Offshore Petroleum Engineering & Subsea Operations

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Düsseldorf (Germany)

UK Traininig
PARTNER



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Introduction

The Offshore Petroleum Engineering & Subsea Operations course offers an in-depth exploration of the technologies, processes, and management practices involved in offshore oil and gas production.
It covers engineering design principles, subsea system operations, safety protocols, and maintenance strategies for offshore assets.
This course is tailored for engineers, project managers, operational leaders, and technical specialists aiming to expand their expertise in offshore and subsea engineering systems to improve operational efficiency and ensure safety in complex marine environments.

Course Objectives

- Understand the fundamentals of offshore petroleum engineering.
- Explore subsea system components and their operational roles.
- Analyze offshore facility design, installation, and commissioning processes.
- Apply safety standards and environmental regulations in offshore operations.
- Learn best practices for inspection, maintenance, and integrity management.
- Develop strategies for optimizing subsea production systems.
- Evaluate real-world offshore project case studies.
- Enhance decision-making skills for offshore engineering challenges.

Course Outlines

Day 1: Fundamentals of Offshore Petroleum Engineering

- Overview of offshore oil and gas production processes.
- Offshore facility types and configurations.
- Hydrocarbon exploration and drilling basics.
- Marine structural design considerations.
- Overview of offshore project lifecycle.
- Exercise: Identifying key offshore components.



Day 2: Subsea Systems and Equipment

- Introduction to subsea production systems.
- Subsea wellheads and Christmas trees.
- Umbilicals, risers, and flowlines URF systems.
- Subsea manifolds and control systems.
- Subsea processing and boosting technologies.
- Exercise: Mapping a subsea production system.

Day 3: Installation, Commissioning, and Operations

- Offshore installation vessels and equipment.
- Installation methodologies for subsea systems.
- Commissioning processes for offshore facilities.
- Start-up and performance testing procedures.
- Operational monitoring tools and systems.
- Exercise: Designing an installation plan.

Day 4: Safety, Maintenance, and Integrity Management

- Offshore health, safety, and environmental HSE regulations.
- Hazard identification and risk assessment HIRA.
- Emergency response planning for offshore facilities.
- Maintenance strategies for subsea equipment.
- Integrity management of offshore structures.
- Exercise: Creating a safety management checklist.

Day 5: Optimization, Troubleshooting, and Case Studies

- Enhancing production efficiency in offshore operations.
- Troubleshooting subsea system failures.
- Emerging technologies in offshore and subsea engineering.
- Digital monitoring and predictive maintenance tools.
- Review of real offshore project success stories.
- Final exercise: Developing an optimization plan for a subsea system.



Why Attend this Course: Wins & Losses!

- Gain advanced technical knowledge in offshore and subsea engineering.
- Learn from real-world operational scenarios and challenges.
- Build practical skills in installation, maintenance, and optimization.
- Improve safety awareness and compliance strategies.
- Understand the integration of engineering and operational workflows.
- Leverage digital technologies for smarter offshore operations.
- Network with industry professionals and experts.
- Earn a recognized certification in offshore engineering.

Conclusion

The Offshore Petroleum Engineering & Subsea Operations course provides a comprehensive foundation for mastering offshore production and subsea system management.

Through a combination of theory, practical exercises, and case study analysis, participants will acquire the expertise needed to design, operate, and optimize offshore and subsea systems effectively while maintaining the highest safety and environmental standards.

