



Oil, Gas and Chemical

LWD & MWD Tool Physics & Applications

Course Introduction

This course will introduce a solid and in-depth understanding of different MWD-LWD technology and their main applications on the geosteering process using the advanced real-time drilling applications. Attendees will approach the different LWD tools and their usage on geosteering techniques i.e. model based, start-based, seismic image, borehole images and the most advanced remote boundary detection tools.

During this training you will be professionally learn how to obtain MWW-LWD integrated log data and their applications, and hence perform a successful geosteering job, drill your well safely and hence get the maximum reservoir exposure. All will be done through professional guided practical simulation models and real case studies.

Target Audience

- Process design
- Unit Operator
- Environmental
- Process safety engineer
- Gasoline blender engineer
- Lab supervisor
- Supply chain engineer
- Distillates analyst
- Models engineer
- Chemical Operator
- Chemical Plant Operator
- Chemical Process Technician
- Control Room Supervisor
- Gas Plant Process Operator
- Gas Production Operator
- Gas Terminal Operations and Storage

- Gathering Pipeline engineer
- Oil Terminal / Storage engineer
- Pipeline Maintenance / Equipment / Compliance / Repair
- Pipeline Testing / Technician / Supervisor / Safety
- Plant Equipment Operator
- Plant Operations Technician
- Plant Shutdown
- Plant Supervisor
- Power Distribution
- Power Plant Manager
- Process Supervisor
- Refinery Operations Technician / Manager
- Terminal Operator / Manager
- Utilities Operator

Learning Objectives

- To get familiar of MWW-LWD tools physics, operation and applications.
- To learn MWD-LWD Principles- data transmission.
- To Integrated LWD log data for optimum reservoir characterization.
- To understand what is geosteering and why we do directional drilling.
- To be familiar of Prejob, Real-time and Post job procedures.
- To know the proper way of placing a well and maintain maximum reservoir coverage.
- To understand the difference of conventional and unconventional geosteering.
- To know the methodology of successful geosteering job.
- To practice and apply different case studies and different reservoir challenges

Course Outline

- **01 Day One**

- General Introduction**

- Types of drilled wells.
- Horizontal wells construction and horizontal wells sidetracking.
- Directional drilling tools, methodology and operations.
- Main MWD – LWD tools and technology.
- MWD-LWD Principles- data transmission.
- LWD imaging tools – overview of common industry tools
- Principles of tool operation and best practices for logging in horizontal wells

• 02 Day Two

LWD Resistivity tools

- Laterolog Resistivity measurement
- Induction to resistivity measurement
- Azimuthal data from the LWD

• 03 Day Three

LWD borehole imaging tools

- Measurement Principles
- Tool Types & operations
- Resolution understating
- Cutting up & Down (Smile & Sad)

• 04 Day Four

Well Placement Process: Prejob, Real-time and Post job.

- Plan well preparation and reference wells correlation.
- Conventional and unconventional geosteering techniques.

- Principles of preparing and interpreting the azimuthally data (including borehole images).
- Dip calculation and computations i.e. formation dip and recommended bit inclination.
- Layer model initiation till the process of decisions assessment.

• 05 Day Five

Fundamentals of multi-wells geosteering

- Case studies for geosteered wells in different reservoirs types with different challenges.
- Practical simulations and applications.
- Case studies in different reservoirs types with different challenges.
- Practical simulations and applications.
- Round table, course assessment and open discussion.

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
June 30, 2025	July 4, 2025	5 days	4250.00 \$	UAE - Abu Dhabi
Aug. 18, 2025	Aug. 22, 2025	5 days	4950.00 \$	England - London
Oct. 20, 2025	Oct. 24, 2025	5 days	4250.00 \$	UAE - Dubai
Feb. 24, 2025	Feb. 28, 2025	5 days	4250.00 \$	UAE - Dubai
Dec. 30, 2023	Jan. 3, 2024	5 days	4250.00 \$	UAE - Dubai
Nov. 16, 2025	Nov. 20, 2025	5 days	4250.00 \$	Oman - Muscat

