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AUDITING AND GOVERNANCE RISK AND COMPLIANCE | COURSE

Advanced Risk, Reliability & Safety Management Techniques

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Course content

Why Attend

Why Choose Advanced Risk, Reliability & Safety Management Techniques Training Course?

This Advanced Risk, Reliability & Safety Management Techniques training course examines advanced analytical techniques for risk, reliability and safety management. In doing so, we incorporate operational research methods and multiple criteria decision making and demonstrate their practical application to cases of major failures and disasters. The idea of the Advanced Risk, Reliability & Safety Management Techniques training course is to look at Learning from Failures. With the rapid acceleration of product technology, reliability engineering is an urgent technical and business issue that requires the expertise of well-educated, trained engineers and technology leaders.

In this multidisciplinary training course, you'll learn to identify, manage, and eliminate product and system failures using advanced risk and reliability practices and data analysis techniques. This Advanced Risk, Reliability & Safety Management Techniques training course will cover state-of-the-art research in risk assessment and management, reliability engineering, decision analysis and safety management.

This Advanced Risk, Reliability & Safety Management Techniques training course will feature:

• How do we learn from failures?

• An interdisciplinary approach, combining risk analysis, reliability engineering, decision analysis and management science

• Feedback from the users (maintenance) to design

• Application of advanced tools for safety and integrity

What are the Goals?

By the end of this training course, participants will be able to:

• Explain the benefits of acquiring best practices from High Reliability Organizations (HROs)

• Show how activities play a part in helping their organization perform at a higher level

• Determine methods for generating and implementing effective performance metrics

• Analyze critically the methodologies employed in the organization & implement improvements

• Link theory with practice and exposes the delegates to the evolutionary trends in risk, safety and reliability analyses

Course content

Why Attend

• Learn how to serve on an investigation team of a disaster

Who is this Training Course for?

This Advanced Risk, Reliability & Safety Management Techniques training course is highly recommended for all Operations, Maintenance, Reliability, Engineering and Technical Support staff.

Also, this course is applicable to any person actively involved or contemplating safety, performance measurement, improvement and/or quality and reliability related activities.

This Advanced Risk, Reliability & Safety Management Techniques training course is suitable to a wide range of professionals but will greatly benefit:

• Mechanical, Process, and Energy engineers

• Production Engineers and Reliability Engineers

• Maintenance Engineers

• Plant managers, General managers and Quality managers

• All individuals involved in maintenance and reliability management strategies and tasks

Course outline

Day one: Why there is a need for Advanced Risk, Reliability and Safety Management Techniques?

• What is Risk, and Hazard?

• Advantages and Disadvantages of Risk Management

• Proactive vs Reactive Altitudes towards Risk

• Qualitative and Quantitative Risk Analysis

• What is Reliability Engineering

• Choice of Models and Existing Assumptions

Day two: The Concept of Generic Lessons & Benchmarking

Course content

Course outline

• Attributes of the generic lessons

• Best practice of learning from failures from different industries

• Best practice can be learned from worst practice

• The ten generic lessons and the three underpinning factors

• What is benchmarking? History of benchmarking

• Different methods of benchmarking and how they relate to each other

Day three: A Framework of Learning and Unlearning Excellence

• Fault Tree Analysis (FTA) and Event Tree Analysis (ETA)

• Systems modelling using Reliability Block Diagrams

• Failure Mode and Effects Analysis (FMEA) / Failure Mode Effects and Criticality Analysis (FMECA)

• Hazard and Operability Study (HAZOP)

• A framework for analysing near-misses and failures

• High severity with low frequency versus high severity with high frequency

Day four: Other Frameworks / Models of Learning from Incidents

• Reliability, Availability, Maintainability (RAM)

• Risk control and decision support systems

• Failure consequences

• Introduction to stochastic modelling

• Attributes of Organisational Crises

• Inspection and Structural Health Monitoring (SHM)

Day five: Towards Achieving Organisational Excellence

• Design and Reliability of Control Systems

• Design and Reliability of Protective Systems

Course content

Course outline

- Quantitative reliability analysis
- A framework for Benchmarking of Resilience
- Towards an Operational Excellence Award
- Group Projects and Presentations

Seminar dates

Available seminar dates

Live dates and pricing for Advanced Risk, Reliability & Safety Management Techniques generated from the course details page.

Date	Location	Format	Fee
15 - 19 June 2026	Kuala lumpur - Malaysia	Classroom	**€2,250.-**
20 - 24 July 2026	Barcelona - Spain	Classroom	**€3,850.-**
3 - 7 August 2026	London - U.K	Classroom	**€4,200.-**
7 - 11 September 2026	Munich - Germany	Classroom	**€3,450.-**
12 - 16 October 2026	Amsterdam - Netherlands	Classroom	**€4,250.-**
9 - 13 November 2026	Istanbul - Turkey	Classroom	**€2,850.-**
14 - 18 December 2026	Rome - Italy	Classroom	**€4,250.-**

Live online option	Online delivery is available at €1,850.-.