



*Training Course:
Safety Technology & Risk Management*

*30 November - 4 December 2026
Madrid (Spain)*

Training Course: Safety Technology & Risk Management

Training Course code: HE7016 From: 30 November - 4 December 2026 Venue: Madrid (Spain) - Training Course Fees: 6300 € Euro

Introduction

As technological systems grow more complex, identifying and controlling safety hazards becomes increasingly challenging. Plant managers and engineers must integrate safety and risk management into daily operations to meet evolving international and national standards. This course highlights practical safety engineering and risk assessment methods, techniques to mitigate major hazards, principles established by bodies like IChemE, and processes for proactive and reactive quantifiable risk assessments.

Objectives

- Apply the principles of hazard identification and assessment of risk to processes and machinery
- Understand reliability concept and use of failure tracing methods
- Demonstrate a practical understanding of a quantitative risk assessment technique and the data required for records
- Advise management on the most effective control methods based on the evaluation of risk
- Identify the general requirement for development of safe system of work
- Recognise relevant International Standards for Reliability and Machinery Safety

Target Audience

- HSE Managers and Safety Professionals
- Risk Management Personnel
- Operations and Maintenance Engineers
- Project Managers and Supervisors
- Process and Production Engineers
- Technical and Engineering Staff
- Safety Officers and Coordinators
- Quality and Compliance Professionals
- Emergency Response Personnel
- Professionals responsible for workplace safety and operational risk management

Outlines

Day 1: Hazard Identification

- Introduction and course overview
- Why do we need safety engineering
- Examples of major disasters
- The safety system process
- Hazard identification
- Hazard control
- Criteria for risk tolerability
- Hazard Identification Techniques
- Design out hazards
- Safety standards codes, national and international
- Safety analysis in engineering
- Safety analysis in Chemical process
- Safety analysis in manufacturing

Day 2: Risk Assessment Techniques

- Safety Management
- Safety in the system life cycle
- Hazard identification check-list
- Process, workplace, work equipment risk assessment
- Task-based risk assessment
- Introduction to HAZOP

Day 3: Machinery and Work Equipment Safety

- Machinery hazard identification
- Causes and methods for machinery accident prevention
- HAZOP examples
- Failure modes, human factors, and software safety

- Conducting a failure mode and effects analysis
- Human factors safety analysis
- Performance and human error
- Human factors and safety analysis

Day 4: Reliability Technology

- Types and causes of failures
- Methods of preventing failure
- Types of maintenance and inspection regimes
- Reliability of components and systems
- Design and reliability of control systems
- Design and reliability of protective systems
- The concept of "HIPS"
- Safety Integrity Levels "SIL" selection

Day 5: Consequences Analysis

- Mechanics of fire, explosion, and toxic releases
- Dispersion modeling software
- Types of fire: flash, jet, cascading fires and BLEVE
- Types of explosion
- Quantification of risk
- Event Tree Analysis "ETA"
- Course Summary
- Course Review

Registration form on the Training Course: Safety Technology & Risk Management

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