

**Training
Course**

**Drilling Fluid Engineer: Fluid
Dynamics and Solids Separation**

Course Plan

Introduction

Drilling fluids, often referred to as the “blood” of drilling operations, play a crucial role in the success and safety of any well. This course is designed to provide Drilling Fluid Engineers with a comprehensive understanding of the behavior of drilling fluids (fluid dynamics) and the effective management of solids separation processes. Participants will gain hands-on knowledge and practical insights into how to design, monitor, and optimize drilling fluid systems to ensure efficient drilling performance, wellbore stability, and environmental compliance.

Course Objectives:

- ✓ Understand the physical and chemical properties of drilling fluids.
- ✓ Analyze the behavior of fluids in dynamic downhole and surface conditions.
- ✓ Evaluate and optimize solids control systems and equipment.
- ✓ Minimize formation damage and fluid-related drilling problems.
- ✓ Monitor drilling fluid performance in real-time.
- ✓ Design and select appropriate drilling fluid systems for various formations.
- ✓ Ensure environmental and regulatory compliance in fluid handling and disposal.
- ✓ Collaborate effectively with the drilling team to support safe and efficient operations.

Who Should Attend?

- Drilling Fluid Engineers (Mud Engineers)
- Drilling Engineers
- Rig Supervisors and Toolpushers
- Mud Logging Personnel
- Solids Control Specialists
- Petroleum and Chemical Engineers
- Field Technicians working with drilling fluid systems
- HSE professionals involved in waste management

Training Methods:

- ✓ Online Video material.
- ✓ Presentation.
- ✓ Live Interactive sessions.
- ✓ Course presenter will make extensive use of all tools that will be needed for the virtual environment.
- ✓ Questions & Answers

Course Outline:

Day One

- Introduction to Drilling Fluids and Their Functions
- Types of Drilling Fluids (Water-based, Oil-based, Synthetic-based)
- Basic Fluid Mechanics and Drilling Fluid Behavior
- Rheology and Flow Properties of Drilling Fluids
- Pressure Losses in Circulating Systems

Day Two

- Surge and Swab Pressures
- Hole Cleaning and Cuttings Transport
- Solids Control: Principles and Objectives
- Solids Separation Equipment: Shale Shakers
- Desanders and Desilters: Operation and Troubleshooting

Day Three

- Decanter Centrifuges and Their Applications
- Managing Drilled Solids and Low Gravity Solids
- Mud Conditioning and Treatment Systems
- Drilling Fluid Contamination and Treatment
- Filtration Control and Mud Cake Formation

Day Four

- Lubricants and Additives in Drilling Fluids
- Monitoring Fluid Parameters: Density, Viscosity, pH, etc.
- Fluid Loss and Differential Sticking Prevention
- Formation Damage and Fluids Compatibility
- Waste Management and Environmental Impact

Day Five

- Real-Time Monitoring Systems for Mud Engineering
- Fluid System Selection for HPHT and Unconventional Wells
- Case Studies of Drilling Fluid Challenges and Solutions
- Safety Considerations in Drilling Fluid Handling
- Best Practices and Future Trends in Drilling Fluids Engineering

Training Details

Course Duration	5 Days
Pre-Schedule	26 – 30 Oct 2025
Venue	Dubai – The H Hotel
Training Fees Per Person	KWD 1600 (One Thousand Six Hundred Only)
Course Fees Include	<ul style="list-style-type: none"> ✓ Tuition documentation ✓ Curriculum and Training Handout ✓ Five star Lunch ✓ Completion Certificates ✓ Lunch Included