BLACKBIRD FOR TRAINING

Safety Technology & Risk Management

14 – 18 December 2026
Toronto (Canada)

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PARTNER

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Ref: 321449_153955 **Date:** 14 – 18 December 2026 **Location:** Toronto (Canada) **Fees:** 6600 GBP

Introduction

As technological systems grow more complex, identifying safety hazards and controlling their impact becomes increasingly challenging. Plant managers and engineers are realizing that safety technology and risk management are critical to the smooth operation of engineering and process systems. To meet the ever-evolving international and national safety standards, organizations must proactively address safety risks while maintaining compliance and operational efficiency.

Unsafe systems can result in significant losses, including financial damages due to accidents, production disruptions, legal liabilities, loss of market share, and environmental harm. This course is designed to equip participants with the knowledge and tools to leverage advanced safety technologies and improve risk management strategies.

Course Objectives

By the end of this course, participants will:

- Apply principles of hazard identification and risk assessment to processes and equipment.
- Understand the concept of reliability and implement failure tracing methods.
- Gain a practical understanding of quantitative risk assessment techniques and recordkeeping.
- Provide management with actionable advice on effective risk control strategies.
- Develop safe systems of work that meet international safety standards.
- Identify key safety technologies to reduce risks and improve operational efficiency.
- Promote a proactive approach to hazard analysis and risk mitigation.
- Stay informed on the role of safety and security technology in compliance and risk management.

Course Outlines

Day 1: Hazard Identification

- Why is safety engineering necessary?
- Case studies of major industrial disasters.
- Overview of safety technology systems.
- Techniques for hazard identification and control.
- Criteria for risk tolerability.
- Role of Safety Technology International standards in system design.
- Analysis of safety in chemical and manufacturing processes.

Day 2: Risk Assessment Techniques

- Fundamentals of safety management.
- The safety lifecycle of engineering systems.
- Task-based and equipment-based risk assessment.
- Introduction to HAZOP Hazard and Operability Studies.
- Understanding information technology risk management in safety operations.

Day 3: Machinery and Work Equipment Safety

- Identifying and mitigating machinery hazards.
- Preventing accidents through advanced safety technology tips.
- Examples of HAZOP applications.
- Conducting Failure Mode and Effects Analysis FMEA.
- Addressing human factors and safety analysis to minimize error.

Day 4: Reliability Technology

- Types and causes of system failures.
- Approaches to failure prevention.
- Overview of technology safety rules for equipment maintenance.
- Ensuring reliability in protective systems and controls.
- Role of Safety Integrity Levels SIL in risk management.

Day 5: Consequence Analysis

- Mechanics of fires, explosions, and toxic releases.
- Using dispersion modeling software to assess risks.
- Types of fires and explosions, such as BLEVE and cascading fires.
- Quantitative Risk Assessment QRA and Event Tree Analysis ETA.

Why Attend this Course? Wins & Losses!

- Enhanced Safety through Technology: Learn how to integrate advanced safety technology into your processes and ensure compliance with Safety Technology International standards.
- Improved Risk Management: Gain expertise in managing technology-related risks and develop strategies for effective risk and compliance management.
- Practical Insights: Apply tools like HAZOP, FMEA, and ETA to identify and mitigate safety risks in real-world scenarios.
- Global Standards Compliance: Stay aligned with international safety and reliability standards, reducing legal and operational risks.
- Future-Proof Your Systems: Utilize public safety information technology to adapt to emerging trends in safety and risk management.

Conclusion

The Advanced Safety Technology and Risk Management in Engineering Systems course is your gateway to mastering safety technology, risk assessment, and compliance management. You will gain the knowledge and tools to proactively manage risks, ensure the safety of your systems, and align with global safety standards.

Register now to become a leader in leveraging technology for safety and risk management. Equip yourself with the skills to protect your organization's assets, people, and reputation while fostering a culture of safety and innovation.