MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

RISK & RELIABILITY ENGINEERING & MANAGEMENT

"Enhancing Operational Safety, Performance, and Decision-Making through Risk and Reliability Principles"

Schedule

Venue (InHouse)	Fees
At Your Organization Premises	Ask For The Quotation

► **Available delivery methods:** In-House Training

Introduction

This course offers an in-depth exploration of the principles, methodologies, and tools used in risk and reliability engineering and management. Designed for professionals involved in high-risk industries such as oil & gas, energy, manufacturing, and infrastructure, it equips participants with the ability to identify, assess, and manage risks while optimizing system reliability and availability. Through real-world case studies and hands-on sessions, participants will gain the technical and strategic competencies to improve asset performance, reduce operational losses, and ensure regulatory compliance.

Objectives

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

- Understand key concepts in risk and reliability engineering
- Identify, analyze, and prioritize risks using qualitative and quantitative tools
- Apply reliability methods like FMEA, FTA, and RCM
- Integrate risk-based decision-making into engineering and asset management
- Improve equipment performance through predictive and preventive strategies
- Support compliance with safety, quality, and environmental regulations

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Why Attend

- Gain practical skills to analyze and mitigate risks effectively
- Strengthen reliability engineering knowledge using global standards and tools
- Learn how to build a proactive culture around asset performance and risk
- Boost decision-making capability under uncertainty
- Be equipped to handle increasing expectations of regulators, boards, and stakeholders

Target Audience

- Reliability and maintenance engineers
- HSE, operations, and quality assurance professionals
- Plant and asset managers
- Risk managers and project engineers
- Technical auditors and consultants

Individual Benefits

- Develop technical expertise in risk and reliability engineering
- Improve your ability to influence risk-informed decisions
- Enhance your career with practical and globally applicable skills
- Earn a recognized certificate for professional development

Organizational Benefits

- Improve equipment uptime and reduce failures
- Lower maintenance costs through targeted reliability programs
- Strengthen regulatory compliance and safety performance
- Enhance stakeholder confidence in risk-informed asset strategies

Instructional Methodology

- Instructor-led lectures and real-world case studies
- Group activities and reliability simulations
- Workshops on risk analysis tools and software (e.g., Weibull, Monte Carlo)
- Interactive discussions and scenario planning
- Practical assignments and debrief sessions

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Course Outline

DETAILED 5-DAY COURSE OUTLINE (Customizable) Training Hours: 07:30 AM – 03:30 PM Daily Format: 3–4 Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Foundations of Risk & Reliability Engineering

- Module 1 (07:30 – 09:30): Principles of Risk & Reliability Engineering
- Module 2 (09:45 – 11:15): System Failure Mechanisms and Engineering Impacts
- Module 3 (11:30 – 01:00): Overview of Risk Standards (ISO 31000, IEC 61508, etc.)

Day 2: Qualitative and Quantitative Risk Assessment Tools

- Module 4 (07:30 – 09:30): Risk Identification and Hazard Mapping Techniques
- Module 5 (09:45 – 11:15): Failure Modes and Effects Analysis (FMEA)
- Module 6 (11:30 – 01:00): Fault Tree Analysis (FTA) and Event Tree Analysis (ETA)

Day 3: Reliability Management Techniques

- Module 7 (07:30 – 09:30): Reliability-Centered Maintenance (RCM)
- Module 8 (09:45 – 11:15): Reliability Data Collection and MTBF/MTTR Calculations
- Module 9 (11:30 – 01:00): Using Reliability Software and Simulation Tools (Weibull, Monte Carlo)

Day 4: Integrating Risk and Reliability into Operations

- Module 10 (07:30 – 09:30): Lifecycle Risk and Asset Integrity Management
- Module 11 (09:45 – 11:15): Criticality Assessment and Maintenance Strategy Development
- Module 12 (11:30 – 01:00): Case Study: Integrating Risk, Reliability & Performance

Day 5: Enterprise Risk and Reliability Decision-Making

- Module 13 (07:30 – 09:30): Risk-Based Decision-Making for Complex Projects
- Module 14 (09:45 – 11:15): Building a Risk & Reliability Culture
- Module 15 (11:30 – 01:00): Final Assessment, Action Planning & Certificate Distribution

Certification

Participants will receive a Certificate of Completion in Risk & Reliability Engineering & Management.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

In-House / Customized Training Interested in running this course for your team? Please contact us:	TEL: **+601116373203**	EMAIL: **info@mawaevents.net**

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