



Oil, Gas and Chemical

Advanced Drilling operation

Course Introduction

Advanced Drilling Operations

Advanced Drilling Operations are critical for enhancing efficiency, safety, and cost-effectiveness in complex drilling projects within the oil and gas industry. As drilling environments become more challenging, it is essential to apply advanced techniques, innovative technologies, and strategic problem-solving to optimize operations. Understanding the complexities of directional drilling, deepwater operations, and high-pressure environments is crucial for reducing operational risks and maximizing productivity. Mastery in advanced drilling practices ensures sustainable operations and contributes to long-term project success.

This 5-day training program provides an in-depth exploration of Advanced Drilling Operations. Each day is dedicated to a key topic, from advanced drilling techniques and equipment to well control, risk management, and emerging technologies. The course blends theoretical insights with practical applications, ensuring participants develop the skills needed for high-performance drilling.

Training Course Methodology

This course is designed to be interactive and participatory, and includes various learning tools to enable the participants to function effectively and efficiently. The course will use sessions, exercises, and case applications, and presentation about proven-by-practice methods, new insights and ideas about the topic and its effects in a corporate world.

Target Audience

- Drilling engineers
- Rig supervisors
- Petroleum engineers
- Operations managers
- Field service personnel

Learning Objectives

- Understand advanced drilling techniques and their applications.
- Develop skills for managing complex and high-risk drilling operations.
- Gain knowledge of advanced drilling equipment and technologies.
- Learn strategies for effective well control and risk mitigation.
- Explore future trends and innovations in drilling operations.

Course Outline

• 01 Day One

Advanced Drilling Techniques

- Overview of advanced drilling methodologies.
- Directional and horizontal drilling fundamentals.
- Extended reach drilling (ERD) concepts.
- Managed pressure drilling (MPD) techniques.
- Underbalanced drilling operations.
- Challenges and solutions in complex well paths.
- Case studies of successful advanced drilling projects.

• 02 Day Two

Drilling Equipment and Technology

- Overview of advanced drilling rigs and components.
- Innovations in drill bit technology.
- Automation and digitalization in drilling.
- Advanced mud systems and fluid management.
- Casing and cementing technologies for complex wells.
- Real-time data acquisition tools.
- Equipment maintenance and troubleshooting strategies.

• 03 Day Three

Well Control and Safety Management

- Principles of well control in advanced drilling.
- Blowout prevention systems (BOP) and operations.
- Well control techniques for high-pressure environments.
- Emergency response planning and execution.
- HSE protocols and regulatory compliance.
- Simulation exercises for well control scenarios.
- Continuous improvement strategies for safety management.

• 04 Day Four

Risk Management in Drilling Operations

- Identifying and assessing operational risks.
- Strategies for risk mitigation and hazard control.
- Contingency planning for complex drilling projects.
- Managing environmental risks and sustainability considerations.
- Stakeholder communication and risk reporting.
- Analyzing past incidents for proactive risk reduction.
- Building resilient and adaptable drilling plans.

• 05 Day Five

Emerging Technologies and Future Trends

- Introduction to AI and machine learning in drilling operations.
- Utilizing big data for drilling optimization.
- Robotics and remote operations in complex drilling environments.
- Innovations in deepwater and ultra-deepwater drilling.
- Sustainable drilling technologies and practices.
- Preparing for future challenges in drilling operations.

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
May 11, 2025	May 15, 2025	5 days	4250.00 \$	Egypt - Cairo
July 13, 2025	July 17, 2025	5 days	4250.00 \$	UAE - Dubai
Oct. 6, 2025	Oct. 10, 2025	5 days	4250.00 \$	UAE - Abu Dhabi