GTC Transforming Emerging Economies
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Subsea & Offshore Engineering

COURSE OVERVIEW

This course explores the core principles and practical methods of subsea and offshore engineering, focusing on the design, analysis, and operation of infrastructure in the challenging marine environment. It examines the technological and economic drivers behind offshore resource development, preparing participants to contribute to safe, reliable, and efficient deep-water projects. Participants will learn to address the unique challenges of the offshore environment, from metocean conditions to water depth pressures, ensuring structural integrity and operational continuity.

WHO SHOULD ATTEND?

This course is ideal for subsea engineers, pipeline engineers, structural engineers, naval architects, marine engineers, and project engineers involved in offshore oil & gas or renewable energy projects. It is also highly suitable for drilling & completion engineers, offshore construction supervisors, surveyors, and technical professionals from operator or service companies seeking to deepen their knowledge of subsea systems, floating structures, and subsea field development.

COURSE OUTCOMES

Delegates will gain the skills and knowledge to:

- Apply core principles of hydrostatics, hydrodynamics, and soil mechanics to offshore design.
- Analyze and evaluate different offshore field architecture concepts for fixed and floating systems.
- Understand the design, installation, and integrity management of subsea pipelines and risers.
- Identify key components and functions of a subsea production system (SSPS).
- Assess the challenges of station-keeping systems for floating platforms.
- Develop strategies for safe offshore construction, inspection, and maintenance operations.
- Recognize the role of geotechnical and geophysical data in subsea site investigation.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- Core concepts of offshore metocean data and environmental loading.
- Design and analysis of fixed platforms and floating systems (TLPs, Spars, FPSOs, Semis).
- Key technologies for subsea production, including Xmas trees, manifolds, and control systems.
- Principles of pipeline design, installation methods (S-lay, J-lay, Reel-lay), and stability analysis.
- Riser system selection and dynamic response analysis (steel catenary, top-tensioned, flexible).
- Offshore foundation design and mooring system principles.
- Subsea field layout planning and flow assurance fundamentals.

All our courses are dual-certificate courses. At the end of the training, the delegates will receive two certificates.
1. A GTC end-of-course certificate
2. Continuing Professional Development (CPD) Certificate of completion with earned credits awarded