

Stage 1: Basic Short Course — Subsurface (2Days)

About the course:

The course focuses on the concept of effective well construction, and aims to develop high levels of professional skill in the key areas of well design, drilling and operations management.

Aims of Module:

The module integrates knowledge of petroleum geology and the properties of petroleum fluids to develop an understanding of reservoir engineering and formation evaluation and demonstrate how the value of a hydrocarbon accumulation is created.

Why attend?

On completion of this module, students are expected to be able to:

1. Apply fundamental geological concepts that will allow them to understand how hydrocarbon accumulations occur, how different reservoirs are formed, what considerations must be taken into account in the development and production from specific types of reservoirs encountered.
2. Apply the essential tools available for finding and characterizing hydrocarbon accumulations and obtain essential knowledge related to reservoir's economics' potential valuation parameters and conditions. Appreciate the basic principles and concepts of reservoir simulation.
3. Relate field observations to geological structure and petroleum production potential and have acquired the fundamental vocabulary and understanding that will allow them to successfully communicate these concepts with industry participants.
4. Master the essentials of reservoir and fluid properties from surface and down-hole measurements and analysis and estimation of initial and remaining reserves.
5. Appraise and justify the importance of Formation Evaluation as part of accessing and producing hydrocarbons; apply the principles of formation evaluation to oilfield development.



Who should attend?

Typical students include those working in oil and gas companies, energy companies, national oil companies, engineering firms and project service companies. Graduates of MSc Drilling and Well Engineering are now employed in every oil producing area of the world and work for many of the oil majors and drilling contractors.

Indicative Module Content:

Principles of geology and their application to the origin, entrapment, exploration and extraction of hydrocarbons.

Concepts of reservoir engineering; properties of reservoir rock, fluid distribution and properties, porosity systems and permeability and production chemistry.

Dynamics of fluid flow in reservoirs, static pressure and well-test analysis and PVT analysis. Determination of hydrocarbon volumes, estimation/classification of reserves and essentials of recovery methods. Concepts of formation evaluation and geophysical prospecting methods.

