

SUBSEA PIPELINES ENGINEERING

“Engineering the Lifelines of Deepwater Energy: Design, Install, and Maintain Subsea Pipelines with Confidence”

Schedule

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

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

Introduction

Subsea pipelines play a critical role in transporting oil, gas, and produced fluids from offshore wells to processing facilities. This course delivers a comprehensive overview of subsea pipeline engineering, covering the entire lifecycle from design and route selection to installation, inspection, and integrity management. Designed for engineers and technical professionals, it blends theoretical foundations with practical tools and industry case studies to enhance pipeline performance and ensure regulatory compliance in Deepwater and harsh environments.

Objectives

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

- Understand the principles of subsea pipeline design and routing
- Evaluate environmental, hydrodynamic, and seabed interaction factors
- Select materials and coatings suitable for corrosion and fatigue resistance
- Plan installation methods and assess trenching and stabilization options
- Perform integrity management, inspection, and failure analysis

Why Attend

- Learn how to design and install safe, reliable subsea pipelines
- Understand key considerations for high-pressure, deepwater conditions
- Gain practical exposure to real-world challenges through case studies
- Equip yourself for multidisciplinary collaboration in offshore projects

Target Audience

- Subsea, pipeline, mechanical, and offshore engineers
- Project managers and offshore construction professionals
- HSE and quality control teams involved in subsea operations
- Asset integrity and inspection personnel
- Marine operations and logistics teams

Individual Benefits

- Acquire up-to-date knowledge aligned with industry best practices
- Enhance technical competence in subsea pipeline engineering
- Strengthen career credentials in offshore energy sectors
- Receive a professional certificate of course completion

Organizational Benefits

- Better project design and cost control
- Improved risk management in pipeline deployment and operations
- Enhanced team understanding of regulatory and environmental factors
- Fewer failures and costly repairs through improved integrity planning

Instructional Methodology

- Instructor-led presentations and interactive lectures
- 3D visuals and animation for system understanding
- Engineering calculations and spreadsheet-based examples
- Design templates, case studies, and international codes reference
- Interactive discussions and daily knowledge checks

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: Introduction to Subsea Pipelines and Engineering Principles

- Module 1 (07:30 – 09:30): Fundamentals of Subsea Pipeline Systems
- Module 2 (09:45 – 11:15): Pipeline Route Selection and Environmental Considerations
- Module 3 (11:30 – 01:00): Hydrodynamics, Seabed Interactions & Load Calculations

Day 2: Design and Analysis of Pipelines

- Module 4 (07:30 – 09:30): Structural and Thermal Design of Pipelines
- Module 5 (09:45 – 11:15): Wall Thickness and Stress Analysis (Including DNV/ASME Codes)
- Module 6 (11:30 – 01:00): Buckling, Stability, and Free-Spanning Assessment

Day 3: Materials, Coatings, and Corrosion Control

- Module 7 (07:30 – 09:30): Material Selection for Subsea Pipelines
- Module 8 (09:45 – 11:15): Corrosion Mechanisms and Cathodic Protection
- Module 9 (11:30 – 01:00): Coating Systems and Thermal Insulation Materials

Day 4: Pipeline Installation and Commissioning

- Module 10 (07:30 – 09:30): Installation Techniques (S-Lay, J-Lay, Reel-Lay)
- Module 11 (09:45 – 11:15): Trenching, Rock Dumping & Anchoring
- Module 12 (11:30 – 01:00): Pipeline Commissioning and Pre-Startup Tests

Day 5: Integrity Management and Case Studies

- Module 13 (07:30 – 09:30): Subsea Pipeline Inspection and Monitoring Tools
- Module 14 (09:45 – 11:15): Failure Modes, Repairs, and Risk Assessment
- Module 15 (11:30 – 01:00): Case Studies, Wrap-Up, and Certification

Certification

Upon completion, delegates will receive a Certificate of Competency in Subsea Pipelines Engineering & Lifecycle Management.

Why Choose MAWA Events

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In-House / Customized Training

Interested in running this course for your team?

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