, **Certified Auditor** in **OHSAS 18001**, **ISO 14001** & **ISO 9001**, a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**), a **Six Sigma Black Belt Coach** and holds a Certificate in Facilitate Learning Using a Variety of Given Methodologies **NQF Level 5** (**EDTP-SETA**) as a **Certified Facilitator**. He has further delivered innumerable courses, trainings, workshops and conferences globally.

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 Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the workshop 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	***Basics of Hazard Identification & Risk Assessment*** *Definition of Hazards, Risks, & Controls • Objectives & Importance of HIRA • Relationship Between HIRA & Incident Prevention • Integration with Safety Management Systems (ISO 45001, OSHA)*
0930 – 0945	*Break*
0945 – 1030	***Types & Classifications of Hazards*** *Physical, Chemical, Biological, Ergonomic, Psychosocial • Workplace-Specific Hazards (Electrical, Fire, Confined Space) • Acute versus Chronic Hazards • Static versus Dynamic Hazards*
1030 – 1130	***Legal & Regulatory Framework*** *International Standards (ISO, OSHA, ILO Guidelines) • Local Regulatory Requirements & Compliance • Legal Liabilities & Due Diligence • Case Laws & Enforcement Actions*
1130 – 1215	***Basic Risk Management Principles*** *Hierarchy of Hazard Control • ALARP (As Low as Reasonably Practicable) Principle • Cost-Benefit Analysis & Risk Tolerability • Risk Matrix & Severity/Probability Scales*
1215 – 1230	*Break*
1230 – 1330	***HIRA Process Overview*** *Step-By-Step HIRA Methodology • Inputs & Outputs of a Risk Assessment • Multidisciplinary Team Approach • Documentation & Records*

1330 – 1420	***Roles & Responsibilities in HIRA*** *HSE Roles versus Operational Roles • Competency Requirements for Assessors • Line Management & Worker Engagement • Leadership Accountability*
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	***Preliminary Hazard Analysis (PHA)*** *Purpose & Scope of PHA • Identifying Hazards in Early Design Phase • PHA Worksheet & Structure • Examples in Project Planning*
0830 – 0930	***Workplace Inspection & Observation*** *Conducting Structured Safety Inspections • Behavioral Observation for Hazard Spotting • Use of Checklists & Audit Tools • Hazard Mapping & Workplace Walkthroughs*
0930 – 0945	*Break*
0945 – 1100	***Job Safety Analysis (JSA) / Job Hazard Analysis (JHA)*** *Steps in Conducting a JSA • Identifying Tasks, Steps, Hazards, & Controls • JSA versus SOP Integration • Team Involvement in JSA*
1100 – 1215	***Task-Based & Process Hazard Identification*** *Breakdown of Tasks & Operational Phases • Simultaneous Operations (SIMOPS) Hazards • Change-Based Hazards (MOC & PSSR Context) • Process-Specific Risks (Chemical, Mechanical, Electrical)*
1215 – 1230	*Break*
1230 – 1330	***Human Factors & Ergonomic Hazards*** *Human Error Categories • Ergonomic Risk Factors (Repetition, Posture, Force) • Fatigue & Cognitive Load Considerations • Human-Machine Interface & Design Hazards*
1330 – 1420	***Use of Hazard Identification Tools*** *Hazard Checklists & Hazard Hunts • What-If Analysis • Safety Review Meetings • Failure Mode Brainstorming*
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	***Quantitative versus Qualitative Risk Assessment*** *Definitions & Differences Between Quantitative & Qualitative Risk Assessments • When to Use Each Method • Advantages & Limitations • Hybrid Approaches*
0830 – 0930	***Risk Matrix Development & Use*** *Likelihood Categories & Definitions • Consequence/Severity Classification • Color-Coded Risk Rating & Prioritization • Real-Life Examples & Customization*
0930 – 0945	*Break*
0945 – 1100	***Hazard & Operability Study (HAZOP)*** *Overview & Methodology • Guidewords & Deviations • HAZOP Worksheet Format • Interpreting & Acting on HAZOP Results*

1100 – 1215	***Failure Modes & Effects Analysis (FMEA)*** *Identifying Failure Points & Impacts • Severity, Occurrence, & Detection Scoring • Calculating Risk Priority Number (RPN) • Control Recommendations*
1215 – 1230	*Break*
1230 – 1330	***Bowtie Risk Analysis*** *Structure of Bowtie Diagrams (Threats, Events, Consequences) • Barrier Identification & Classification • Visualization of Layered Risk Controls • Integrating Bowtie with Incident Investigation*
1330 - 1420	***Risk Ranking & Prioritization*** *Criteria for Ranking Hazards • Urgency Matrix for Action Planning • Multi-Hazard Risk Comparison • Reporting High-Risk Findings to Leadership*
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

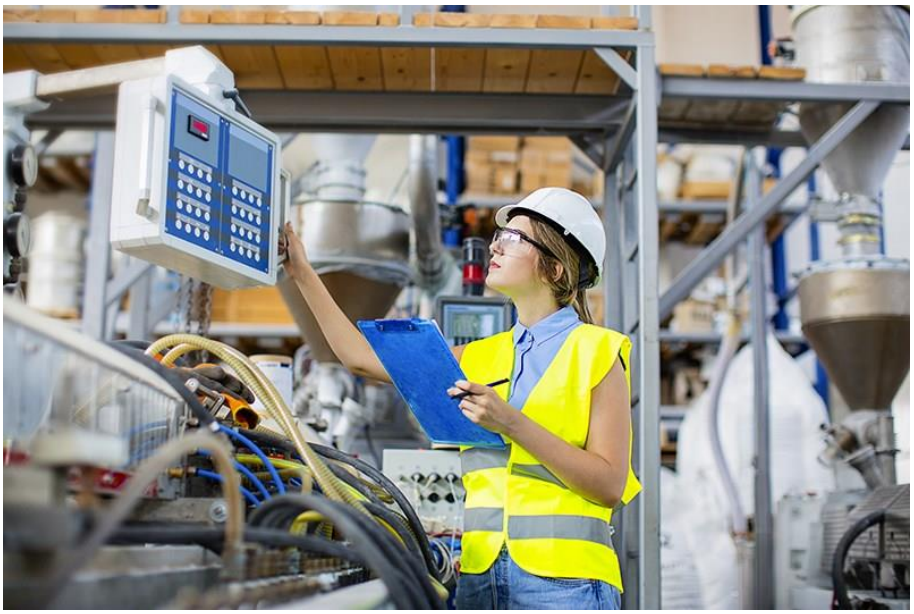
0730 – 0830	***Hierarchy of Controls in Practice*** *Elimination & Substitution • Engineering & Administrative Controls • Personal Protective Equipment (PPE) as Last Resort • Effectiveness Comparison & Examples*
0830 – 0930	***Developing Risk Control Action Plans*** *Identifying Responsible Parties • SMART Corrective Actions • Cost-Benefit Considerations • Target Dates & Monitoring Progress*
0930 – 0945	*Break*
0945 – 1100	***Integration of HIRA With Permit-to-Work (PTW)*** *HIRA Role in Hot Work, Confined Space, Electrical Permits • Pre-Job Risk Identification • Daily Hazard Reassessment • Permit Closure & Learning Review*
1100 – 1215	***HIRA & Management of Change (MOC)*** *Hazard Identification During Change Proposals • Temporary versus Permanent Change Risks • Involving HSE & Technical Leads • Pre-Startup Safety Reviews (PSSR)*
1215 – 1230	*Break*
1230 – 1330	***Incident Investigation & Link to HIRA*** *Learning From Incidents & Near-Misses • Comparing HIRA Assumptions with Real Events • Revising Risk Assessments Post-Incident • Root Cause Analysis (RCA) Feedback Into HIRA*
1330 – 1420	***Emergency Risk Assessment*** *Scenario-Based Risk Evaluation • Fire, Explosion, Toxic Release Scenarios • Linking to Emergency Response Planning • Reviewing HIRA for Drills & Simulations*
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	***Practical Application, Review, & Continuous Improvement*** *HIRA Forms & Templates • Hazard Register Development • Action Tracking & Close-Out Logs • HIRA in Audit & Compliance Systems*
0830 – 0930	***HIRA Auditing & Performance Evaluation*** *Conducting HIRA Effectiveness Audits • Leading versus Lagging HIRA Metrics • Common Findings & Best Practices • Third-Party Audit Considerations*
0930 – 0945	*Break*
0945 – 1100	***Behavioral Aspects & Worker Participation*** *Importance of Front-Line Involvement • HIRA Workshops & Toolbox Talks • Overcoming Resistance & Encouraging Reporting • Leadership Influence on Hazard Awareness*
1100 – 1230	***Digital Tools & Software for HIRA*** *Risk Assessment Software Platforms • Integrating HIRA With EHS & ERP Systems • Real-Time Hazard Tracking & Analytics • Mobile Tools for Field-Based HIRAs*
1230 – 1245	*Break*
1245 – 1345	***Group Activity: HIRA Case Study & Workshop*** *Group Formation & Scenario Distribution • Step-By-Step HIRA Development • Presentation of Findings & Controls • Peer Review & Facilitator Feedback*
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 the following real-life case studies:-



Course Coordinator

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