OIL & GAS

TRAINING COURSE CATALOG

Cowrie+

Oil & Gas Services - Consulting. Advisory. Supplies

BASIC PETROLEUM ECONOMICS

OVERVIEW
Engineers are at the front end of the decision making value chain. Oftentimes, decision cycles are long because of unnecessary iterations, or the quality of decisions are sub optimal because project teams are peopled by professionals who have poor grasps of the principles of economics.

This one week course helps attendees develop or update their competencies in the fundamentals of oil and gas economics. It is targeted towards engineers with little or no exposure to petroleum economics and other personnel desiring to understand the basis of economics in decision making. It is a hands-on, calculation based training course.

TARGET AUDIENCE
Engineers, Managers, Planners, Commercial Analysts

COURSE OUTLINE
- Cash Flow and its derivation
- Depreciation
- Income Tax calculation
- Concept of Time Value of Money
- Net Present Value
- Investment Ratios and Payout
- Rate of Return
- Real and Nominal Economics
- Introduction to Fiscal Systems
- Basic economic modeling

DURATION
5 Days

LOCATIONS
Houston, Dubai

PETROLEUM ECONOMICS, RISK AND UNCERTAINTY ANALYSIS

OVERVIEW
This course is designed for more experienced engineers, managers, corporate planners etc. It builds on the modules of the basic economics class and extends into in-depth understanding of fiscal systems, and risk and uncertainty analysis

TARGET AUDIENCE
Managers, Engineers, Corporate Planners, Commercial Analysts

COURSE OUTLINE
- Overview of Basic Petroleum Economic Theories
- Fiscal Systems
- Economic Limits
- Government Take
- Comparison of Risk vs. Uncertainty
- Uncertainty Analysis- Sensitivity & Scenario Analysis, Expected Value, Decision Trees
- Portfolio Analysis Optimization- Project Consolidation, Ring Fencing, Incremental Economics
- Principles of Monte Carlo Simulation

DURATION
5 Days

LOCATIONS
Houston, Dubai

E&P PORTFOLIO MANAGEMENT STRATEGIES FOR CORPORATE PLANNERS

OVERVIEW
What should executives look out for when making strategic or tactical decisions? This course helps middle to senior level personnel managing the O&G enterprise understand or hone their skills in the principles and practices of corporate portfolio planning and decision analysis.

TARGET AUDIENCE
Senior Executives , Middle to Senior Level Managers, Corporate Planners, Commercial Analysts

COURSE OUTLINE
- Overview of Basic Economic Principles
- Fiscal Systems
- Risk and Uncertainty Analysis- Sensitivity & Scenario Analysis, Expected Value, Decision Trees
- Portfolio Analysis and Optimization
- Capital Allocation
- Introduction to Dialogue Decision Process
- Managing Uncertainties in Acquisition & Divestiture

DURATION
5 Days

LOCATIONS
Houston, London

DECISION MAKING IN THE E&P ENTERPRISE

OVERVIEW
We all make decisions and wonder at times if these decisions are effective and optimal. Business managers have to contend with a lot of variables in making decisions that return optimal value to the investors. This course takes participants through the elements of decision making and the application of decision analysis in making impactful decisions. It puts these within the context of the E&P enterprise.

TARGET AUDIENCE
All personnel managing projects and/or teams, Economists, Planners, Asset Managers and Senior Executives

COURSE OUTLINE
- Introduction to decision making
- Comparing decision to outcomes
- Qualities of a good decision
- Different values and value measures in selecting the “best” decision
- Creating effective decision alternatives
- How to handle (not avoid) uncertainty
- Coin toss problem (group exercise)
- Probabilities and their role in decisions
- Assessing information and its relevance
- Five rules of actionable thought
- Effectively using information to increase decision quality
- Understanding the impact of risk in decision making
- How changes in assumptions can change decisions
- Key questions asked by effective decision makers
- Process - enable efficient and effective decision making
- Detecting and avoiding biases
- Critical first step to Initiating the decision process – Framing
- Evaluating information for relevance

DURATION
5 Days

LOCATIONS
Houston

COMPETITIVE BIDDING FOR OIL AND GAS ASSETS

OVERVIEW
Acquisitions and Divestitures (A&D) are strategies used by O&G companies to optimize their corporate portfolios. The process to acquire hydrocarbon assets involve bidding for prospective blocks, and other assets at various stages of the hydrocarbon lifecycle. This course helps participants understand the principles behind bidding and the dynamics involved in the bidding process and teaches the strategies to achieve a successful bid. This course applies to both sides of the transaction – buyer and seller- including regulators who are shepherds of the process involved in putting their country's hydrocarbon blocks up for bid.

TARGET AUDIENCE
A&D/BD Teams, Finance Teams, Planners, Economists, Analysts and Regulators.

COURSE OUTLINE
- Introduction to bidding
- Framing the competitive landscape
- Key assumptions within the bidding engagement
- Asset value – what is it worth, based on stage of field development
- Concept of risk aversion and asset pricing in bid preparation
- Assessment of the strength of competitors
- Internal and external stakeholder influence on the bid strategy
- SWOT analysis of the bidding players
- Comparison of value to competitors vs. value to the bidder
- Explicit spending constraints and influence on the strategy
- Bidding game (group exercise)
- Outcome and reflection on results
- Feedback regarding the overall bidding process

DURATION
5 Days

LOCATIONS
Houston

INTERNATIONAL PETROLEUM CONTRACTS AND NEGOTIATION

OVERVIEW
The course provides an overview of international oil and gas laws and contracts and situates it within the context of mineral rights ownership in different jurisdictions. Participants are exposed to negotiation strategies, dealing with contending interests between host governments and contractors, Joint Operating Agreements (JOAs), drilling and services contracts, and dispute resolution mechanisms. This is an intensive class involving mock negotiation sessions, case studies of model contracts etc.

TARGET AUDIENCE
Senior Managers, Legal Teams, Economists, Regulators, Finance/Business Development Teams, Asset Managers

COURSE OUTLINE
- Types of international petroleum contracts
- Domestic Laws and Energy Treaties
- Mineral Rights
- Host government vs. Contractor dynamics
- Focused analysis of specifics of E&P contracts
- Joint Operating Agreements
- Contract operating issues
- Options to funding petroleum development projects
- Contractor's risk
- Contract economics
- Dispute Resolution
- Case Study of select model contracts
- Sales Agreements
- Special case of Natural Gas under contracts
- Mock Negotiations

DURATION
5 Days

LOCATIONS
Houston

OIL AND GAS ACCOUNTING

OVERVIEW
Participants learn the particularities of recording and reporting cost and revenues incident to creation and realization of mineral interests.

TARGET AUDIENCE
Finance and Account Teams, Economists and Analysts

COURSE OUTLINE
- Introduction to Oil and Gas Accounting
- Non-drilling Exploration Costs – Successful Efforts
- Acquisition Costs of Unproved Property – Successful Efforts
- Drilling and Development Costs
- Proved Property Cost Disposition – Successful Efforts
- Accounting for Asset Retirement Obligations and Asset Impairment
- Accounting for Revenue from Oil and Gas Sales
- Basic Oil and Gas Tax Accounting
- Joint Interest Accounting
- Conveyances
- Oil and Gas Disclosures
- Accounting for International Petroleum Operations
- Analysis of Oil and Gas Companies' Financial Statements
- Cash calls and monitoring costs
- Variance analysis

DURATION
5 Days

LOCATIONS
Houston

OIL TRADING AND PRICE RISK MANAGEMENT

OVERVIEW
Participants will learn how oil and gas are traded, the various crude types and markets. They will be taught oil marketing and how to negotiate and cost deals, and calculate profitability. This course exposes attendees to ship chartering and understanding the contractual aspects of trading. Participants then form teams to simulate a crude and refined products trading exercise. They are made to gain an appreciation of maximizing profits through an understanding of the economics of trading and the management of inherent price risks.

Participants will also be exposed to price risk and instruments to manage it.

TARGET AUDIENCE
Crude Oil Marketing Teams, Finance Teams, Commercial Teams, Economists, Planners

COURSE OUTLINE
- Introduction to Trading and Markets
- Crude Oil Trading
- Products Trading – brokerage, costing and quality valuation
- Contracts and Trading
- Deal Processing
- Chartering and Freight
- Identifying and Managing Risks
- Options and Optionality
- Instruments to Manage Price Risk
- Trading Controls

DURATION
5 Days

LOCATIONS
Houston

MINI MBA PROGRAM

OVERVIEW

The E&P industry does not exist in a silo; it is a substantial part of the global economy and is heavily impacted by non-technical geo-politics. O&G organizations that thrive in the current environment are those run by professionals who understand the interconnectedness of the business with world around it. These managers also have to develop strategies to ensure survival of the organization and devolve these strategies into field level tactics. Ultimately it boils down to ensuring that decisions made (both investment and organizational) work together to deliver optimal returns to all stakeholders. This intensive mini-MBA class empowers participants with the skills to achieve these objectives so they can effectively contribute to corporate success.

TARGET AUDIENCE

Management personnel, Mid to senior level staff.

COURSE OUTLINE

- Overview of the Global O&G Industry & Current Market Situation
- Portfolio Risk Management: Corporate Planning & Budgeting
- Developing Strategies
- Geopolitics Impacting the Oil & Gas Industry
- Relationships Between NOCs, IOCs, Governments & Service Companies
- Leadership: Managing Self and Others
- Implementing Change
- E&P Finance, Economics and Commercial
- Contracts and its Commercial Impact
- Negotiation: Tricks of the Trade
- Making Great Decisions
- Talent Management
- Business Survival in a Downturn

DURATION

10 Days

LOCATIONS

Houston, Miami, London, Dubai

ASSET MANAGER READINESS PROGRAM (I&II)

OVERVIEW

Oil and Gas asset management entails an understanding of the different subjects and activities; intricately woven to deliver oil and gas to the market and ensure the E&P organization makes a decent return on investment. Many E&P asset managers or those aspiring to these roles struggle to achieve this even though they are accomplished experts in their primary subjects. This program helps to bridge this gap, and readies participants for asset manager roles and enables current managers manage their asset better including making optimal investment decisions.

TARGET AUDIENCE

All personnel. Especially mid to senior level staff aspiring to become Asset Managers.

COURSE OUTLINE

- Bridging Corporate and Asset Strategies
- Stakeholders - Identification and Influence
- E&P Finance, Economics and Commercial Terms
- Overview of the E&P processes
- Reserves Status
- Business Development – A&D, Bid Rounds, E&P business models
- Field Development Planning
- Governance
- Portfolio Management
- Legal and Contracts
- Procurement and Contracting
- Talent Management
- Operations Excellence
- Uncertainty and Risk Management
- HSSE & Social Responsibility

DURATION

10 Days

LOCATIONS

Houston, Miami, London, Dubai

COMMERCIALIZATION AND MONETIZATION OF NATURAL GAS RESOURCES

Despite conscious global race toward reduction in reliance on fossil fuel (vs. renewables) for the world's energy needs, the reality is that hydrocarbon is and will remain a substantial part of global energy mix for foreseeable future. Natural gas occupies a unique place in this energy mix because it is in much abundance versus oil and it is viewed as somewhat a lesser "evil" versus crude oil. A common challenge is that of stranded gas where the gas accumulation is located far from existing infrastructure and markets. The challenges faced by most gas rich countries are varied and multifaceted. Due to shale gas production, the USA faces glut (therefore depressed gas-prices) and inadequate gas transportation pipeline from the fields to market. Most hydrocarbon resource rich developing countries face a different kind of challenge; they have enormous gas resources but lack the necessary infrastructure and economy to develop and monetize the gas in the domestic market. In addition, legacy policies focused mainly on LNG for export invariably leaves these gas resources at the mercy of international price speculations and competition for investment.

This is a workshop style training program. It trails the journey of the gas molecule from the well head to the market and highlights suitable development concepts and processes, commercialization options, technologies, and the challenges faced along the line. Particular attention is paid to stranded gas development. Case studies of a few gas development projects are discussed to highlight issues taught during the course. At the end, participants are expected to gain better appreciation for issues surrounding gas development, commercialization and monetization.

TARGET AUDIENCE: Commercial Analysts, Gas Development Engineers, Development Planners, Planners, Economists, Petroleum Resources Regulators, Investment Analysts, Managers and Directors, Energy Policy Administrators.

OUTLINE

- World Energy Trends and Global Demand and Supply Outlook
- Global Gas Fields and Gas Resources Landscape
- Overview of Natural Gas Markets and Gas Demand/Supply Outlook.
- Overview of the Chemistry of Natural Gas and Technical Jargons
- Natural Gas and Value Chain
    - Natural Gas Composition and Processing
    - Natural Gas Development
        - Onshore
        - Offshore
        - On/Offshore
        - Stranded
        - FLNG
- Typical Natural Gas Commercial Structures
- Principal Products and Markets – LNG, NGL, LPG, Petrochemicals
- Monetization Options and Success Criteria
    - Gas to Power
    - Gas to Fuel
- Gas to Fertilizer and Petrochemicals
- Liquified Natural Gas – LNG
    - LNG Value Chain
    - Costs
    - Dynamics of the LNG Market
    - Commercial Structure and Contracts
    - Pricing
    - Outlook
- Liquefied Petroleum Gas – LPG
    - Overview of the LPG Business
    - LPG Markets (Domestic)
    - LPG Pricing
    - Challenges to LPG commercialization in the domestic market
- Gas to Transportation Fuel – CNG, LPG
- Gas to Power
    - Strategies
    - Challenges
    - NIPP Case Study
- Pipeline Export
- Integrated Power Solutions
- Natural Gas Policy Formulation
    - Resource Potential Analysis
    - Strategies

    - Achieving Momentum and Catalyzation Impact
    - Diversification and Flexibility
    - Demand - Supply Dynamics
    - Economics and Cost of Supply
- Country Specific Analysis
    - Macroeconomics and Energy Outlook
    - Energy Demand and Supply Outlook
    - Flared Gas Commercialization

LOCATIONS

Houston, London, Dubai, Ghana, Kigali, Local

GAS BUSINESS, POLICY, RISK AND DECISION ANALYSIS

Despite conscious global race toward reduction in reliance on fossil fuel (vs. renewables) for the world's energy needs, the reality is that hydrocarbon is and will remain a substantial part of global energy mix for foreseeable future. Natural gas occupies a unique place in this energy mix because it is in much abundance versus oil and it is viewed as somewhat a lesser "evil" versus crude oil. A common challenge is that of stranded gas where the gas accumulation is located far from existing infrastructure and markets. The challenges faced by most gas rich countries are varied and multifaceted. Due to shale gas production, the USA faces glut (therefore depressed gas-prices) and inadequate gas transportation pipeline from the fields to market. Most hydrocarbon resource rich developing countries face a different kind of challenge; they have enormous gas resources but lack the necessary infrastructure and economy to develop and monetize the gas in the domestic market. In addition, legacy policies focused mainly on LNG for export invariably leaves these gas resources at the mercy of international price speculations and competition for investment.

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TARGET AUDIENCE:

Commercial Analysts, Gas Development Engineers, Development Planners, Planners, Economists, Petroleum Resources Regulators, Investment Analysts, Managers and Directors, Energy Policy Administrators.

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    - Dynamics of the LNG Market
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    - Pricing
    - Outlook
- Liquefied Petroleum Gas – LPG
    - Overview of the LPG Business
    - LPG Markets (Domestic)
    - LPG Pricing
    - Challenges to LPG commercialization in the domestic market
- Gas to Transportation Fuel – CNG, LPG
- Gas to Power
    - Strategies
    - Challenges
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- Pipeline Export
- Integrated Power Solutions
- Natural Gas Policy Formulation
    - Resource Potential Analysis
    - Strategies
    - Achieving Momentum and Catalyzation Impact
    - Diversification and Flexibility
    - Demand - Supply Dynamics
    - Economics and Cost of Supply
- Country Specific Analysis
    - Macroeconomics and Energy Outlook
    - Energy Demand and Supply Outlook
    - Flared Gas Commercialization

LOCATIONS

Houston, London, Dubai, Ghana, Kigali, Local

UNDERSTANDING THE PETROLEUM INDUSTRY (PIA) ACT 2021 - PROGNOSIS, IMPACTS AND IMPLICATIONS

The Petroleum Industry Bill was envisioned, rightly or wrongly, as a panacea to most of the structural, regulatory and business inhibitions bedeviling the Nigerian O&G industry. It became mired in the politics of the country for 21 years, but its finally law. This training is apt and comes at a good time to enhance the knowledge of O&G practitioners about the intricacies of the Act, prognosis for the sector in Nigeria, the impact on O&G businesses, the new regulatory framework and what the new law means for the economics of legacy and future contracts/concessions. Participants will be afforded the opportunity of a look back with a view to better appreciate what is coming in the future consequent upon this act from the legal, regulatory, commercial and economic standpoints. In an interactive session, participants will be primed to discuss their takes on aspects of the Act and the need for amendments or not with justifications

TARGET AUDIENCE:

O&G Executives, Managers, Engineers, Planners, Economists, Petroleum Resources Regulators, Investment Analysts, Bankers, Energy Policy Administrators and Civil Servants

LEARNING OUTCOMES

AT the end of the training participants:

1. Become more aware of the salient provisions of the Act and be able to speak intelligently and contribute to discussions around the PIA.
2. Understand the implications of the structural and regulatory changes for O&G operations in Nigeria
3. Able to articulate the likely changes in the economics of their assets using a generic economic model for a before and after PIA look
4. Appreciate the landscape of new regulatory institutions and able to generate a new stakeholder mapping
5. Develop a new consciousness for the political-economy of the PIA

OUTLINE

- Introduction to Petroleum Laws- Global Perspectives and Policy Drivers
- The Petroleum Industry Act 2021 – too much/too little, too late?
- What the PIA portends in a suddenly changing global energy landscape; can Nigeria still exact maximum value from its resource's consequent upon the PIA?
- Overview of the PIA
- Discussion of the Act by Sections/Clauses ringfenced around-

    - Regulatory
    - Commercial
    - Fiscal
    - Host Community Fund
- PIA versus Petroleum Decree 1998??
- Deep Offshore and Inland Basin Production Sharing Contract Act 2019 (DOIBPSCA) in the context of the PIA
- Implications of the PIA on the economics of legacy onshore concessions and offshore contracts
- Upstream and Mid/Downstream Delineations- mandatory commercial constructs in running O&G business in Nigeria
- Flash Points in the Act and the right interpretation
    - Host Community Fund
    - Host Community versus NDDC, 13% derivation, operator CSR
    - Frontier Exploration fund earmark; what it is, what it is not, likely loopholes
- Discussion
    - Merits, demerits and hat can go wrong
    - Future Amendments

LOCATIONS

Houston, London, Dubai, Ghana, Kigali, Nairobi, Local

UNDERSTANDING THE ENERGY TRANSITION – WHAT IT IS, WHAT IT'S NOT, POLICY AND STRATEGIC OPTIONS OPEN TO O&G EXECUTIVES AND POLICY MAKERS

Over two decades ago, the oil industry was abuzz with the prospect of Peak Oil. The notion that the world was nearing the peak of hydrocarbon discoveries and reserves/production was going to begin its decline. Fast forward, 2021, the need to address climate change has triggered a march towards carbon-emissions reduction primarily through the decarbonization of energy sources. The oil and gas (O&G) industry is in the center of the storm. A combination of shareholder activism, International Energy Agency and the OECD countries' policies (codified in the Paris accord) has necessitated a push to net zero emissions. Energy transition and decarbonization is a complex issue to understand and potentially navigate, especially for O&G industry practitioners just smarting from a pandemic that put the market in a tail spin. This training is a workshop style program which helps to demystify what it all means. Participants will work out the room knowing what Energy Transition and Decarbonization is, what it is not and are able to leverage this knowledge in helping their various organizations design strategies and plan better in managing the business within the context of these global sentiments

Understanding the Energy Transition – What it is, What it's not, Policy and Strategic Options Open to O&G Executives and Policy Makers

TARGET AUDIENCE:

O&G Executives, O&G Asset Managers, Engineers, Planners, Economists, Petroleum Resources Regulators, Investment Analysts, Bankers, Energy Policy Administrators and Civil Servants

Learning Outcomes

At the end of the training participants:

1. Understand the high-level issues surrounding climate change and how the O&G industry is prime culprit
2. Gain historical perspective of climate issues from Kyoto protocol to the Paris accord and the underlying social political
3. Have a strong understanding of ESG and a foundation with consistent terminology, definitions, and considerations by which to educate your colleagues and teams.
4. Articulate issues surrounding energy transition with data and insights, to support business objectives and/or investing strategies.
5. Appreciate how investors reward or penalize companies based on climate change and net zero indices.

OUTLINE

- Introduction to Climate Change
- Kyoto to Paris – How climate change has evolved over the last 2 decades
- What is Energy Transition and Decarbonization?
- What Energy Transition and Decarbonization is Not
- Is this the beginning of the end of O&G as source of energy?
- What might the next decade look like.
- What does Energy Transition and the attendant effects mean to hydrocarbon dependent countries?
- Finance and Energy- How can O&G independents navigate funding in a climate conscious financial market?
- Environmental, Social and Governance (ESG)
    - A perspective, awareness and importance of ESG issues
    - Trends, drivers and key developments on ESG
    - ESG frameworks, metrics and regulatory drivers
    - Developing targets and measuring performance
    - Risks and opportunities for corporations
    - Regulatory and investor actions
    - Best practices, industry and competitive insights
- Case studies and a discussion of disparate views on the subject.

LOCATIONS

Houston, London, Dubai, Ghana, Kigali, Nairobi, Local

COST CONTROL, BUDGETING AND ORGANIZATIONAL PERFORMANCE

Businesses are becoming increasingly more dynamic. Oil and Gas companies, especially, have had to put a rein on their costs in other to achieve better performance and a higher capital efficiency. However, what cannot be measured cannot be controlled. This course enables participants achieve better understanding of cost; its structure, measurement and control. This way they become more effective in budgeting and controlling cost, significantly improve on their current performance and help to launch their organizations unto a sustainable performance track.

COURSE OUTLINE

- Definitions
    - Cost Management
    - Cost/Budget Control
- Cost Systems
- Cost Behavior, types hierarchy – nature of costs, variable costs, fixed costs, combination of both, marginal costs, Implications of cost structures, economics of scale
- Cost Analysis – mixed costs, high -low method, method of least squares
    - Cost-Volume Analysis
    - Variable vs. absorption costs
- Activity Based Costing and ABM – please include a worked example/case study
    - Comparison with traditional cost methods
        - Full Costing, Marginal Costing and Activity Based Costing
    - Working with the Cost Breakdown Structure (CBS)
    - Rebuilding the WBS and a CBS using company cost codes
- Cost drivers
- Identifying relevant costs
- Process Costing- FIFO, Job vs. process costing, cost of production reports
- Comparing full and marginal costing
- Direct and indirect costs in budgeting for decision making
- Role of costs in pricing strategies
- Activity Based Costing (ABC)
- Managing Cost control
- Forming the Interim cost baseline
    - Determining the total project costs
    - Managing the team's estimation process
    - Conforming to accuracy requirements
- Equivalent units
- Product/Project Costs methods
- Zero based Budgeting
- Activity Based Budgeting
- Cost management decisions
- Cost Allocation: Direct, step, reciprocal
- Cost Reduction Strategies – compensation, benefits, production and maintenance, procurement, admin, facilities, finance, cost of accounts

receivables, inventory costs
- Value Adding Costs
- Cost Alternatives
- Buy or build (same as acquire or develop) decision from a cost perspective
- Transfer Pricing issues
- Break-even analysis
- Sensitivity
- Margin of Safety
- Principles of Budgeting
- Activity Based Budgeting (ABB) – please include a worked example/case study
- Budget Construction and Control
    - Nature and purpose of budgets for planning and control
    - Types of budgets and budgeting
    - Creating Key Performance Indicators for financial and non-financial performance
    - Building a budget
    - Budgetary control and variance analysis
    - Budgeting for non-financial measures -introducing the Balanced Scorecard
- Budget Performance Evaluation
- Simple Regression Analysis and its usage

LOCATIONS
Houston, Dubai, Ghana, Kigali, London.

JOINT OPERATING AGREEMENTS, JOINT VENTURE OPERATIONS AND GOVERNANCE

Joint Venture (JV) arrangements are one of the various business relationships parties use to achieve a common purpose while keeping their economic independence. According to the World Trade Organization (WTO), JV contracts are the second most important type of trade contracts after sales and purchase contracts.

This training underscores the importance of operators of JV businesses having a more than passing familiarity with the principles and terms of the agreement serving as guard rails for the relationship; i.e., the Joint Operating Agreement (JOA). It helps attendees become better shepherds of the operations of JV operations especially in oil and gas enterprises. At the end of the training, participants will become more attuned to how their roles fit in the jig saw of JV operations and develop a better understanding of the JOA. This way, conflicts are avoided and relationships between partners can flourish.

Target Participants: JV Asset Managers, Engineers, Commercial/Business Analysts, JV Administrators, Legal Officers, Economists, Planners, Joint Interest and Cost Accountants etc.

COURSE OUTLINE
- Introduction to Joint Ventures (JV)
- JV Structures
    - Strategic or Transactional – agree the specific objectives, abandon pre-conceived ideas
    - Contractual Joint Ventures – simpler, cheaper, most tax efficient (?)
    - Corporate Joint Ventures – advantages, disadvantages, tax considerations
- Strategic Alliances vs. Joint Ventures
- Evaluating Potential Joint Venture partners
    - Motivation
    - Clarification of Expectations
    - Overall Corporate Objectives
    - Risk Analysis
- Unique Contractual Specifications for Joint Ventures
- Work Program, Budgets and Cost Allowability Issues
- Managing JV Risks
- Transfer pricing and joint ventures
- When and Why JVs Deals Go Wrong
- Dispute Resolution in JVs
- Joint Operating Agreements (JOA)
    - Purpose and use of a JOA.
    - Elements of a JOA
    - Main Articles in a JOA
    - Structure of a JOA, definitions and terminologies.
    - Appointment, rights and duties, liabilities, responsibilities, resignation and removal of the Operator
    - Rights and duties, liabilities and responsibilities of non-operators
    - The Operating Committee and Sub-committees.
        - Establishment, powers and duties, notices, voting procedures, impact of voting, pass-mark.
    - Entitlements, Marketing, and Balancing
    - Special JOA Clauses
    - Types and uses of Schedules in a JOA
- Cash Call arrangements in JV Agreements.
- Terminating JVs
    - Terminal Clauses and Exit Planning
    - Avoiding Mutually Assured Destruction Situations
    - Post Termination Rights and obligations
    - Lesson learned and Future Operations
- Case Studies of Successful and Failed JVs

DURATION
5 Days

LOCATIONS
Dubai, Ghana, Houston, Kigali, London, Local.

RESERVES RECOGNITION, REPORTING & CERTIFICATION: UNDERSTANDING PRMS PRINCIPLES AND SEC RULES

OVERVIEW
A unique course for professionals responsible for, or aiming to develop skills in, reserves reporting and certification. Participants are exposed to the Petroleum Reserves Management System (PRMS) principles and Securities and Exchange Commission (SEC) rules governing the reporting of oil and gas reserves.

Reserves determine the value of an E&P company. Reporting reserves as accurately as possible to statutory bodies involves a clear understanding of the principles and rules of reporting it.

TARGET AUDIENCE
Reservoir engineers, geologists, reserves managers, corporate reserves engineers, commercial analysts.

COURSE OUTLINE
- PRMS Principles
- Reserves vs. Resources & Prospects Definition
- Reserves Classification and Categorization
- Proved, Probable and Possible Reserves
- Reserves Status
- Contingent Resources
- SEC Reserves Reporting Rules

DURATION
5 Days

LOCATIONS
Houston, Dubai

UNITIZATION AND JOINT DEVELOPMENT OF OIL AND GAS RESERVOIRS

OVERVIEW
This course gives an in-depth understanding of the problems and solutions in unit formation, negotiation of participation factors and operating agreements. The role of governmental agencies in consent and oversight will also be discussed.

It is presented in a format that includes both lectures and simulation exercises. This approach allows participants to gain experience with the unitization process and determining the appropriate unit participation factors.

TARGET AUDIENCE
Middle to senior level managers, Senior Executives, Lawyers, Geologists, Petroleum and Reservoir Engineers, Regulators

COURSE OUTLINE
- Introduction to Unitization

- Unit Negotiations
- Unit Operating Agreement
- Unit Accounting Procedures
- Government regulation of units- global but with special bias for Nigeria
- Joint Development Areas- Cross asset and cross boundary issues

DURATION
5 Days

LOCATIONS
Houston

PRINCIPLES AND PRACTICES OF RESERVOIR MANAGEMENT

OVERVIEW
The principle of reservoir management course is taught with greater emphasis on case studies and practical aspects of integrated management of the reservoir. Participants learn the essence of the having synergies amongst surface, sub surface and practical commercial realities in efficiently managing the reservoir. Reservoir management models essential towards optimum field development and field operating plans are highlighted. An interdisciplinary reservoir management approach is entrenched. Hands on reservoir modeling and students work on a mocked depletion plan.

TARGET AUDIENCE
Asset Managers, Reservoir Engineers, Production Engineers

COURSE OUTLINE
- Overview
- Reservoir management processes
- Case studies of reservoir management benefits
- Reservoir management team
- Data management
- Reservoir description
- Depletion plan development and updating
- Wellbore utilization plan
- Reservoir models
- Reservoir issues
- Implementation plan
- Operating plan
- Reservoir surveillance

DURATION
5 Days

LOCATIONS
Houston

SEISMIC SEQUENCE STRATIGRAPHY

OVERVIEW
Seismic sequencing gives the explorationist and geoscientist a powerful predictive tool for regional basin analysis, shelf to basin correlation, and reservoir heterogeneity. It is a superior framework for the integration of geologic, geophysical, and engineering data and expertise. This training workshop helps participants understand the application of seismic sequencing in exploration and in capturing the upside potentials of brown field. Participants will learn the art of making good seismic modeling-interpretation judgments as a basis for seismic-facies and reflection character analysis

TARGET AUDIENCE
Exploration and Development Geologists, Geophysicists, Seismic Interpreters, Sedimentologists and other upstream subsurface professionals

COURSE OUTLINE
- An overview and use of chronostratigraphic
- Seismic stratigraphy and controls on basin stratigraphy
- Seismic stratigraphy models and principles
- Sequence definition from wells and seismic
- Sequence stratigraphy of carbonates and relative sea-level low-stands
- Sequence stratigraphy in a mixed clastic/carbonate province
- Exploration and production scaled case histories and strategies
- Imaging hydrocarbons
- Geo-history reconstruction
- Optimizing exploration and development

DURATION
10 Days

LOCATIONS
Houston, Dubai, Ghana

BASIC DRILLING OPERATIONS

OVERVIEW
This course presents an overview of hydrocarbon well drilling operations from pre-spud to finish. At the end of the course participants would have honed their skills in basic drilling operations, understand the sequence of the drilling processes, basic components and functions of a drilling rig, drilling economics, formation and fracture pressures, drilling problems and well control procedures, cementing, directional drilling and basic logging operations.

TARGET AUDIENCE
Drilling Engineers, Drilling supervisors, and Technical support personnel

COURSE OUTLINE
- Well planning overview
- Drilling rig systems, their purpose and use
- Differences between onshore and offshore drilling rigs and drilling practices
- Well objectives-exploration, appraisal, development
- Evaluating design strategies- geological, engineering (well profile design) and HSE
- Engineering considerations for successful well construction- hole sizes, casing/liner options, cementing option, drilling equipment selection
- Well construction phases- surface, Intermediate, production sections
- Principles of the drilling process, fishing, casing and cementing
- Principles of well control and blowout prevention
- Causes and prevention practices concerning lost circulation, stuck pipe
- Well Completion/Production

DURATION
5 Days

LOCATIONS
Houston, Dubai

FIELD DEVELOPMENT PLANNING

OVERVIEW
This course provide a comprehensive overview of the stage gate development planning process. Participants will gain an appreciation of the key project drivers and how various disciplines interact to maximize project value and mitigate financial and technical risk. All key areas of field development planning stages are covered, beginning with the basics of oil and gas exploration through to defining what is required for project sanction.

Participants will be go through a simulated Concept Framing and Identification exercise.

TARGET AUDIENCE
Engineers, Development Planners, Asset Managers, HSE, Commercial Teams, Economists

COURSE OUTLINE
- Decision to explore
- Evaluating a discovered oil/gas field
- Development Cost Estimates
- Decision Gate process: Concepts, methods, deliverables
- Decision Gate Process: DG 0 – DG 4 (FID)
- Opportunity Framing (OF)
- Concept Identification (CID)
- OF and CID Workshop

DURATION
5 Days

LOCATIONS
Houston

PRACTICAL DRILLING SKILLS (PDS) I &II

OVERVIEW
The Practical Drilling Skills course exposes engineers to the very important aspects of drilling operation. It empowers participants with the skills to contribute effectively to a drilling project, and how to make proper decisions that ensures delivering an O&G well safely, on schedule and within estimated AFE. The PDS I and II is a 2 week training class, however they can be run separately for 1 week each.

TARGET AUDIENCE
Drilling Managers, Drilling Engineers, and Drilling supervisors.

COURSE OUTLINE

PDS I

- Visible and Non-visible Non-Productive Time (NPT): causative factors and its elimination
- Hole problems (stuck pipe, lost circulation, ballooning)
- Drilling fluid conditioning
- Lost circulation
- Drilling rate
- Interpretation of mud logger gas units
- Determining pore pressure
- On-site hydraulic optimization

PDS II

- Drill bit management
- Selecting proper bit loading for the fastest, cheapest hole
- Cementing
- Mud logging and Gas Unit Curve
- Rheology and drilling fluid properties
- Filter cake quality
- Drilling fluid properties necessary to maximize drilling performance
- Discussion of polymers in drilling fluids
- Solids Control- drilled solids removal.
- Interpreting pressure integrity tests
- Borehole stability
- Operating Guidelines

DURATION	LOCATIONS
10 Days if taken together at a stretch, 5 Days each if taken separately.	Houston

OFFSHORE SUBSEA SYSTEMS

OVERVIEW
This course exposes participants to sub-sea components and how they can be effectively integrated into a field development plan. There is particular emphasis on flow assurance, instrumentation and control and troubleshooting of subsea system issues. Finally, relevant case studies are used to buttress subsea design and planning.

TARGET AUDIENCE
Facility Engineers, Development Planning Engineers, Asset Managers, HSE

COURSE OUTLINE

- Subsea Systems Design Process
- Production Systems for Subsea and Deepwater
- SURF
- PLET/PLEM Design considerations
- Risers analysis
- Applications for subsea systems
- Flow assurance considerations in system design and configuration
- Field architecture considerations
- Subsea component descriptions and functions
- Fabrication, testing, installation, commissioning, and operational issues
- Production, maintenance, and repair considerations

DURATION	LOCATIONS
5 Days	Houston

FLOW ASSURANCE

OVERVIEW
This course provides participants an effective understanding of hydrocarbon flow from the well bore through to export. It addresses several issues around pipeline flow such as hydrates, surges, wax formation, liquid flow failures, and discusses how to avoid or mitigate them. The course is presented within a frame work understanding of the business case for managing flow assurance.

TARGET AUDIENCE
Facilities Engineers, Production Engineers, Assets Managers, HSE

COURSE OUTLINE

- Hydrocarbon flow properties
- Business Case for Flow Assurance
- Phase Determination
- Flow Analysis
- Slug formation, prediction, and mitigation
- Hydrate formation and prevention
- Wax Formation, prevention and remediation
- Asphaltene, scale and sand solids management
- Leak Detection and SCADA

DURATION	LOCATIONS
5 Days	Houston

NATURAL GAS PROCESSING

OVERVIEW
This course covers the processing of gas from the well head to the point of sale with focus on its handling and associated liquids.
Participants are also exposed to competing technologies that could help in rapid development of gas assets.

TARGET AUDIENCE
Production Engineers, Facility Engineers, Operations Engineers and Gas Processing Engineers.

COURSE OUTLINE

- Natural gas and world energy trends
- The role of gas processing in the natural gas value chain
- Technical engineering principles (common conversions, gas density, phase behavior)
- Gas sweetening
- Gas hydrates and dehydration
- Gas conditioning (dew point control) and NGL extraction
- Stabilization and fractionation concepts and facilities
- Gas processing key equipment and support systems (heat transfer, compression, pipelines and gathering systems, and measurement)
- Specialty processes in gas processing (LNG, nitrogen rejection and helium recovery, sulfur recovery, and acid gas re-injection)
- Use of HYSYS with examples for natural gas processing designs.
- Introduction to Membrane Technology.
- Plant Start ups

DURATION	LOCATIONS
5 Days	Houston

OIL PROCESSING AND TREATMENT

OVERVIEW
Course participants are equipped with skills to recognize and develop solutions for operating problems in oil processing facilities. They also learn oil, gas, and water compositions and properties needed for equipment selection and sizing, selection and evaluation of processes and equipment used to meet sales or disposal specifications. More importantly, attendees learn to apply physical and thermodynamic property correlations and principles to the design and evaluation of oil production and processing facilities, and how to perform equipment sizing calculations for major production facility separation equipment.

TARGET AUDIENCE
Facilities Engineers, Production Engineers, Technical support personnel.

COURSE OUTLINE
- Review of Reservoir and oil properties
- Phase envelopes and reservoir fluid classification
- Gas, oil, and water - composition and properties
- Oil gathering systems
- Gas-liquid separation
- Emulsions
- Oil-water separation
- Oil treating
- Desalting
- Oil stabilization and sweetening
- Oil storage and vapor recovery
- Treatment of sand, wax, asphaltenes, and scales
- Pipeline transportation of crude oil
- Pumps
- Overview of produced water treatment
- Water injection systems
- Solution gas handling

DURATION	LOCATIONS
5 Days	Houston

PRODUCED WATER MANAGEMENT

OVERVIEW
Produced water has cost and environmental impacts. Effective management of water in field operations can impact on the profitability of project and the reputation of the operator. This course helps participants understand a wide range of issues around water; especially in O&G operations, including regulations, systems modeling, water chemistry, water treatment technology and trouble shooting.

TARGET AUDIENCE
All personnel

COURSE OUTLINE
- Overview of well head production streams
- Basic water chemistry
- Oilfield water management issues
- Dominant factors in oilfield water management
- Water treatment for reuse and recycling programs
- Acquisition, storage, transportation, disposal, and treatment of water
- Treatment and Disposal of freshwater and saltwater
- Designing a water management strategy.
- Local challenges in Water disposal

DURATION	LOCATIONS
5 Days	Houston, Dubai

QUE$TOR ONSHORE AND OFFSHORE TRAINING & COST ANALYSIS

OVERVIEW
This course is targeted towards personnel whose company uses Que$tor – an O&G project development modeling application. . It takes participants through a rigorous Que$tor training, evaluation and analysis of the cost outputs. It helps participants understand the various adaptive ways the Que$tor software can be used to model projects from Concept stage through Select stage. And helps non engineers- analysts and business development professionals get comfortable with the application.

TARGET AUDIENCE
Facilities Engineers, Business Development Analysts/Economists, HSE

COURSE OUTLINE
- Introduction to Conceptual Field development
- Range of Application of Que$tor
- Sourcing for and Interpreting Analog Data
- Understanding functionalities and features in Que$tor
- Modeling various types of developments – onshore, offshore and hybrids
- Analysis of results.
- Interpretation of outputs

DURATION	LOCATIONS
5 Days	Houston, Dubai

PROJECT, BUDGET AND COST MANAGEMENT

OVERVIEW
Research has shown that most O&G projects end up being late, and over budget. One of the myriad reasons adduced for this trend is the lack of effective project planning and management. The application of modern management principles to projects have seen great improvements in the probability of project success. This course focuses on practical tools and a solid grounding in theory to prepare participants for immediate and long term success in managing projects

TARGET AUDIENCE
Asset Managers, Engineers, HSE, Analysts.

COURSE OUTLINE
- Project definition
- Project management principles, processes and responsibilities
- Project execution planning
- Project team management
- Project controls- budget, schedules, change control etc.
- Project Risks
- Project quality and HSE

DURATION	LOCATIONS
5 Days	Houston, Dubai

PRODUCTION OPERATIONS (OIL FIELD OPERATIONS)

OVERVIEW
The Production Operations course (also called Oil Field Operations) covers the spectrum of both the foundational and intermediate levels of field production engineering. Course participants will become familiar with the important facets of field operations and cross trains the different disciplines making up field personnel to gain an understanding of field operations and speak intelligently about it. Part of the afternoon session is dedicated to hands-on practice examples, while participants are encouraged to bring up field issues for discussion.

TARGET AUDIENCE
Field Operations Personnel, Engineers: Facility, Drilling, Electrical, Instrumentation and Control, Reservoir

COURSE OUTLINE
- Oil Money Flow – Reservoir to Market
- Basic Reservoir Engineering
- Overview of O&G Drilling
  - Well Completion; types and tools
- Production Operations: well testing, mechanical failures in wells, acidizing, artificial lift, decommissioning, Plugging and abandonment etc.
  - Understanding Jargons: Well Summary Report, Well History Report etc.
- Well Workover for Production Enhancements
  - What, Why, Types, Tools and Equipment used.
- Basic Well Head Operations
- Surface Facilities: Overall Process and Building Blocks
  - Liquids separation
  - Natural Gas Processing
- Equipment, Procedures, and Mechanical Devices Used in the Oilfield
- Pumps, Tanks and vessels, Oil and water treatment, Gathering and distribution systems, Fired equipment
- Basic Electricals, Instruments and Controls
- Best Practices to Improve Operational Efficiency
  - PFD and P&ID: Usage, interpretation, HSSE, Safety in O&G facilities/Plants, Project Planning and Diagrams

- Basic Production and Facility Maintenance Planning and Scheduling, Daily production report: insights and analysis
- Hands-on Class Exercises

LOCATION:
Dubai, Houston, London

GAS LIFT DESIGN AND OPTIMIZATION

OVERVIEW
This course focuses on gas-lift design using hands- on graphical design methods (based on API RP 11V6/19GB and API Gas -lift manual), gas lift surface facilities, surveillance, automation, trouble- shooting and optimization for better economics. Excel spreadsheet programs will be used in class to buttress theory including gas lift performance models. Emphasis is also placed on surveillance as the starting point for all activities on the wells. Use of dynamic models will be demonstrated in class to show how automation can be used to assist with production surveillance.

TARGET AUDIENCE
Field Operations Personnel, Engineers: Facility, Drilling and Completion Electrical, Instrumentation and Control, Reservoir

COURSE OUTLINE
- Flow & Lift Processes - Review of natural flow and all artificial lift methods
- Reservoir & Well Performance – Inflow and multiphase outflow concepts
- Gas Lift Concept – Physics of gas lift operation
- Equipment Operation – Gas lift equipment details are presented
- Valve Mechanics – Valve equations governing area and pressure are given
- Spacing Design – Depth locating methods for unloading valves are provided
- Pressure Setting Design for IPO Valves – Pressure setting calculations for injection pressure operated valves
- PPO Design
- Delivery Rate vs Gas Lift Injection Rate
- Gas Lift Efficiency
- Modeling & Analysis – Techniques used to set up well models and fluid properties
- Surveillance
- Wellbore Gradients & Production Testing – Using wellbore and production testing to improve operation
- Troubleshooting & Simulation – Monitoring activities to resolve an immediate problem
- Gas Lift Practical Class Problem
- Bring your gas lift problem
- Post Course Quiz
- Workshop
  - Case studies and /or specific gas lift challenge

ESP DESIGN AND OPTIMIZATION

OVERVIEW
Electrical submersible pumps (ESPs) is one of the various artificial lift technologies used in the Oil and Gas industry. This training helps facilities engineers in understanding artificial lift in a broad terms and ESPs in particular so they can contribute effectively to the increasing demand for cost effective production of hard to produce hydrocarbon and mature/ageing fields. The training also helps in the selection, design and operation of artificial lift equipment, components and optimal use of ESPs, including trouble shooting and maintenance. This course is complementary to the Gas Lift training course. Participants gain valuable experience by the hands-on approach and class work problems. Computer software models are demonstrated in class including animated videos to improve understanding.

TARGET AUDIENCE
Field Operations Personnel, Engineers: Facility, Drilling and Completion Electrical, Instrumentation and Control, Reservoir

COURSE OUTLINE
- Overview of artificial lift technology
- Criteria for selection of artificial lift system
- Reservoir and production considerations in artificial lift: Nodal Analysis (inflow and outflow relationships, IPR), Darcy production index, Vogel
- Artificial lift screening and economic considerations in selecting an artificial lift system
- System Analysis
- ESP Overview, Applications, Pluses/Minuses
- Components of an ESP system - pump, intake, gas separator, seal, motor, cable, cable guards, instrumentation
- Basic ESP Design and operations including surveillance, well performance curve and design considerations
- Proactive design considerations for future well conditions
- Installation considerations
- Hybrid ESP and Gas Lift systems
- Troubleshooting and diagnosing problems with ESP systems and trouble-shooting
- Maintenance and replacement of ESP systems
- Automation and controls for ESP systems

WELL COMPLETION AND WORKOVER

OVERVIEW
This 5-day course covers the subject and best practices in Well Completions and Workover. It emphasizes important design elements to illustrate the parameters put into considerations in completing a well and the inherent risks and uncertainty in completion practices. It also teaches the principles of well workover; why and when it is required, planning and executing a workover project in a safe and sustainable way. This course focus on the use of design examples, industry case studies and videos to buttress theory being taught. Because most participants work for operators, emphasis is placed on making them better representatives and managers of drilling and work-over projects through planning, operational scheduling and safety regulations.

TARGET AUDIENCE
Drilling and Completion Engineers, Facility Engineer, Reservoir Engineers

COURSE OUTLINE
Well Completion and Workover
- Overview of reservoir concepts and reservoir fluid characterization
- Introduction to well completion methods and technologies
- Basic well completion principles design, practices, and strategies
- Well deliverability
- System Analysis
- Risk management and safety considerations in well completion design
- Well quality and integrity
- Well Furniture: Wellheads, trees, subsurface safety valves, and flow control equipment
- Interpretation of IPRs for tubing selection.
- Casing, well head, valves and other equipment selection
- Completion material selection guidelines against corrosion and erosion
- Intelligent completions
- Horizontal, multilateral, and multi zone reservoir completions considerations
- Snubbing operations
- Perforation job; principles, selection and design
- Formation damage mechanisms and their remediation
- Stimulation design considerations
- Sand control; selection and management
- Work over rig equipment- Wireline, coiled tubing, and hydraulic
- Rig less workover
- Fishing

WELL STIMULATION DESIGN AND DEPLOYMENT

OVERVIEW
The well stimulation course seeks to empower participants with the basic principles in well stimulation as well as the design, planning, monitoring and evaluation of stimulation treatments. This knowledge ensures better decisions are made on stimulation jobs towards improving production of hydrocarbon. This course takes participants through basic concepts and then hones in on formation damage, acidizing and fracturing concepts including treatment, pressure monitoring and other post treatment evaluations. We will spend most afternoons on hands- on practical examples.

TARGET AUDIENCE
Drilling and Completion Engineers, Facility Engineer, Reservoir Engineers

COURSE OUTLINE

Well Stimulation Design and Deployment

- Reservoir concepts
- When stimulation is necessary and types of stimulation
- Formation damage
- Acidizing – types, objectives and additives
- Executing an acid job – placement and pressure monitoring
- Safety considerations and quality of an acid job
- Hydraulic fracturing
- Basic fracturing models
- Planning and executing a frac job
- Safety considerations and quality of a frac. job
- Evolution of stimulation practices and technology

Interspersed with daily hands-on exercises

ASSET INTEGRITY MANAGEMENT

OVERVIEW

The Asset Integrity Management (AIM) course, with particular focus on oil and gas, provides participants with the tools and knowledge required to more efficiently and safely manage installations for maximum value. It teaches AIM from a holistic view of fidelity to the wellbeing and safety of stakeholders – personnel, community and the environment. It helps participants appreciate how the establishment of a comprehensive, risk-based AIM culture promotes equipment maintenance compliance, cost efficiency, asset integrity and reliable performance towards improved uptime and operational excellence.

TARGET AUDIENCE

Asset Managers, Facility Engineers, Pipeline/Corrosion Engineers, Technical Audit Personnel

COURSE OUTLINE

- Integrity threat brainstorm and review of a major incident
- History and Evolution of Asset Integrity Management (AIM)
- AIM Concepts and Elements
- Asset Integrity Lifecycle
- Stakeholder targets in formulating an effective AIM strategy
- Risk and Hazard Assessment and Management
- Asset Integrity Barrier Management
- Safety Critical Elements and Equipment
- Asset Degradation and Damage
- Incident Investigation
- Emergency Response
- Performance Management
- Process Integrity
- KPIs for an Integrity Driven Asset Management
- OPEX Optimization
- Lifetime Extension of Ageing assets
- Plant and Personnel Protective Systems
- Risked Based Inspection and Maintenance of Static and Rotating Equipment
- Pipeline Integrity Management
- Reactive Integrity Management Systems
- Asset Integrity Review Process.

INSTRUMENTATION, CONTROL AND AUTOMATION FOR FACILITY ENGINEERS

OVERVIEW

This course teaches instrumentation from a practical approach. It centers around three main objectives -to measure, control and safeguard the integrity of facilities. It refreshes the skills of participants with an overview of electrical and control systems encountered in oil and gas facilities, standards, abbreviation and symbols used, cuts through the jargons and basic configurations to promote better communication amongst the disciplines. By emphasizing the instrumentation and control engineering (ICE) requirements of O&G facilities, participants will learn basic control systems and components, including flow, pressure temperature and quality measurement equipment (valves, breathers pumps, compressors etc. The technics to achieving these control – pneumatic, electro-pneumatics, electronics-DCS, Fieldbus are explained.

TARGET AUDIENCE

Instrumentation and Control Engineers, Electrical Engineers, Facility Engineers, Project Engineers

COURSE OUTLINE

Instrumentation, Control and Automation

- Overview of electrical engineering concepts- mathematics for instrumentation
- Concepts of process measurement and control
- Standard symbols and abbreviations, terminologies, measurements,
- Instrumentation and Control Philosophy for oil and gas facilities – measure, control and safeguard
- Level and Temperature control systems
- Pressure Control Systems–
- Control Valves –sizing and selection
- Flow Control systems for gas and liquids
- SCADA, DCS, PLC –
- Subsurface automation concepts
- Subsurface to surface automation technologies – principles, available technologies and potential benefits
- In line measurements, fluid measurement, terminating and custody transfer
- Advanced Control Strategies – control hierarchy, dynamics, lags etc.
- Centralized control
- Standards and best practices in ICE, and recommendations.
- Discussions about participants field ICE issues

ELECTRICAL ENGINEERING FOR FACILITY ENGINEERS

OVERVIEW

The electrical engineering course complements the instrumentation and control systems course curriculum to train and improve understanding of the basics and practice of electrical engineering in oil and gas facility operations. Its main focus is the safe and efficient management (generation, distribution, control and protection) of electrical power for oil and gas operations. The training is delivered with the facilities engineer in mind. It starts with a refresher on the principles of electrical engineering, standards, abbreviation and symbols used, and cuts through the jargons and basic configurations to promote better communication amongst the disciplines. It then hones in on the power equipment encountered in oil and gas facilities.

TARGET AUDIENCE

Instrumentation and Control Engineers, Projects Engineering, Electrical Engineers, Facility Engineers.

COURSE OUTLINE

- Fundamentals of electricity; voltage, current, resistance, power factor, and single/three phase power systems, insulation and conduction
- Types of power generation plants (Coal fired; Gas fired)
- Alternating and Direct current
- Load analysis and Load scheduling
- Efficiencies in power systems
- Transformers power and instrument
- Motors induction, synchronous and protection
- Power generation and distribution System protection and coordination
- Principles of variable speed drive, motor, surge etc.
- Selection of Motors, Industrial fans, Variable frequency drives, and Motor control centers
- Circuit breaker selection, Relay selection, Transformers
- Electrical safety engineering, emergency electrical supplies – Batteries, UPS, inverters, Generators, Lightning, surge protection & Earthing
- Switch gear, Substation
- Plant Automation, PLC & SCADA
- Area classifications, hazardous area identification, standards and practices

PRACTICAL PROCUREMENT AND SUPPLY CHAIN MANAGEMENT

OVERVIEW

This course examines supply chain management in theory and practice and the roles and responsibilities of the supply chain practitioners. It offers a practical

approach to managing procurement, focusing on the strategies for procurement of equipment, materials and services needed on oil and gas projects. Especially organizing, planning, and controlling the work involved. The course is based on the best and most current thinking in the field, particularly the Association for Supply Chain Management (ASCM)https://www.ascm.org/ SCOR Model and the Council of Supply Chain Management Professionals https://cscmp.org/ Case studies of actual procurement and supply chain management implementation is used to guide participants through a real life process.

TARGET AUDIENCE

Managers, personnel in supply management; purchasing, procurement, contracts, materials inventory, projects, maintenance engineers, facility engineers, operations personnel and finance.

COURSE OUTLINE

- Introduction to Supply management
- Developing the spend profile
- The ABC (Pareto) analysis and what to do with it
- Material/services purchasing code development
- Elements of cost that make up the price
- Developing "should cost"
- Producer price indexes
- Dealing with economic uncertainties:
- Cost containment methods
- Cost reductions and cost avoidance
- Developing purchased materials/services strategic plans
- Developing the purchase price index
- Negotiation skill sets
- Steps in negotiation preparation
- Positional negotiations
- Industry overview for procurement
- **Procurement**
  - Procurement's role in oil and gas value chain management - upstream, midstream, and downstream
  - E&P asset management cycle and total cost of ownership
  - Industry market intelligence practices in procurement
  - Industry spend analysis characteristics and strategies
  - Creating industry category management (sector) strategies
  - Key procurement and supplier performance metrics
  - Trends in global sourcing and local content requirements
- **Tendering and Contracting**
  - Types of contracts and examples
  - Oil and gas law and global contracting risks
  - Influence of eCommerce and eProcurement
  - Overview of the contracting process
  - Establishing risk management priorities
  - The legal environment and best use of legal counsel in contracting
  - Avoiding and managing contract disputes
  - The tendering process and key documents
  - Buyer and seller pricing objectives
  - Tendering to address financial key risks
  - Using economic price adjustment clauses in lump sum agreements
  - Bid evaluation and award considerations
  - Using a formal contract change control process
- **Supplier Management**
  - Supplier Relationship Management (SRM)
  - Monitoring supplier performance
  - Developing and maintaining a supplier performance index
  - Supplier recognition and expectations
  - Supply Risk and trends leading to greater risk
  - Typical risk management process
- **CASE STUDY**

Refinery Process, Cost and Economics

OVERVIEW

This course will present an overview of modern, sophisticated petroleum refining. Each refining process will be presented to refresh or introduce refining to attendees without getting bugged down in the details. Participants will gain an understanding of the properties of crude oil and refined products. They will learn about gasoline production, hydrocarbon processing, and catalysts in refining and develop knowledge of sulfur recovery, corrosion in refineries, and refinery cost estimation. They will leave with an understanding of how to evaluate investments in the refining industry. The instructor, who has decades of "boots on the ground" experience will utilize case studies from his career as a refinery manager, for some of the largest refining companies in the United States.

TARGET AUDIENCE:

Engineers, Refinery Managers, Commercial Analysts, Oil Traders, Economists

COURSE OUTLINE

- Petroleum Refining and Energy Demand
- Crude Oil Characterization
- Crude Oil Distillation
- Catalysts in Refining
- Gasoline Production
- Hydro-processing
- Catalytic Cracking
- Refinery Configurations and LP Modeling
- Clean Fuels
- Residual Oil Processing
- Sulfur Recovery
- Corrosion in Refining
- Cost Estimating
- Refinery Product Economics
- Recent Impacts on the Refining Business

LOCATIONS

Houston, Gnana, Kigali, Dubai, Lagos, Local

MEASUREMENT AND FISCALIZATION OF HYDROCARBON

Resource owners (governments) and equity owners in oil and gas investments especially in production sharing contracts often get paid in kind; that is, they lift their portion of oil or gas entitlements. Measurement of hydrocarbon helps to ascertain what is produced and what each party gets. It is at the heart of all fiscal oil and gas industry transactions. Discrepancies can be colossal, are sometimes economic crimes and often lead to litigation.

This course thus helps O&G industry professionals understand the principles and issues relating to hydrocarbon measurement and fiscalization and best practices in achieving an enduring and transparent measurement process. On completion, attendees will understand the gamut of the process of measuring crude oil, natural gas, and NGLs, composition analysis and dynamic metering, data handling and auditing of measurements. It is presented in an easy-to-understand format.

Target Participants: Engineers, Crude Oil Marketers, Crude Oil Terminal Officials, Managers, Administrators, Marketers, Hydrocarbon Accountants, Volume Processing Analysts, Legal Officers

COURSE OUTLINE

- **Introduction to Hydrocarbon Measurement**
  - Definition of hydrocarbon and why they are measured.
  - Behavior and Differences between gases and liquids
  - Phase concepts for gas and liquid
  - Difference between metering and measurement
  - The measurement "processes" in the oil and gas industry
  - Measurement standards for custody transfer and non-custody-transfer
  - Measurement language in contracts and other legal agreements
  - Mass and volume and the concepts of flow and flow rate
  - Composition determination (sampling and analyzing)
  - PVT Concepts: Temperature and pressure effect
  - Relative density and API gravity
  - Flow Meters
    - Types, styles, and general designs including linear, square-root, volumetric, mass flow, velocity, ultrasonic, and Coriolis
    - Design considerations
    - Selection criteria
    - Calibration and maintenance

- Measurement office administration; authorization and oversights
- Measurement data handling and editing
- Safety in measurement process
- Measurement quality control: auditing and troubleshooting
- Ethical conduct
- Avoiding Litigation

- **Measurement of Liquids**
  - Crude oil, gas liquids, and other hydrocarbon liquids properties: viscosity, density, volatility, relative density and API gravity
  - Applicable flow meters for the various liquids and their selection
  - Flow Meter
    - Station design and fabrication considerations
    - Flow calibration, inspection, and required documentation
    - Station delivery, installation, and commissioning
    - Station operation and maintenance
  - Secondary metering
    - Equipment selection, installation, and initial field testing
  - Liquid flow computer and technologies
  - Liquid sampling and composition determination
  - Liquid flow calculations including at standard conditions and pressure, volume, and temperature corrections
  - Communication and data collection equipment installation and initial testing and commissioning
  - Measurement of Natural Gas
  - Types of natural gas
  - Applicable flow meters for the various liquids and their selection
  - Flow Meter
  - Station design and fabrication considerations
  - Flow calibration, inspection, and required documentation
  - Station delivery, installation, and commissioning
  - Station operation and maintenance
  - Secondary metering
  - Equipment selection, installation, and initial field testing
  - Natural gas flow computers
  - Natural gas sampling and composition determination
  - Natural gas flow calculations including at standard conditions, pressure base, temperature base, compressibility, and other factors used in square root meters, linear flow meters, and mass flow meters
  - Communication and data collection equipment installation and initial testing and commissioning.
  - Flow meter station operation and maintenance

DURATION
5 Days

LOCATIONS
Dubai, Ghana, Houston, Kigali, London, Local.

PETREL SOFTWARE TRAINING

Petrel platform is widely used by geoscientists and engineers to analyze subsurface data from exploration to production, enabling them to create a shared vision of the reservoir. This shared earth approach empowers companies to standardize workflows across E&P and make more informed decisions with a clear understanding of both opportunities and risks.
This training, focuses on the geoscience module of the petrel application. This encompasses workflows and geological concepts required in building high level subsurface frameworks. The main goal of this course is to provide an operational knowledge of using Petrel.

TARGET AUDIENCE

Geoscientists, Reservoir Engineers

TRAINING OUTLINE
The course is divided into two sections covering the following topics.

Section 1:
Basic introduction to subsurface framework modeling and reservoir characterization.

Section 2:
Petrel software familiarity with building integrated reservoir architectural model.

LOCATIONS
In-House, Local, Houston, Ghana, Dubai

OPERATIONAL HEALTH, SAFETY, ENVIRONEMENT MANAGEMENT

OVERVIEW
This course applies to all personnel working in operations and production facilities, drilling rigs in the O&G companies. It starts with a refresher on the fundaments of HSE and the focuses on the measures and tools required to manage an HSE system. Participants will use case studies to think through how a safety management system can be modified and improved upon.

TARGET AUDIENCE
O&G company personnel associated with the production operations, drilling, and maintenance, regulators involved in governance and monitoring of O&G production and processing facilities, project and engineering support teams.

COURSE OUTLINE
Business Case for Health and Safety Management
- Compliance with Hazards
- Asset Integrity and Reliability
- HSE Policy
- HSE Management systems
- Oil Spill Response & Control
- Human Error Management
- Behavioral Based Safety
- Risk and risk-based process safety
- 5x5 Matrix for Risk Analysis
- Environmental Risks in O&G
- Occupational Health Risks in O&G
- HAZOP/HAZID and SIL
- Incident Investigation and Root Cause Analysis
- Drilling Project & Risk Management
- Regulatory Framework for HSE
- Emergency and Crisis Management in the Offshore Oil & Gas Environment
- Risk based Process Management
- Management Review and Continuous improvement

KEYS TO SELF-MANAGEMENT AND EFFECTIVE LEADERSHIP

OVERVIEW
Successful or aspiring leaders first master and manage themselves. They juggle several tasks at once and motivate others to achieve set goals. This course helps managers, team leads and others aspiring to leadership to manage themselves, lead teams and motivate self and others to achieve personal or corporate goals. This course teaches the fundamentals and principles of self-management and effective leadership, and combines it with introspective thinking, cohort discussion and case studies.

TARGET AUDIENCE
All Personnel

COURSE OUTLINE
- The Fundamentals of Self Awareness
- Using DISC Behavioral Model to Improve Self-Management and Performance of Others
- 7 Star Leader
- What motivates others: colleagues, competitors, partners etc?
- Acknowledging strengths, weaknesses and blind spots in self and others
- Connecting with others and communicating effectively
- How to influencing others- with or without authority
- Influence tactics and negotiation strategies for competitive advantage
- Earning trust and building relationships
- Adapting leadership styles to context
- Leading for long-term results

DURATION
5 Days

LOCATIONS
Houston, Dubai

HOW TO MANAGE A MULTI-CULTURAL WORKFORCE IN A GLOBALIZED O&G INDUSTRY

OVERVIEW
A diverse workforce propels an organizations competitive advantage but, if not well managed, could become an albatross and leads to sub optimal performance and sabotage. The inherent advantages in a multi-cultural and multi ethnic workforce, may not be achieved if the minefield of such combination is not fairly and effectively navigated. This course helps participants adopt strategies to managing a diverse workforce, identify potentially disruptive issues and how to handle them in a fair and effective manner.

TARGET AUDIENCE
All Personnel

COURSE OUTLINE
- What is diversity?
- Diversity, Culture and Performance
- Perspectives and Strategies in Managing Diversity
- Improving corporate culture
- Barriers to accepting workplace diversity
- Case Studies

DURATION
5 Days

LOCATIONS
Houston, Dubai

EXCEPTIONAL PRESENTATION – CORPORATE STORY TELLING

OVERVIEW
Effective communication is a prerequisite skill in today's corporate world. Great leaders are great communicators. Often times however, stage fright, a lack of understanding of the audience and subject, improper body language and ineffective visuals make communication drudgery. This is where we help!

This course sets out with a baseline presentation by participants on the first day. Participants are thereafter taken through a rigorous, hands-on training on the rudiments of presentation and how to develop a story board. During the course, participants continually make practice presentations while applying these new skills; they are instantly able to appreciate the transformation that has taken place in a few days. We also teach them the art of making an elevator pitch.

TARGET AUDIENCE
All personnel

COURSE OUTLINE
- Importance of Effective Communication
- Audience, Outcome and Topic
- Benefit Statement
- Framing
- Evidence
- Story Board
- Objection Handling
- Tips for Speakers

DURATION
5 Days

LOCATIONS
Houston, Dubai

DOCUMENT MANAGEMENT AND CONFIDENTIALITY

OVERVIEW
Businesses generate lots of documents and communicate through various types of documents whether its electronic or hard copy. Many corporate executives live with the daily dread of discovering these important documents have found their ways into the wrong hands and to the public space, especially in the age of social media. It's hard to kill a leak once it happens. Apart from malicious leaks, most leaks happen inadvertently due to the lack of knowledge in the proper handling of documents. This course helps participants wade through the complexity of the documents generated in business enterprises, ensures they know what to focus on and how to manage confidential information.

TARGET AUDIENCE
All Personnel handling confidential documents, IT personnel, Secretaries

COURSE OUTLINE
- Document Lifecycle
- File, Folder and Electronic Based Document Management System
- Document Security
- Setting up audit trail
- Access Control
- Technologies for Document Management Systems
- Cloud; types, and storage
- Legal Angles to Cloud Storage
- Email document hierarchies
- Cost of Storage
- Preventing data/document loss and Disaster Recovery

HSE Technical Training Series

A full Range of QHSE Knowledge

Course Title	Course Syllabus	Who Should Attend	Duration[1] *(combined modules available in 1- or 2-weeks duration)*	Participant Expectations
Technical Process Training				
Understanding Process Risk and its Management Tools	• HAZOP Understanding • HAZID Principles • Safety Integrity Level (SIL) • Layer of Protection Analysis (LOPA)	• Process Engineers • Facility Operators • Facility Supervisors	3-Days	• Understanding the basic principles of process review • Ability to participate in future reviews
Management of Change (**MOC**)	• Like Kind Principle • Determination of MOC • Development of MOC Manual • Maintaining MOC Register	• All Discipline Engineers • Facility Operators • Facility Supervisors • HSE Personnel	2-Days	• Understanding the basic principles of process review • Ability to manage a Risk Register of Change
Qualitative and Quantitative Risk Assessment (**QRA**)	• Difference Between Qualitative and Quantitative • Technical Exercises	• All Discipline Engineers • Facility Operators • Facility Supervisors • HSE Personnel	3 Days	• Understanding QRA principles of process review • Ability to manage a Risk Register of QRA review • Chair a QRA Event with a level of understanding toward results
Simultaneous Operations Process and Applications (**SIMOPS**)	• Understanding SIMOPS and When Applicable • Breakdown of Risk Mitigation for Successful SIMOPS	• Facility Management • All Discipline Engineers • Facility Operators • Facility Supervisors • HSE Personnel	2 Days	• Understanding SIMOPS principles toward work activity review • Ability to manage a SIMOPS Register review • Chair a SIMOPS Workshop with a level of understanding toward results
Matrix of Permitted Operations (**MOPO**)	• Understanding MOPO and When Applicable against a QRA / SIMOPS • Breakdown of Risk Mitigation for Successful MOPO Operation/s	• All Discipline Engineers • Facility Operators • Facility Supervisors • HSE Personnel • Offshore personnel	2 Days	• Understanding MOPO principles toward MULTI work activity review • Ability to manage a MOPO Register review and develop a MOPO Manual • Chair a MOPO Workshop with a level of understanding toward results
ALARP As Low as Reasonably Practicable **ALARA** As Low As Reasonably Achievable	• Understanding ALARP Process and ALARA • Differences Between • ALARA Radiation • How to Apply Against a QRA / SIMOPS / MOPO Process	• All Discipline Engineers • Facility Operators • Facility Supervisors • HSE Personnel • Assigned Radiography Personnel	2 Days	• Understanding principles toward Multi work activity review • Ability to apply against other Risk Studies • Chair a ALARP / ALARA Workshop with a level of understanding toward differences
Process Safety Management **PSM**	• Process Safety Information • Process Hazard Analysis • Operating Procedures • Training • Contractors • Mechanical Integrity • Hot Work • Management of Change • Incident Investigation • Compliance Audits • Pre startup Safety Review • Emergency Planning & Response • Trade Secrets • Employee Participation	• Facility Management • Facility Personnel • All Discipline Engineers • Facility Operators • Facility Supervisors • HSE Personnel	1 week	• Understanding 14-Elements of a PSM process • Ability to Audit a PSM process • Recognize areas requiring monitoring and controls • Instruct contractors on required elements
Process Hazard Analysis Software **PHAST**	• Understanding basic operation of software and how and when to utilize • Highly technical course	• Process Engineers • Facility Operators • Facility Supervisors	1 week	• Basic understanding of software and application • Ability to apply against other Risk Studies
Risk Software • Shell **FRED** (Fire, Release, Explosion, and Dispersion - Consequence Modelling • **Gexcon FLACS** – Explosion Modelling • Shell **SHEPHERD -** Quantitative risk analysis (QRA) tool • Shell **PIPA** - Pre-Incident Planning tool • Additional software available as required	• Understanding basic operation of software and how and when to utilize • Highly technical course	• Process Engineers • Facility Operators Facility Supervisors	1 week Individual Software Package	• Basic understanding of software and application • Ability to apply against other Risk Studies

Development of a Safety Case 12-.Elements	• Understanding the Purpose of a Safety Case and how it applies and When Applicable • Regulatory Requirements • All Element Development	• Facility Management • All Discipline Engineers • Facility Operators • Facility Supervisors • HSE Personnel	3 Days	• Full understanding of elements and regulatory requirements and application • Ability to apply against other Risk Studies and as a reference tool
Hazard and Effect Management Process / Plan **HEMP**	• Review and Understanding of the following 4-Elements 1. Hazard identification 2. Risk assessment 3. Risk control 4. Recovery measures	• Facility Management • All Discipline Engineers • Facility Operators • Facility Supervisors • HSE Personnel	3 Days	• Understanding of full scope process of risk and mitigation within one document. • Ability to act as a Subject Matter person within the development of a HEMP process
Management Review and Continuous improvement Key performance Indicator's - **KPI's** and Review Periods	• Recognizing and Developing KPI's • What is Continuous Improvement and HOW to Measure • Application of consistent progress	• Facility Operators • Facility Supervisors • HSE Personnel • Contractors	2Days	• Ability to review and then develop KPI's • Ability to measure performance against assigned KPI's
Developing a Safety Management System (HSE-MS) - **14**-Elements	• Recognizing and Developing • Understanding HOW all 14-Elements combine to make a system • Regulatory Requirements	• Facility Supervisors • HSE Personnel • Contractors	3Days	• Good understanding on requirements for an HSE-MS • Recognition of what is absent from submitted systems
The Safety Culture Writing Safety Policies and Programs Necessary and Mandated Elements	• What is a Safety Culture? • HOW to achieve a cost/benefit solution • Writing policies that are effective	• Facility Management • Facility Supervisors • HSE Personnel • Contractors	2 Days	• Good understanding on Safety Culture and how to achieve a steady / consistent program • Recognition of what is absent from submitted systems
Drafting Structure and integrity of: • HSE Policy • Commitment Statement • Mission Statement	• Ownership of facility / corporate HSE document • HOW to make documents have value • Writing policies that are effective	• Facility Management • Facility Supervisors • HSE Personnel • Contractors	2 Days	• Good understanding on Safety Culture and how to achieve a steady / consistent program • Recognition of what is absent from documents

Human Error Management • Human Factors, Safety Barriers, compliance with procedure, Risk of Routine Activity • Employees' involvement: Commitment and Responsibility • Available tools to Improve Safety: Procedures, Risk Assessment, Safety Meetings, Accident Investigation And Reporting, Audits, Field Observations, Emergency Drills	• Behavioral aspects of developing a safety culture • Diverse management and employee roles in building a safety culture • Discussion of all tools for bringing about HSE success • Tying all areas of HSE into one movement forward	• Facility Management • Facility Supervisors • HSE Personnel • Contractors	3Days	• Ability to recognize and understand the root of HSE management and principles • Broad knowledge of individual aspects of HSE as a support discipline • Act as a technical reference of HSE internal issues of developing a system

Job Safety Analysis (JSA)	• Main areas of a JSA
	  • Work Scope
	  • Hazards
	  • Mitigation
		• Facility Supervisors
		• HSE Personnel
		• Contractors
			2 Days	• Ability to recognize and understand a JSA
				• Act as a technical reference of HSE internal issues of developing a system

Incident Investigation and Root Cause Analysis (**RCA Elements**) • Bowtie Process • 5-Why • TapRoot • OSHA Technique • Root Cause Analysis (RCA)	• Review of each system and how to apply at a basic level • Comparisons of each system and their differences • Understanding of 6-Elements of an RCA	• Facility Management • Facility Supervisors • HSE Personnel • Contractors	3 Days	• Participants will understand and be able to execute the main 6-investigation steps Step 1: Gather information Step 2: Search for and establish facts Step 3: Establish essential contributing factors Step 4: Find root causes Step: 5 Determine corrective actions Step 6: Implement corrective actions
Transportation Safety Training Seminars				
Hazardous Materials Transportation	• Comprehensive review of transportation of hazardous materials • Nigerian Regulatory requirements and international standards	• Facility Management • Facility Supervisors • HSE Personnel • Transport Drivers	5 Days	• Full understanding of Nigerian Regulatory legislation • Understanding of symbols and requirements for transport
Comprehensive Crane and Lifting Management	• Equipment • Controls • Risk Areas	• Facility Management • Facility Supervisors • HSE Personnel • Field/Construction Operations Staff	4 Days	

Notes:

1. These classes are also combined into a one or two- week HSE training program or can be made bespoke to client's requirements. See the capstone HSE course in the brochure: Operational Safety, Health and Environment Management

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