

ONSHORE PIPELINES ENGINEERING

“Design, Build, Maintain, and Protect Onshore Pipeline Networks with Engineering Precision”

Schedule

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

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

Introduction

Pipelines are the backbone of onshore oil, gas, and water transportation systems. This intensive course equips engineers and technical professionals with practical and theoretical knowledge of pipeline engineering—from design and route selection to construction, integrity management, and environmental protection. Learn to apply international codes and best practices to ensure safe, efficient, and long-lasting pipeline operations.

Objectives

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

- Understand key principles of pipeline design, routing, and construction
- Apply ASME, API, and other global pipeline standards
- Evaluate stresses, wall thickness, and material specifications
- Integrate corrosion control and cathodic protection systems
- Plan maintenance, inspection, and integrity management strategies

Why Attend

- Master the fundamentals of pipeline engineering with field-relevant knowledge
- Learn about emerging threats like geohazards, sabotage, and aging infrastructure
- Gain practical insight into construction challenges and inspection methods
- Be equipped to contribute to or lead pipeline projects in compliance with industry standards

Target Audience

- Pipeline, mechanical, civil, and structural engineers
- Project managers and engineering consultants
- Maintenance, operations, and field supervisors
- Asset integrity, QA/QC, and inspection professionals
- HSE personnel and risk managers involved in pipeline projects

Individual Benefits

- Improve your capability in pipeline design and operations
- Gain exposure to modern pipeline inspection and risk assessment tools
- Enhance your technical CV with a specialized certification
- Broaden your understanding of pipeline lifecycle challenges

Organizational Benefits

- Improve safety and reduce environmental incidents
- Optimize project execution and operational efficiency
- Ensure compliance with national and international pipeline regulations
- Build internal technical expertise in pipeline systems

Instructional Methodology

- Expert-led lectures using field visuals and real-life failure examples
- Hands-on exercises for stress calculations and route optimization
- Group workshops on pipeline corrosion and incident response
- Review of case studies and lessons learned from pipeline failures
- Interactive discussions and Q&A after each module

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 - Pipeline Engineering Fundamentals

- Module 1 (07:30 – 09:30): Introduction to Onshore Pipeline Systems
- Module 2 (09:45 – 11:15): Codes and Standards (ASME B31.4, B31.8, API 5L, etc.)
- Module 3 (11:30 – 01:00): Route Selection, Surveying, and Environmental Impact

Day 2 - Design & Material Considerations

- Module 4 (07:30 – 09:30): Pipeline Stress Analysis and Wall Thickness Design
- Module 5 (09:45 – 11:15): Materials Selection and Linepipe Specifications
- Module 6 (11:30 – 01:00): Welding, NDT, and Quality Control Practices

Day 3 - Pipeline Construction & Commissioning

- Module 7 (07:30 – 09:30): Trenching, Welding, and Pipeline Laying Techniques
- Module 8 (09:45 – 11:15): Hydrotesting, Pigging, and Commissioning
- Module 9 (11:30 – 01:00): Crossing Roads, Rivers, and Other Challenges

Day 4 - Integrity, Corrosion & Risk Management

- Module 10 (07:30 – 09:30): Corrosion Mechanisms and Cathodic Protection
- Module 11 (09:45 – 11:15): Pipeline Inspection Technologies (ILI, MFL, UT)
- Module 12 (11:30 – 01:00): Integrity Management Plans and Risk Ranking

Day 5 - Failure Case Studies and Emergency Preparedness

- Module 13 (07:30 – 09:30): Case Studies: Failures, Root Causes, and Mitigation
- Module 14 (09:45 – 11:15): Emergency Response and Repair Methodologies
- Module 15 (11:30 – 01:00): Group Exercise: Designing a Pipeline Integrity Plan

Certification

Participants will receive a Certificate of Completion in Onshore Pipelines Engineering, demonstrating their expertise in pipeline design, construction, and maintenance.

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?

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