



3 Day Fundamentals of Oil & Gas

Move your business in the right direction with the knowledge and training it takes to succeed



COURSE LEADERS



M. A. MIAN, P.E.



Dr. QAMAR SHARIF

The oil and gas industry employs people with diverse skills, experience and academic backgrounds. Recent studies have shown that key decision-makers are not always familiar with the sector's technical operations, commercial drivers or the complex jargon and terminology used. This means that industry risks are often not fully understood, which could be very damaging for your business.

This 3-Day course is an entry-level course designed for those seeking business advantages. There are non-technical personnel in the companies (legal, finance, HR, HSE, marketing, IT, non-geoscience and administration etc.) who are not at all familiar with how the industry functions and the drivers behind it. On the other hand, there are many other businesses that are providing services to the oil and gas industry (accounting firms, stock brokers, legal firms, recruitment agencies, project management, audit firms and secretarial services and so on) that are also foreign to the day to day operations of the industry. This course, designed in simple layman terms, covers the upstream (exploration and production), mid-stream and downstream sectors of the industry. It is aimed at non-technical personnel within exploration, production, refining and service companies, as well as professional advisors, investors and suppliers.

You will gain insight into current issues, industry terminology, how money flows through the entire business chain, how different parts of the business interact with each other and with other companies, as well as with external investors.

What will this course cover?

The course will serve as an orientation to the oil and gas industry. It will provide the jargon used in the industry, the disciplines involved in finding the oil and gas and bringing all the way to the consumer. The steps in finding oil and gas, drilling for oil and gas, field development, production, processing of the products, transportation, and storage etc. will be covered. The course will also cover the commercial side of the business.

What will you learn?	Who will benefit?
<p>On completion of this course you will be able to fully understand the following:</p> <ul style="list-style-type: none">• Gain a comprehensive overview of petroleum and gas industry operations• Confidently master the technical terms: enhance your credibility with colleagues and clients• Explore the latest issues in exploration, drilling, production, transportation, storage, product prices, price risk management, world legal systems, economics and much more• Understand the energy value chain – from prospect to the burner tip• Evaluate the major costs, risks and uncertainties in oil and gas markets and projects• Calculate the maximum sustainable capacity• Explore future trends and innovations	<p>The following oil & gas company personnel will benefit from the knowledge shared in this course.</p> <ul style="list-style-type: none">• Planning managers• Non Geoscience engineers• Analysts• Commercial managers• Economists, bankers and stock brokers• Government officials• Business advisors & business development managers• Asset managers• IT, HR and HSE personnel• Finance, accounting, auditing, taxation and legal personnel• Administrative secretaries

CONTACT US

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DAY 1

General Industry Overview & Basic Concepts

- Meaning of Petroleum
- Typical oil & gas company objectives
- Typical oil & gas company activities
- Industry streams
- Typical organization chart
- Company structures
- Petroleum utilization

Oil and Gas Geology

- Origin and formation of petroleum
- Migration of oil and gas
- Requirements for hydrocarbon accumulation
- Hydrocarbon traps
- Structural trap
- Stratigraphic trap
- Geological time scale
- Typical stratigraphic column
- Types of hydrocarbons
- Classification of crude oil
- Classification of natural gas
- Typical natural gas composition
- Properties of gases

Oil and Gas Prospecting (Exploration)

- Geological prospecting
- Geophysical prospecting
- Seismic (2D & 3D) acquisition
- Seismic Processing
- Seismic interpretation
- Offshore seismic data acquisition
- Onshore seismic data acquisition
- A seismic section
- Stratigraphic cross sections
- Stratigraphic trap
- Geological time scale
- Typical stratigraphic column
- Stratigraphic cross sections
- Reservoir mapping

DAY 2

Formation Evaluation & Well Completion

- Evaluating a well
- Whole core and core plugs
- Open hole logs
- Cased hole logging
- Transient well tests

Well completions

- Well completions
- Barefoot and single well completion
- Dual well completion
- Perforating a well
- Reservoir stimulation

Reservoir Depletion Mechanisms

- Solution gas-drive reservoirs
- Gas-cap drive reservoirs
- Water-drive reservoirs
- Combination drive reservoirs

Oil and Gas Production Facilities

- Typical oil production facilities
- Artificial lift systems
- Purpose of crude treatment
- Separating and treating well fluid
- Treating natural gas
- Gas processing
- Gas added value products

Offshore facilities

Transportation

- Transporting petroleum fluids
- Pipeline tariffs
- Maintenance of Oil and Gas Facilities
- Well servicing and workovers
- Corrosion and how to avoid it

Oil and Gas Reserves

- Reserves estimating methods and classification
- Oil and gas reserves estimates
- Volumetric calculations
- Decline curve analysis
- Economic limit
- Reserves replacement ratio

DAY 3

Crude Oil Refinery Products & Processes

- Crude oil refinery
- Refinery configuration
- Refinery yields by crude type
- Refinery margins
- Refinery margin calculations
- Factors affecting refinery margin

Legal Framework of the Industry

- The need for collaboration
- International agreements
- Parties to petroleum agreements
- Contractual arrangements
- Contract documents
- Upstream project agreement
- Government take
- Optimal government take
- Comparison of fiscal systems
- Flexible fiscal regimes
- Why dynamic terms?
- Joint venture contracts
- Risk service contracts (Iranian buyback)
- Concessionary system's cash-flow
- Production sharing system's cash-flow

Project Economics

- Data required for economics
- Cash-flow projections
- Operating expenditure (OPEX)
- Typical decision yardsticks
- Characteristics of ideal yardsticks
- Sample before-tax cash-flow
- Discounted payback period
- Net present value
- Internal rate of return (IRR)
- Profitability index and present value ratio
- Unit technical cost (UTC) or long-run marginal cost (LRMC)
- Investment types
- Types of investment decisions

DAY 1

Drilling Operations

- Exploration, delineation, appraisal and development drilling
- Drilling contracts
- Different types of Wells
- Horizontal well technology
- Routine drilling operations
- Components of rotary rig
- Rig's circulating system
- Functions of drilling mud
- Rig equipment
- Drill pipes versus coil tubing
- Rotary drill bits
- Rotary core and casing drilling
- Schematic of a cased well
- Classification of casing
- Functions of casing
- Functions of cement
- Offshore drilling
- Mobile offshore drilling rig
- Well control
- Special drilling procedures
- Breakdown of drilling costs
- Authorization for expenditure (AFE)
- Technological advances

DAY 2

Maximize Ultimate Oil Recovery

- Reservoir management
- Recovery sequence
- Typical well locations in gas-cap drive reservoir
- Coning of gas from the gas cap

DAY 3

Investment decision-making

- Service producing investments
- Uncertainties in oil and gas investments
- Accounting for uncertainties
- Sensitivity analysis

Oil Price Risk Management

- What is oil price risk management?
- Physical/cash market
- Forward trading
- Futures trading
- Options contracts
- Sample future prices & option quotes



COURSE LEADERS

Dr. QAMAR SHARIF

B.Sc in Mining Engineering
M.Sc in Petroleum Engineering
Ph.D in Petroleum Engineering

Dr. Sharif is a petroleum engineering specialist with Saudi Aramco. He has over 35 years of practical experience in the oil and gas industry, including academia. He has diversified background in drilling, workover and completion operations, research, technology development and implementation, field development planning, well cost estimation, contracts and contracting strategy for oil and gas operations. He started his career on a steam-powered rig as a trainee drilling engineer in 1980. He worked as Assistant driller, driller and tour pusher on offshore drilling rigs in Abu-Dhabi, U.A.E.

After working 11 years in operations he joined graduate school and earned his MS and PhD in Petroleum Engineering from Texas A&M University, College Station, Texas. He has a unique blend of hands-on field operations and academic knowledge. He worked with Shell International Exploration and Production (SIEP) in Houston and was a recipient of the Shell President Award for premier performance for design and implementation of multi-string steam injection well design at Bakersfield, California.

Dr. Sharif has been involved in new joint ventures startup, product line development, commercialization strategy for Enventure GT, an Expandable Tubular Company (a JV between Shell and Halliburton). He deployed the first expandable casing, downhole.

He worked with Shell Nigeria, Farcodus Yokri Project, Warri and reduced well completion time by more than 50% for dual completions. He has expertise in developing novel ideas and transforming them into robust and practical solutions. He has been teaching stuck pipe prevention and lost time reduction course and conducted an awareness campaign for offshore drilling department. He has been involved in teaching undergraduate and graduate courses at King Fahd University of Petroleum and Minerals (KFUPM), Petroleum Engineering Department, Dhahran, Saudi Arabia. He brings out the best in his students.

M. A. MIAN, P.E.

B.Sc. in Mechanical Engineering
M.Sc. in Petroleum Engineering
M.Sc. in Mineral Economics

Mian is a Sr. Petroleum Engineering Consultant with Saudi Aramco in Dhahran, Saudi Arabia. He has previously worked with Qatar Petroleum (Doha, Qatar), ZADCO (Abu Dhabi, UAE), Euratex Corporation (Colorado, USA), Keplinger & Associates (International Energy Consultants in Colorado, USA), and as Independent Consultant in Colorado, USA. He is a registered professional Engineer in the state of Colorado, USA.

Mian has 35 years of diversified experience in petroleum engineering, reservoir engineering, project economics and decision analysis. He had been involved in evaluating multi-billion dollar oil and gas field development, LNG, GTL, Aluminum smelter, refinery, petrochemical, power and production sharing projects.

Mian is the author of four books "Petroleum Engineering Handbook for the Practicing Engineer, Vol. I and Vol. II" and the best seller "Project Economics and Decision Analysis, Vol. I and Vol. II," published by PennWell Books, Tulsa, Oklahoma, USA. He has also authored several papers in the Oil & Gas Journal, The Log Analyst, World Oil, SPE Journals, and Oil & Gas Financial Journal. He is also the author of three software packages (PEPAC, PEPAC2 and PEPAC3) for petroleum engineers, available from Gulf Publishing Company in USA.

Mian is one of the pioneers in working with unconventional gas resources. He has extensively dealt with reserves evaluation of tight gas and coalbed methane. Currently he is involved in applying his experience to shale gas resources. He has also served as an expert witness in US Federal court and Energy Commission hearings regarding tight gas pricing classification in the US.

He has delivered lectures in more than 25 countries around the globe. He has always received excellent feedback, as an expert presenter, from participants of his courses.

Fundamentals of Oil & Gas

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Course Name

Course Venue

Course Date

Company

First Name

Last Name

Title

Email

Phone

Address

City

State

Postal Code

Country

COURSE FEES AND VENUE

Middle East – US\$ 2,500
All Other Locations – US\$ 2,950

Hotel accommodation and travel costs are not included in the fees. The Fees includes refreshments, lunch and course material. Course is held preferably in a 5-star hotel. The final venue selection will depend upon the number of delegates attending the course and availability of the venue. All delegates will be informed about the venue two weeks before the course start date.

Full payment is due within 14 days from date of invoice and before the course commences. Delegates will not be allowed entry to the course if any payments are outstanding. A confirmation letter and invoice will be sent to you on receipt of your booking.

You may substitute delegates at any time as long as reasonable advance notice is given to O&G Knowledge Sharing Platform. For any cancellation received in writing not less than twenty (20) working days prior to the date of the training course, you will receive a full refund less US\$ 150 administration fee and any related bank or credit card charges.

Delegates who cancel the registration less than twenty (20) working days of the date of training course, or who do not attend the course, are liable to pay the full course fee and no refunds will be granted.

In the event that KSP cancels or postpones the course for any reason, the delegates will be given choice to (a) request full refund less applicable credit card or bank charges, (b) attend the same course at the rescheduled date at the same or other venue or (c) receive credit note to be used by any employee of the same company for any other course offered by KSP, which must occur within one year from the date of postponement.

CHARGES AND FEES

1. For Payment by Direct Telegraphic Transfer, client has to bear both local and oversea bank charges.
2. For credit card payment, there is additional 4% credit card processing fee, which shall be added to the course fee.

COMPANY GUARANTEE

If Company Payment is selected as the Billing Method, an official letter from the company, signed by HR or responsible Management, stating names of the delegates who will attend the course and the total course fee payment guaranteed by the company to be paid within 30 days upon receipt of invoice from O&G Knowledge Sharing Platform shall be submitted ten (10) working days before the start date of the course.