

Course No. 1670

Risk Assessment & Hazard Identification Training Course

INDUSTRIAL SAFETY & HSE
INDUSTRIAL ENGINEERING, MAINTENANCE & OPERATIONS

DURATION

5 Days

DELIVERY

Classroom



Course Overview

The Risk Assessment & Hazard Identification Training Course provides a comprehensive and practical framework for systematically identifying hazards, assessing risks, evaluating existing controls, and developing effective risk reduction measures. The program is designed to strengthen organizational capability in recognizing potential sources of harm before incidents occur and supporting informed decisions about workplace, operational, technical, and process risks.

Effective risk management begins with accurate hazard identification and a structured understanding of how hazards can develop into incidents. Organizations operating complex facilities, industrial processes, energy systems, infrastructure, or high-risk activities require consistent methods for identifying hazards, assessing likelihood and consequences, evaluating control effectiveness, and prioritizing actions according to risk significance.

The course covers the complete risk assessment process, from hazard identification and risk analysis through risk evaluation, control selection, monitoring, and review. Participants will examine a range of practical techniques for identifying physical, chemical, mechanical, electrical, ergonomic, environmental, operational, process, and organizational hazards, while considering human factors and changes in operating conditions.

A strong focus is placed on applying the hierarchy of controls and developing proportionate risk reduction measures. Participants will learn how to evaluate existing safeguards, identify control gaps, determine residual risk, and select appropriate measures to eliminate, reduce, control, or monitor identified risks. The program also addresses the importance of risk assessment in planning work activities, managing changes, investigating incidents, and maintaining operational resilience.

Through practical exercises, workplace scenarios, case studies, and risk assessment workshops, participants will develop the ability to conduct structured hazard identification and risk assessments, document findings, prioritize risks, and develop actionable control measures. The Risk Assessment & Hazard Identification Training Course supports organizations seeking to strengthen preventive risk management, improve safety performance, and establish more consistent approaches to operational risk control.

Objectives

- Analyze the fundamental principles of hazard identification and risk assessment and their role in organizational risk management.
- Identify workplace, operational, process, equipment, environmental, and organizational hazards using structured assessment techniques.
- Assess the likelihood and potential consequences associated with identified hazards.
- Apply appropriate risk assessment methodologies to determine risk levels and establish priorities.
- Evaluate existing preventive, protective, and control measures for their effectiveness and adequacy.
- Apply the hierarchy of controls to develop practical measures for eliminating or reducing identified risks.
- Assess human factors, operational changes, and workplace conditions that may influence risk levels.
- Develop clear risk assessment documentation that supports operational decision-making and accountability.
- Evaluate residual risks after controls have been implemented and determine whether additional measures are required.
- Improve risk communication between management, supervisors, technical specialists, contractors, and operational personnel.
- Apply risk assessment principles to work planning, management of change, emergency preparedness, and operational activities.
- Develop a practical risk reduction and hazard management action plan by the end of the course.

Who Should Attend

This training course is designed for HSE managers and specialists, risk managers, safety engineers, process safety professionals, operations managers, maintenance managers, facility managers, technical specialists, supervisors, and professionals responsible for identifying and controlling workplace and operational risks.

The program is particularly suitable for professionals working in oil and gas, petrochemicals, energy, manufacturing, construction, engineering, utilities, transportation, infrastructure, and other high-risk

environments. It is also relevant to government entities, ministries, public sector organizations, and large corporations that require structured approaches to workplace safety, operational risk, and hazard management.

The course will also benefit senior managers, department heads, project managers, contractors' representatives, and decision makers responsible for safety, operational reliability, compliance, and risk reduction. It provides participants from different functions with a common framework for assessing hazards, evaluating controls, communicating risk, and establishing practical risk reduction priorities.

Learning Outcomes

- Identify and classify different types of workplace, operational, process, equipment, and environmental hazards.
- Conduct structured hazard identification using appropriate observation, analysis, and assessment techniques.
- Evaluate the likelihood and potential consequences of hazardous events.
- Apply risk assessment methodologies to determine risk levels and establish appropriate priorities.
- Assess the effectiveness of existing safeguards, procedures, and control measures.
- Apply the hierarchy of controls when developing risk reduction strategies.
- Identify gaps in existing controls and determine additional measures required to reduce risk.
- Evaluate human factors and operational conditions that may influence hazard exposure and risk levels.
- Determine residual risk after control measures have been applied.
- Prepare clear and structured risk assessment records that support management decisions and operational control.
- Communicate significant risks and required controls effectively to relevant personnel and stakeholders.
- Develop a practical hazard management and risk reduction plan aligned with organizational priorities.

Course Outline

DAY 01

Fundamentals of Hazard Identification & Risk Assessment

- Principles and objectives of hazard identification and risk assessment
- Relationship between hazards, risks, incidents, consequences, and organizational performance
- Categories of workplace, operational, process, equipment, and environmental hazards
- Risk terminology, assessment criteria, and risk management responsibilities

PRACTICAL APPLICATION

Analyze a workplace scenario and identify hazards, potential consequences, exposed personnel, and initial risk considerations

DAY 02

Hazard Identification Techniques & Risk Analysis

- Structured hazard identification methods and workplace observation techniques
- Identification of physical, chemical, mechanical, electrical, ergonomic, and process hazards
- Human factors, behavioral influences, and organizational contributors to risk
- Likelihood, consequence, exposure, and risk evaluation principles

PRACTICAL APPLICATION

Conduct a structured hazard identification exercise and evaluate the risks associated with the identified hazards

DAY 03

Risk Evaluation & Control Measures

- Risk ranking, prioritization, and decision-making
- Existing controls, safeguards, and control effectiveness assessment
- Hierarchy of controls and risk reduction principles
- Developing preventive, protective, and mitigating measures

DAY 03 — CONTINUED

PRACTICAL APPLICATION

Evaluate an existing risk assessment and develop improved control measures using the hierarchy of controls

DAY 04**Risk Assessment in Operational Activities**

- Risk assessment for routine and non-routine work activities
- Job risk assessment and task-based risk evaluation
- Risk considerations for equipment, maintenance, contractors, and operational changes
- Residual risk assessment, control verification, and management review

PRACTICAL APPLICATION

Develop a task-based risk assessment and determine required controls and residual risk

DAY 05**Risk Management, Monitoring & Continuous Improvement**

- Risk communication and consultation with employees and stakeholders
- Risk assessment documentation, review, and updating
- Integrating risk assessment with management of change, emergency planning, and incident prevention
- Monitoring control effectiveness and continuous risk reduction

FINAL WORKSHOP

Conduct a complete hazard identification and risk assessment exercise and develop an actionable risk reduction plan covering hazards, risk levels, controls, responsibilities, priorities, and follow-up actions



Register or Request More Information

Course page: <https://quest-training.com/courses/risk-assessment-hazard-identification-training-course>

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