Training Course on Process Safety Management (PSM)

Professional Development Training Course Outline

Category	Occupational Health	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Process Safety Management (PSM) is a vital framework that addresses the prevention of catastrophic industrial incidents resulting from hazardous chemicals and processes. Training Course on Process Safety Management (PSM) is designed for professionals in high-risk industries to develop a strategic and systematic approach to managing operational hazards, ensuring regulatory compliance, and safeguarding personnel, assets, and the environment. With the rising need for industrial risk mitigation, OSHA compliance, and process integrity assurance, this PSM course delivers in-depth knowledge and actionable tools for safer operations.

Through real-life case studies, interactive modules, and performance-driven learning strategies, this program enhances awareness of process safety lifecycle, mechanical integrity, and emergency response planning. Participants will learn how to identify risks, develop hazard control mechanisms, and integrate safety into daily operations across multiple sectors such as oil and gas, chemicals, energy, and manufacturing. Stay ahead in your industry with this industry-relevant, globally compliant, and competency-based Process Safety Management course.

Programme Curriculum

Training Course on Process Safety Management (PSM)

Introduction

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Course Objectives

1. Understand OSHA's 29 CFR 1910.119 Process Safety Management standards.
2. Identify and evaluate process hazards using HAZOP and What-If Analysis.
3. Implement risk-based process safety (RBPS) strategies.
4. Develop and manage effective operating procedures and SOPs.
5. Enhance emergency preparedness and incident response planning.
6. Maintain mechanical integrity of critical process equipment.
7. Conduct effective Process Hazard Analyses (PHAs).
8. Ensure regulatory compliance and documentation accuracy.
9. Implement Management of Change (MOC) protocols effectively.
10. Improve employee participation and safety culture.
11. Conduct root cause analysis and incident investigation.
12. Monitor, audit, and continuously improve PSM performance.
13. Integrate digital tools and automation for smarter safety management.

Target Audience

1. Safety Managers and HSE Professionals
2. Process Engineers and Chemical Engineers
3. Operations and Maintenance Personnel
4. Regulatory Compliance Officers
5. Plant and Facility Managers
6. Technical Supervisors and Team Leads
7. Environmental Health and Safety Consultants
8. Risk Management Analysts and Auditors

Course Duration: 10 days

Course Modules

Module 1: Introduction to Process Safety Management

- Overview of PSM fundamentals
- Importance of process safety in high-risk industries
- Regulatory framework: OSHA 1910.119
- Elements of PSM
- Common causes of process safety incidents
- **Case Study: Bhopal Gas Tragedy and Lessons Learned**

Module 2: Process Hazard Analysis (PHA)

- Introduction to HAZOP, FMEA, and What-If techniques
- Risk matrix development and prioritization
- Team roles and facilitation
- Frequency and documentation requirements
- Common pitfalls in PHAs
- **Case Study: Texas City Refinery Explosion**

Module 3: Operating Procedures

- Developing clear, concise SOPs
- Addressing normal, abnormal, and emergency conditions
- Procedure training and verification
- Change control in procedures
- Human factors in SOP development
- **Case Study: Piper Alpha Disaster and Procedural Failures**

Module 4: Mechanical Integrity

- Equipment inspection and testing
- Maintenance planning and documentation
- Integrity verification methods (NDT, etc.)
- Calibration and reliability-centered maintenance
- Preventive vs. predictive maintenance
- **Case Study: Chevron Richmond Refinery Fire**

Module 5: Management of Change (MOC)

- Defining and identifying changes
- MOC workflow and approvals
- Risk assessment in MOC
- Employee communication and training
- MOC documentation and follow-up
- **Case Study: Flixborough Explosion due to Unauthorized Modifications**

Module 6: Employee Participation

- Building an effective safety culture
- Roles and responsibilities in PSM
- Safety committees and reporting systems
- Empowerment and training programs
- Engaging frontline workers
- **Case Study: DuPont La Porte Incident Analysis**

Module 7: Contractor Safety Management

- Contractor selection and qualification
- Onboarding and safety training
- Supervision and monitoring
- Communication of hazards
- Post-work evaluation and debriefing
- **Case Study: BP Texas City – Contractor Oversight Failures**

Module 8: Pre-Startup Safety Review (PSSR)

- Purpose and timing of PSSR
- Checklist development
- Verification of safety systems
- Involvement of multidisciplinary teams
- Gap identification and closure
- **Case Study: Valero Refinery Startup Incident**

Module 9: Incident Investigation

- Types and triggers for investigations

- Root cause analysis tools (5 Whys, Fishbone)
- Interview techniques and data gathering
- Report writing and recommendations
- Learning from near-misses
- **Case Study: Deepwater Horizon Explosion Analysis**

Module 10: Emergency Planning and Response

- Emergency response plans (ERPs)
- Fire protection and leak control
- Alarm management and evacuation drills
- Communication protocols and stakeholder coordination
- Business continuity planning
- **Case Study: Fukushima Nuclear Disaster**

Module 11: Compliance Audits and Evaluations

- Planning and conducting internal audits
- Third-party compliance checks
- Key performance indicators (KPIs)
- Tracking corrective actions
- Continuous improvement methodologies
- **Case Study: OSHA Audit – Compliance Gaps in a Chemical Plant**

Module 12: Training and Performance Evaluation

- Training needs analysis
- Designing competency-based training
- Simulation and e-learning tools
- Performance testing and feedback
- Refresher training scheduling
- **Case Study: Inadequate Training Leading to Overpressure Event**

Module 13: Process Safety Information (PSI)

- Documentation requirements
- Piping and instrumentation diagrams (P&IDs)
- Material safety data and reactivity info
- Design and operating limits
- Maintaining accurate and updated records
- **Case Study: Challenger Space Shuttle Disaster – Information Breakdown**

Module 14: Integrating Technology in PSM

- Digital twins and real-time monitoring
- PSM software and data analytics
- Predictive maintenance using AI
- Remote sensing and control
- Cybersecurity in process operations
- **Case Study: Leveraging IIoT for Early Leak Detection**

Module 15: Leadership and Accountability in PSM

- Role of management commitment
- Aligning safety goals with business strategy
- Accountability structures

- Incentives and disciplinary actions
- Safety performance tracking
- **Case Study: BP Gulf of Mexico – Leadership Failures in Safety Governance**

Training Methodology

- Instructor-led live and virtual sessions
- Interactive workshops and group discussions
- Real-world case study evaluations
- Hands-on exercises and role-play simulations
- Quizzes, assessments, and certification test
- Digital resources and ongoing support materials

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

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