INTRODUCTION TO DRILLING DRL049

COURSE OVERVIEW

This 5-day course is designed for professionals who will be working with drilling departments in various industries, such as oil and gas, mining, geothermal energy, and construction. The course provides an overview of the drilling process, covering key concepts, techniques, and best practices. Participants will gain a complete understanding of the processes involved in drilling, including well construction, risks in well construction, roles and responsibilities of the drilling team, rig types and equipment, well design, geology fundamentals, directional drilling, bit types and applications, drilling fluids, and well control. The course also covers real-time operations, risk management, and typical drilling problems and their prevention. Upon completion, participants will have the knowledge and skills needed to work effectively with drilling departments and contribute to drilling operations.

COURSE OBJECTIVES

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

- Explain the basic principles and techniques of drilling in various industries, including oil and gas, mining, geothermal energy, and construction.
- Identify the risks involved in well construction and explain the measures used to mitigate them.
- Describe the roles and responsibilities of the drilling team, including engineers, geologists, project managers, and drilling supervisors.
- Identify different types of rigs and drilling equipment and explain their applications.
- Understand the key principles of well design, including casing and directional drilling.
- Explain the fundamentals of geology and their importance in the drilling process.
- Identify different types of bits and explain their features and applications.
- Understand the basics of drilling fluids and well control.
- Describe real-time operations and risk management.
- Identify typical drilling problems and understand how to prevent them.

WHO SHOULD ATTEND

Anyone working with drilling departments.

COURSE DURATION

5 Working Days

COURSE OUTLINES

1. Pre course evaluation

2. Well Construction Overview
   - Oil & Gas Field Lifecycle
   - Interaction with other disciplines
   - Well construction risks
   - Roles and responsibilities of the team
   - Rig types and equipment

3. Well Design Overview
   - Geology Fundamentals
   - Timeline and long lead times
   - Preliminary Well Preparation
   - Cost Estimation - AFE

4. Casing and Directional Drilling
   - Casing and Cementing Overview
   - Directional wells; types and applications
   - Deflection Tools and Kick off Techniques
   - Bit types, features, and applications

5. Geodetic Coordinates, Drilling Fluids and Well Control
   - Geodetics and coordinate systems
   - Surveying
   - Drilling fluids
   - Kick causes, prevention, and detection
   - Well control equipment

6. Well Execution and Real-Time Operations
   - Risk Management
   - Typical drilling problems and operations risks
   - Failure Prevention
   - Real-time concepts, infrastructure, and monitoring

7. Post course evaluation.