



Course Title: **Drilling Fluids**

Duration **5 Days**

Delivery **Classroom**
Mechanism

This course will take participants through a comprehensive look at the functions of drilling fluids. It will address how to engineer a mud system, as well as cover water based, oil based, and synthetic mud systems.

The course material for each class can be customized to the client's specifications and requirements, as well as be extended into a two-week course. A lab visit can also be arranged depending on location and availability.

Audience

Drilling engineers with a basic knowledge of well design principles.

Day 1

Basics of Drilling Fluids

- Functions of drilling fluids
- Composition of water-based mud
- Clay chemistry
- Rheology

After a brief introduction, the first day will focus on the basics of drilling fluids. Participants will learn about the functions of drilling fluids and the composition of water-based mud. Clay chemistry and rheology will also be covered on this day.

Day 2

Water Based & Oil Based Mud Systems

- Products and systems
- High performance WBM
- Oil and synthetic based mud products and systems

Day two will cover water-based muds (WBM), products and systems along with high performance WBM. The day will end with participants learning about oil and synthetic based mud products and systems.

Day 3

System Circulation and Pipe Problems

- Lost circulation
- Stuck pipe problems
- HPHT challenges
- HPHT applications and systems

On the third day, participants will learn about lost circulation and stuck pipe problems and solutions. This day will also cover high pressure and high temperature challenges, technologies, applications, and systems.

Day 4

Hole Cleaning and Completion Fluids

- Hole cleaning
- Virtual hydraulics and real time measurements
- Reservoir drill-in fluid system
- Completions fluid
- Well clean up and displacement procedures

Day four will focus on drill care. Participants will learn about hole cleaning, hydraulics calculations, real time measurements, and reservoir drill-in fluid systems. Completion fluids, well clean up, and displacement procedures will also be covered.



Day 5

Equipment and Future Technologies

- Solid control equipment
- Emerging technologies
- Course review and wrap up

The last day of the course will cover equipment and future technologies. Topics that will be covered include solid control equipment and emerging technologies. The day will end with a course review, open discussion, and course wrap up.