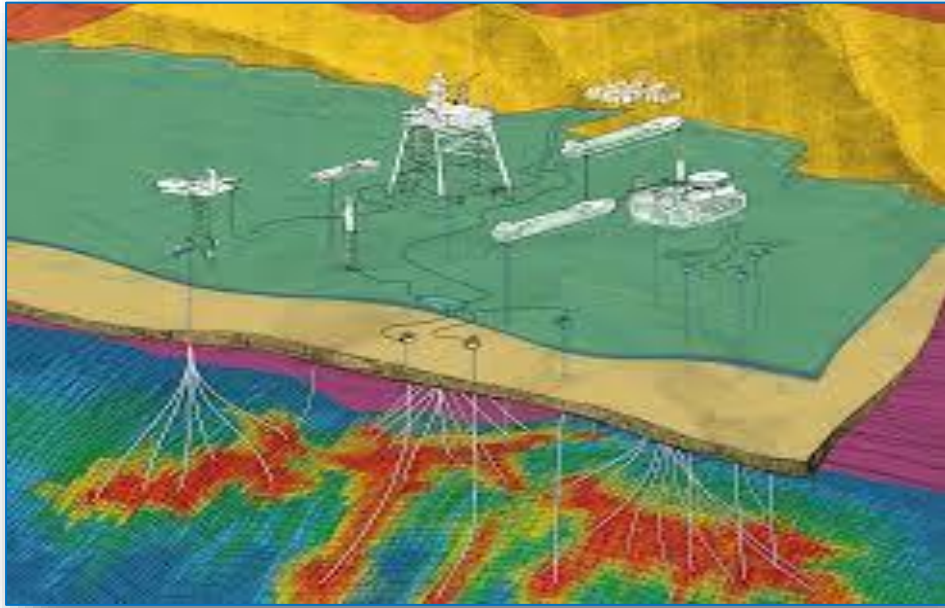




المركز العالمي للتدريب والتطوير
International Centre For Training & Development



DE125

Applied Integrated Reservoir Engineering and Geochemical Approach



ACTVET
Abu Dhabi Centre for
Technical and Vocational
Education and Training
مركز أبوظبي
للتعليم والتدريب
التقني والمهني

GInI GLOBAL
INNOVATION
INSTITUTE®
Authorized Innovation Provider®

**Project
Management
Institute**
Registered
Education
Provider

IAOSHE
International Association
for Health and Occupational Safety
and the Environment

EFQM
Member



Course Introduction:

This five-day course represents the core of our reservoir engineering program and the foundation for all future studies in this subject. Numerous engineering practices are covered, ranging from fluid and rock properties to simulation and field development planning. Proficiency in using Microsoft Excel to perform calculations and make graphs is desirable. Reservoir engineering is also presented in the context of a modern, multi-disciplinary team effort using supporting computer technology.

Course Objectives:

Upon successful completion of this course, the delegates will be able to:

- ✓ How to determine critical properties of reservoir rocks fluid (oil, water, and gas) PVT relationships
- ✓ Calculate hydrocarbons initially in place using several methods
- ✓ Assess reservoir performance with dynamic techniques
- ✓ Determine the parameters that impact well/reservoir performance over time
- ✓ Analyze well tests using standard well testing principles and techniques
- ✓ Characterize aquifers
- ✓ Determine reservoir drive mechanisms for both oil and gas reservoirs
- ✓ Apply oil and gas field development planning principles
- ✓ Forecast production decline

Who Should Attend?

This course is intended for all engineers or geoscientists who will occupy the position of reservoir engineer, and any other technically trained individual who desires a more in-depth foundation in reservoir engineering.

Course Outline:

Day 1:

- Asset life cycles, professional roles, hydrocarbon reservoir descriptions
- Porosity, permeability, compressibility, capillary pressure, wettability and relative permeability, averaging reservoir property data
- Phase behavior of reservoir fluids, gas properties, oil properties, water properties, PVT sampling, and understanding PVT laboratory reports

Day 2:

- Calculate original hydrocarbons in-place with volumetric methods, build hydrocarbon volume vs depth relationships, and review reserve booking guidelines
- Oil recovery material balance, Havlena-Odeh method, gas material balance, volumetric, compaction, water drive, and compartmentalized reservoirs
- Oil well testing: radial flow theory, wellbore storage and skin, drawdowns, buildups, curve shapes, type curve solutions, pseudo steady state, steady state, average pressure estimates, PI and IPR relationships

Day 3:

- Gas well testing: pressure, pressure squared, real gas pseudo pressure solutions, rate sensitive skins, multi-rate testing, gas well deliverability
- Hurst van Everdingen, Carter Tracy, and Fetkovitch methods of aquifer analysis and description

Day 4:

- Immiscible displacement: fluid displacement process, fractional flow, Buckley Leverett, Welge
- Description of coning, cusping, and over/under running, critical rates calculations, breakthrough times, horizontal well applications
- Gas reservoirs: volumetric, water drive and compaction drive-oil reservoirs: water drive, water flood, gravity drainage, gas cap expansion, combination drive, naturally fractured and critical reservoir fluid reservoirs

Day 5:

- Gas field developments: characteristics, deliverability issues, contracts, planning tools - oil field developments: development phases, reservoir characterization, sweep and recovery, production policies
- Reservoir simulation: why simulate? Various simulation models, simulator types, setting up a simulator model

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work
- Discussion
- Presentation

Course Fees:

To be advised as per the course location. This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session