MAWA EVENTS

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

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

PROCESS SAFETY ENGINEERING & MANAGEMENT

"Engineering Safer Operations: Mastering Risk, Reliability, and Safety in Process Industries"

Schedule

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

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

Introduction

This course provides a comprehensive overview of process safety engineering and management principles, essential for professionals involved in high-risk industries such as oil & gas, chemical, petrochemical, and power generation. It blends theoretical foundations with practical tools for identifying, evaluating, and mitigating process hazards through a lifecycle risk management approach.

Objectives

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

- Understand the fundamentals of process safety engineering and its regulatory frameworks.
- Apply hazard identification, risk assessment, and risk control techniques.
- Design and evaluate safety systems including HAZOP, LOPA, SIL, and relief systems.
- Integrate process safety management (PSM) into operational excellence programs.
- Analyze incidents and implement preventive strategies.

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Why Attend

Process safety is critical to protecting lives, assets, and the environment. This course equips engineers, supervisors, and managers with internationally recognized tools and systems to ensure safe, reliable, and compliant operations.

Target Audience

- Process, safety, and chemical engineers
- Operations and maintenance managers
- HSE professionals and auditors
- Project engineers and EPC contractors
- Regulators and compliance officers

Individual Benefits

- Gain deep insights into modern process safety tools
- Increase employability in high-hazard industries
- Strengthen problem-solving and hazard analysis skills
- Understand global safety standards (e.g., OSHA PSM, CCPS, API, IEC)

Organizational Benefits

- Reduced risk of catastrophic incidents and downtime
- Enhanced compliance with international and national standards
- Strengthened safety culture and operational resilience
- Lower insurance premiums through improved risk profile

Instructional Methodology

- Expert-led technical lectures
- Hands-on workshops using HAZOP/LOPA software
- Real case studies and incident analysis
- Group discussions and peer reviews
- Final day safety design simulation and assessment

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Course Outline

DETAILED 5-DAY COURSE OUTLINE (CUSTOMIZABLE)

Training Hours: 7:30 AM – 3:30 PM **Daily Format:** 3–4 Learning Modules Coffee Breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Fundamentals of Process Safety Engineering

- Module 1: Introduction to Process Safety vs. Occupational Safety (07:30 – 09:30)
- Module 2: Key Accidents & Lessons from Past Incidents (09:45 – 11:15)
- Module 3: Process Safety Lifecycle & Management Systems (11:30 – 01:00)
- Module 4: Workshop – Building a Process Safety Culture (02:00 – 03:30)

Day 2: Hazard Identification & Risk Analysis

- Module 1: Process Hazard Analysis Methods (HAZID, HAZOP, What-If) (07:30 – 09:30)
- Module 2: Fault Tree and Event Tree Analysis (09:45 – 11:15)
- Module 3: Layers of Protection Analysis (LOPA) (11:30 – 01:00)
- Module 4: Case Study – Conducting a HAZOP Session (02:00 – 03:30)

Day 3: Design for Safety & Risk Control Measures

- Module 1: Safety Instrumented Systems (SIS) and SIL Concepts (07:30 – 09:30)
- Module 2: Pressure Relief Devices and Emergency Vents (09:45 – 11:15)
- Module 3: Inherently Safer Design & Process Control Safeguards (11:30 – 01:00)
- Module 4: Workshop – Safety System Design Analysis (02:00 – 03:30)

Day 4: Incident Management & Performance Monitoring

- Module 1: Incident Investigation Techniques (07:30 – 09:30)
- Module 2: Bowtie Analysis for Barrier Integrity (09:45 – 11:15)
- Module 3: Key Performance Indicators & Safety Audits (11:30 – 01:00)
- Module 4: Role Play – Root Cause Investigation Scenario (02:00 – 03:30)

Day 5: Process Safety Management Integration

- Module 1: Elements of a Process Safety Management Program (07:30 – 09:30)
- Module 2: Regulatory Frameworks: OSHA, API, IEC 61511, CCPS (09:45 – 11:15)
- Module 3: Capstone Group Project – Design a PSM Plan (11:30 – 01:00)
- Module 4: Presentations, Review, and Certification (02:00 – 03:30)

Certification

Participants who complete the course will receive a Certificate of Completion in Process Safety Engineering & Management, aligned with international industry standards and CPD-recognized hours.

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.

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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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