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Hydrocarbon Production Operations MBA

9 - 13 December 2024

Singapore

Hydrocarbon Production Operations MBA

course code: E6022 From: 9 - 13 December 2024 Venue: Singapore - course Fees: 5500 Euro

INTRODUCTION

This programme will provide the participants with an integrated view of the hydrocarbon production and related facilities during the life of the reservoir. It will present an overview/fundamental understanding of the wide range of oilfield production handling and treatment equipment. With this view and tools and knowledge on the properties and flow of the fluids provided in this training session, the participant will be able to understand the behavior of the fluids from the reservoir up to end users. The training gives strong emphasis of the calculation of reserves, fluids properties from reservoir through gathering network. This knowledge is necessary for the surface facility engineer to design or operate the equipments and facilities.

PROGRAMME OBJECTIVES

- Familiarize the participants with global oil & gas related statistics, such as reserves, production, consumption and exports
- Familiarize the participants with both upstream, middle stream and downstream operations and related facilities
- Familiarize the participants with various methods and techniques used to explore, drill, produce, treat and transport oil, gas and their products
- Understand the oil & gas operations of various field facilities from wellhead, flow lines, separators, tanks, pumps and compressors, pipelines, gas treatment and processing, refinery operations, etc
- Understand the basic concept with regards to evaluating oil & gas reserves, artificial lift and enhancing recovery
- Understand the challenge associated with this industry such as offshore operations, horizontal drilling and other safety concerns
- Get a general feel for petroleum economics and risk analysis

TRAINING METHODOLOGY

The programme will include a number of exercises aimed at enhancing each participant capability to conduct various petroleum engineering problems. A number of short films will be presented during the training session to enhance the participants' knowledge about the petroleum field operations.

Additionally, the programme assumes no or limited prior knowledge of the topics covered in this training session. New concepts and tools are introduced gradually to enable delegates to progress from the fundamental to the advanced concepts of oil & gas operation processes.

The delegates will gain an improved knowledge about various aspects of the oil & gas production operations. These include production of gas and oil, and surface processing units and operations such as artificial Lift and pressure maintenance operations. Issues related to mid-stream and down-stream will be discussed as well, including recent developments.

PROGRAMME SUMMARY

This programme will provide an insight into the oil & gas field operation processes and the role of

production engineering. It will explain the important concepts in reservoir and well drilling and intervention, productivity optimisation, verious recovery mechanisms, as well as covering various operational issues. Core Competencies are:

- Gain an overall knowledge of various hydrcarbon production processes from the time a reservoir is discovered to end users
- Understand the role of the petroleum/reservoir engineer in optemizing recovery
- Gain sufficient knowledge of various surface and sub-surface equipments and processing facilities used in a typical oil & gas field
- Gain sufficient knowledge about health, safety and enviromnmental issues
- Understand the role of petroleum economiucs in evaluating field development projects

PROGRAMME OUTLINE

DAY 1

- Introduction and Overview
- Global Energy Statistics
- Hydrocarbon Industry Components
- The Upstream Operations
    - Exploration Methods
    - Seismic Surveys
    - Drilling Operation
    - Drilling Problems & Challenges
    - Well Testing, Completion
    - Hydrocarbon Production Problems
    - Well Stimulation & Maintenance

DAY 2

- Hydrocarbon Properties
- Rock Properties
- Porosity & Permeability
- Estimating Hydrocarbon Reserves
- Oil & Gas Production
- Artificial Lift Methods & Facilities
- Reservoir Drive Mechanisms
- Pressure Maintenance Technology
- Hydrocarbon Recovery Methods
- Primary, Secondary & Tertiary Recovery
- Reservoir Simulation
- Oil & Gas Field Surface Facilities

DAY 3

- The Downstream Operations
    - Wellheads Types
    - Production Manifolds
    - GOSP Facilities
    - Oil & Gas Separation
    - Emulsion Treatment
    - Separator types, Operation & Troubleshooting
    - Oil Treatment, Storage & Transportation

- Oil Tank Types
- Gas Treatment & Processing
- Process Troubleshooting

DAY 4

- Heat Exchangers
- Oil & Gas Measurement and Control
- Pipeline Operation & Pigging
- Valve Types
- Pumps & Compressor Stations
- Refinery Operations & Products
- Operation Troubleshooting

DAY 5

- The Role of Technology
- Safety & Accident Prevention
- Production Problems
- Corrosion Protection & Cathodic Protection
- Scale Prevention & Treatment
- Petroleum Economics & Risk Analysis