



2017 Course Catalog



EMERGENCY PREPAREDNESS: COMMAND AND CONTROL

With disasters increasing in frequency and costs each year, there is increasing need to improve effectiveness of incident command and control systems for emergency preparedness. This course will teach participants principles of emergency management (preparedness and response) and the industry best practice of incident command and control system design, operations, structure and development process to keep communities and industry safe. The course will also provide activities and exercises that build the participants: abilities to perform the tasks and responsibilities of the emergency manager's role; create long-term strategies for emergency management; design and operate command and control systems to select mitigation solutions to hazard risk problems and carry out mitigation activities in a post-disaster environment. Practical examples will be presented to assist participants in developing pertinent skill sets and the abilities to apply the skills and information gained in this training course.

WHO SHOULD ATTEND

This course is designed for professional engineers, asset managers, all members of emergency management team, emergency service personnel,...etc.

INSTRUCTOR

DR. AKIN ONI

WHAT YOU WILL LEARN

- Fundamentals of emergency preparedness & their roles in keeping communities & industry safe
- Principles & applications of command and control systems for emergency response management
- Understand the different command and control systems available in emergency management
- Design and operations of an effective command and control systems for managing emergency events
- The knowledge and skills to plan, implement and evaluate stages of a range of command and control systems for managing emergency events
- How to apply latest knowledge of command and control systems and best practices into organizational emergency management business decisions and operations
- Assess the role of command & control systems in the success of an emergency management plan

COURSE OUTLINE

- Overview of emergencies preparedness and response systems. Overview of emergency response programs & management systems. General problems associated with emergency response in large-scale disasters (emergency management - preparedness and response)
- Anticipating potential hazards and threats hazardous products in E & P operations for emergency planning, warning and response purposes in an area
- Fundamentals of command and control system, and their implementation
- Description, necessity and roles of command and control systems in emergency management
- Components and operation of command and control system for managing emergency events
- Best practices on command and control system applications in emergency events mitigation and management

COURSE DATES & VENUE

December 18 - December 22, 2017

HOUSTON ENERGY CORRIDOR

FIELD DEVELOPMENT PLANNING (FDP)

This course covers the fundamental principles of reservoir modeling and probabilistic methods for risk assessment and uncertainty quantification and their application to reservoir characterization, development and management. It covers a variety of topics related to the integration of production and performance data into reservoir models and account for their respective errors and uncertainties. The topics also include history matching problem formulation, deterministic and probabilistic history matching techniques, risk and decision analysis techniques, as well as common techniques for regularization and parameterization of reservoir models for history matching. Applications and case studies on risk and uncertainty management methods in field development planning will be presented and discussed.

WHO SHOULD ATTEND

This course is designed for professional reservoir engineers, petro-physicists, geophysicists, geologists, asset managers and senior managers.

INSTRUCTOR

DR. LUIGI SAPUTELLI

WHAT YOU WILL LEARN

- Understand foundations of field development planning
- Modern petroleum risk and uncertainty management techniques
- Systematically assess relevant risks and uncertainties in FDP
- Learn to think more probabilistically
- Measure the value of seeking additional information
- Communicate and implement a consistent risk and uncertainty management policy
- Understand the value of portfolio analysis in FDP
- Develop clear guidelines for making decisions in FDP
- Better evaluate the firm's position relative to a strategic plan
- Provide a platform for communication and teamwork in the overall decision making progress

OIL AND GAS MEASUREMENT AND HYDROCARBON ACCOUNTING

- Overview of Field Development. Field development processes and decisions
- Field development planning and optimization concepts
- Integrated reservoir characterization and modeling for field development planning
- Sources of uncertainties in reservoir performance simulation
- Fundamental concepts in probabilistic modeling for risk assessment
- History matching formulations and uncertainty quantification
- Modeling for decision analysis and options
- Modeling for risk management
- Managing risk in field development under uncertainty
- Decision Scenario Optimization (DSO)
- Case studies

COURSE DATES & VENUE

May 8 – May 12, 2017
Sep 11 – Sep 15, 2017

HOUSTON ENERGY CORRIDOR
HOUSTON ENERGY CORRIDOR

FUNDAMENTALS OF PETROLEUM EXPLORATION, DRILLING AND PRODUCTION FOR NON-TECHNICAL PERSONNEL

This course covers the fundamental principles of petroleum exploration, drilling and production design and operations. Field case studies will be provided to illustrate the field application of the concepts, methods, processes and practices.

WHO SHOULD ATTEND

This course is designed for project engineers, geoscientists, reservoir engineers, production engineers, petroleum engineers, planning and development analysts, business planner, and senior/ executive managers.

INSTRUCTOR

DR. SAHEED SALEHI

WHAT YOU WILL LEARN

- Tools for Exploration, Field Appraisal and Development
- Field Development Planning Processes. Decision Modeling for Petroleum Production Improvement Opportunity
- Reservoir Engineering and Management Processes
- Drilling and Production Workflows Cost Estimations. Risk Analysis and Decision Makings

COURSE OUTLINE

- Overview of the Petroleum Industry. Energy Sources; Nature of Oil and Gas
- Contracts and Regulations for Petroleum Exploration and Production
- Petroleum Leasing and Agreements (Joint Ventures, Production Sharing Agreements, etc.
- The Earth's Crust and Geological Time. Sedimentary Rocks Distributions, Ocean Environment and Maps. Source Rocks Definition; Petroleum Generation, Migration, Traps and Accumulation
- Petroleum Geology and Reservoir Types. Field Development Planning Processes
- Drilling Systems Design & Operations. Formation Evaluation Methods. Well Logging Techniques
- Subsurface Fluid Flow and Reservoir Performance. Reservoir Reserves and Hydrocarbon Recovery. Well Completions Systems Design & Operations
- Well Testing and Formation Damage Identification
- Production Performance Monitoring and Well Management
- Field Case Studies

COURSE DATES & VENUE

May 8 - May 12, 2017
 Jul 17 – Jul 21, 2017
 Sep 25 - Sep 29, 2017
 Nov 27 - Dec 1, 2017

MIAMI, FLORIDA, USA
 HOUSTON ENERGY CORRIDOR, TEXAS, USA
 HOUSTON ENERGY CORRIDOR, TEXAS, USA
 HOUSTON ENERGY CORRIDOR, TEXAS, USA

HORIZONTAL AND DIRECTIONAL DRILLING: DESIGN AND ANALYSIS

This course builds a firm foundation in the principles and practices of horizontal and directional drilling, calculations, and planning for directional and horizontal wells. Specific problems associated with directional/horizontal drilling such as torque, drag, hole cleaning, logging and drill string component design are included. Participants will receive instruction on planning and evaluating deviated and horizontal wells and learn how to perform simple calculations associated to well survey. The basic applications and techniques for multi-lateral wells are covered in the course. Additionally, participants will become familiar with the tools and techniques used in directional drilling such as survey instruments, bottom-hole assemblies, motors, steerable motors and steerable rotary systems. Participants will be able to predict wellbore path based on historical data and determine the requirements to hit the target.

WHO SHOULD ATTEND

This course is designed for professional drilling engineers, production engineers, petro-physicists, geophysicists, geologists and asset managers.

INSTRUCTOR

Dr. LUIGI SAPUTELLI

WHAT YOU WILL LEARN

- Knowledge of key characteristics and challenges of horizontal and directional engineering from a well design, planning, construction and operational perspective
- Knowledge of horizontal and directional modeling drilling processes based on industry best practices. Both steady state and dynamic models of the drilling processes
- Knowledge of different frameworks for optimizing the horizontal and directional drilling processes
- How to apply technical limit principles to guide horizontal and directional well planning
- Use number of popular industry software packages to demonstrate the concepts explained during lectures

OIL AND GAS MEASUREMENT AND HYDROCARBON ACCOUNTING

- Formation pressures and formation strength
- Introduction to horizontal and directional wells. Directional drilling design workflow
- Long, Medium, Short and Extreme Directional Wells
- Directional Drilling Tools
- Drill bit selection, downhole drilling equipment and drilling hydraulics
- Drilling fluid and cementing program
- Measurement while Drilling (MWD), Logging while Drilling (LWD), and Geo-steering
- Horizontal and directional borehole problems
- Optimization of horizontal and directional process parameters
- Horizontal and directional drilling optimization Workshop

COURSE DATES & VENUE

Aug 14 - Aug 18, 2017

HOUSTON ENERGY CORRIDOR, TEXAS, USA

INTELLIGENT OIL AND GAS FIELD OPTIMIZATION

This course provides a comprehensive overview of advanced intelligent completions for oil and gas wells. The benefits and multiple applications of the intelligent wells will be discussed. Design methodologies of completing intelligent wells will also be emphasized with multiple hands-on field examples.

WHO SHOULD ATTEND

This course is designed for professional petroleum engineers, reservoir engineers, production engineers, operation engineers, drilling engineers and asset managers.

INSTRUCTOR

DR. LUIGI SAPUTELLI

WHAT YOU WILL LEARN

- Learn about Intelligent Well Completion Systems components: from downhole sensors and actuators (ICV, ICD and mechanically driven sleeves)
- Provide design methodologies of completing intelligent wells
- Hands-on exercises on intelligent well Modelling and Value Quantification to build nodal analysis models to determine the desired behavior of remote actuators
- Hands-on training of Intelligent field Modelling and Value Quantification
- Optimal operating strategy for wells with downhole inflow control technologies
- Provide a general overview of Digital Oilfield and Real-time production optimization by sharing the best practices and lessons learned after 10 years of digital oilfield (DOF) implementations

COURSE OUTLINE

- Overview of intelligent or smart well technologies. Economics of intelligent wells
- Intelligent well components & potential applications
- Selection between passive & active downhole flow control technologies
- Intelligent well completion performance modeling and optimization using nodal analysis
- Comprehensive workflow for the design of intelligent well completions
- Intelligent field modeling and value quantification using modeling tools
- Comprehensive workflow for the design of advanced well completions and field development well configuration
- Automated optimization strategies for integrated intelligent well placement and design in oil fields
- Workflow for uncertainty reduction in intelligent field development planning
- Flow estimation & allocation using downhole pressure and distributed temperature data
- Using distributed downhole measurements to optimize production in intelligent wells
- Closed loop monitoring and optimization of intelligent well operations performance
- Class exercises and field case studies

COURSE DATES & VENUE

May 29 - Jun 2, 2017
Oct 9 - Oct 13, 2017

HOUSTON ENERGY CORRIDOR
HOUSTON ENERGY CORRIDOR

LEADERSHIP & MANAGEMENT SKILLS FOR TOP PERFORMERS

This course is designed for managers, directors and executive management of corporations that want to learn how to become and how to develop top performing leaders within the organization, making your organization a cradle for exceptional performance.

WHO SHOULD ATTEND

Operating managers, project managers, technology managers, department managers, or anyone in the company with a leadership role.

INSTRUCTOR

DR. STEPHEN BLAKESLEY

COURSE OUTLINE

Leadership & Management Skills for Top Performers

- Understanding and accelerating Executive Leadership Expectations
- Examining your Executive Leadership Challenges
- Exploring the Fundamental Concepts of Executive Leadership
- The Four Factor Model of effective Executive Leadership
- Differentiating Between Leadership and Management
- Identifying the Executive Leadership Requirements for the 21st Century

Leadership with the Head: Exploring the Strategic Elements of Executive Leadership

- Defining Mission, Vision and Values
- Focusing on the Big Picture when building the Culture
- The Importance of Planning and Prioritizing in Day to Day Activities
- Taking the Time to Focus on Envisioning the Future
- How a Personal Vision Statement helps you achieve your Organizational Vision

Leadership with the Hands: Understanding and Appreciating Situational Leadership II, the Art of Influencing Others

- How to Develop People, Value Differences and Encourage Honest Communication
- Developing your Leadership Style to gain Commitment from your Employees
- Matching your Leadership Style to your Employees Developmental needs

Leadership with the Feet: Personal Values & Ethics at Work

- Understanding the Challenges you face and the various ways you can manage them
- Creating a culture of Trusting Relationship
- How individualized “passionate purpose” provides a context for consistency and credibility

Leadership with the Heart: Practicing Way to Communicate

- Executive Leadership Techniques for Enhancing Pride in the Work and the Organization
- Motivating the Workforce Three Elements That Ensure Increased Job Satisfaction and Productivity
- Examining the Role of Emotional Intelligence in Successful Executive Leadership Development
- Assessing your Emotional Intelligence your Strengths and Areas that Need Development

COURSE DATES & VENUE

Aug 7 – Aug 11, 2017

HOUSTON ENERGY CORRIDOR

LEAN MANAGEMENT AND BUSINESS SUSTAINABILITY IN COMPETITIVE EDGE

As the energy industry continues its economic slowdown it becomes increasingly more important to look at operating priorities and principles within practices of lean management and business sustainability for a competitive edge. When adjustments are made in the organization's financial model and re-organizations begin shifting resources, ensuring you are focused on finding the right balance between 'what is necessary' and 'what is an opportunity' don't hinder your decision making or affect your overall business goals and achievements. This course will allow the opportunity to explore such important principles and practices in lean management and business sustainability through interactive dialogues and group engagement activities. We will look at defining lean management and continuous improvement models and tools while layering in important aspects of business sustainability that enhance your business goals and objectives. We will also look at the importance of life cycle analysis. And, while keeping in mind that lean and sustainable businesses have been shown to attract and retain employees more readily and experience less financial and reputation risk, how this can keep innovation soaring while providing the capability of adapting to new environments.

WHO SHOULD ATTEND

Operating managers, project managers, technology managers, department managers, or anyone in the company with a leadership role.

INSTRUCTOR

DR. AMY MIFFLIN

WHAT YOU WILL LEARN

- Understanding importance of exercising lean management principles & business sustainability
- Exploring models to build lean management & sustainability practices into your organization
- Building a cohesive bridge between lean management practices and business sustainability
- What is Lean Management? Why is Lean Management important to Energy Industry?
- Examining impacts from lean management & sustainable business decisions – Balancing cost reductions & organizational capabilities to achieve business goals - Balancing opportunities through evaluation of economic efficiency, social equity and environmental accountability
- Intersection of Lean Management & Continuous Improvement

COURSE OUTLINE

- What is Lean Management? Why is Lean Management important to Energy Industry?
- Lean Management & Sustainable Businesses
- Tools, techniques and models for your portfolio for lean management principles
- What is Sustainable Business Practices?
- Healthy Economic, Social and Environmental systems create sustainability
- Sustainable Business Practices
- How to minimize our impact at global or local level?
- Identifying resources such as the World Council for Economic Development (WCED)
- Exploring and evaluating economic efficiencies, social equity and environmental accountabilities
- Interactive session/case studies to review key capabilities & application to our business practices
- The Competitive Edge
- Bridging Lean Management and Business Sustainability practices for increasing (or maintaining) your competitive edge

COURSE DATES & VENUE

Jun 12 - Jun 16, 2017
Oct 23 – Oct 27, 2017

HOUSTON ENERGY CORRIDOR
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MAKING STRATEGY WORK WITHIN A GLOBAL MARKET DYNAMICS

Making Strategy Work within a Global Market Dynamics opens participants to new perspectives on strategic implementation with a complete understanding of all aspects of implementation process. It will enhance participants on how to make informed decisions effectively and efficiently. Participants will understand how to thoroughly infuse corporate structure with corporate strategies and how to integrate strategy formulation and implementation.

WHO SHOULD ATTEND

Operating managers, project managers, technology managers, department managers, or anyone in the company with a leadership role.

INSTRUCTOR

DR. STEPHEN BLAKESLEY

WHAT YOU WILL LEARN / COURSE OUTLINE

Module 1: Organizational Strategy

- Strategy Management Concept
- Strategy vs. Business Model
- Five Tasks of Strategic Management
- Missions vs. Strategic Visions

Module 2: Crafting a Strategy

- Crafting a Strategy & developing a Strategic Vision
- Components of a Company's Strategy

Module 3: Evaluating Resources & Competitiveness

- Strategic Assessment & Competitiveness
- Resource Strengths & Competitive Capabilities
- Resource Weaknesses & Competitive Deficiencies
- Core Competencies vs. Distinctive Competencies
- Strategic Cost Analysis

Module 4: Tailoring Strategy to Fit Specific Industry & Company Situations

- Objectives of Benchmarking
- Features of an Emerging Industry
- Features of High Velocity Markets
- Characteristics of Industry Maturity

Module 5: Strategies for Sustained Rapid Growth

- Strategies based on a Company's Market Position
- Ten Commandments for Crafting Successful Business Strategies

Module 6: The Keys to Strategic Execution

- Overcoming Key Organizational Hurdles (Cognitive, Resource, Motivational, Political)
- Focus on a Successful Execution
- Twelve Strategies for Instilling a Culture of Execution in an Organization

Module 7: Managing Integration

- Managing Integration
- Horizontal Integration
- Full and Taper Integration
- Vertical Integration
- Alternative Integration Options

Module 8: Organizational Incentives

- Organizational Incentives
- What Determines Employee Behavior
- Incentive Tools Available to Managers
- The Six Keys to Organizational Performance
- Getting Managers to be Better Managers
- Internal/Managerial Strategies
- Strategies for Changing Incentives

Module 9: Change Management

- What is Organization Change Management?
- Factors in Organizational Change
- Resistance to Change
- Commitment vs. Compliance

COURSE DATES & VENUE

May 22 - May 26, 2017

Jul 10 – Jul 14, 2017

Oct 2 - Oct 6, 2017

Nov 20 – Nov 24, 2017

HOUSTON ENERGY CORRIDOR

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PETROLEUM ECONOMIC EVALUATION AND PROJECT INVESTMENT DECISION MAKING

This course covers the fundamental principles of economics and engineering related to petroleum reservoirs. This course will review the concepts of petroleum reserves, the time value of money and their applications for evaluating investment situations. These techniques can be used to systematically qualify the relative economic merits of investment opportunities. A number of analytical, empirical and numerical methods for estimating volumetric performances of petroleum reservoirs under uncertainties will be discussed. Field case studies will be provided to illustrate the field application of the petroleum economic evaluations and project investment decision-making concepts, methods, processes and practices.

WHO SHOULD ATTEND

This course is designed for project engineers, geoscientists, reservoir engineers, production engineers, petroleum engineers, planning and development analysts, business planner, and senior/ executive managers.

INSTRUCTOR

DR. AKIN ONI

WHAT YOU WILL LEARN

- Knowledge of tools and processes for evaluating projects and prioritizing investments decisions
- How to help a project developer evaluate the economic impact of his project, which accelerate ability to procure financing for the project
- How to help several investment groups determine economics of new asset and value of existing assets, in order to evaluate projects and execute projects faster
- Understand field planning optimization. Understand risks and rewards to make better decisions on key projects pertaining to portfolios and resources
- Preparation of project expenditure proposals that can win management approval

COURSE OUTLINE

- Overview of petroleum reserves definition and classifications
- Reservoir performance forecasting methods - decline curve analysis and material balance approach - deterministic and probabilistic methods
- Concepts of economic evaluation. Risk and Uncertainties in Economic Evaluation. Economic indicators and profitability. Risk analysis. PSC analysis and fiscal system
- Basics of decision analysis. Different classes of decision problems. Investment proposal ranking methods. Investment decisions
- Decision under uncertainty. Decision under risk. Multiple-objective problems
- Field Case Studies

COURSE DATES & VENUE

Jun 26 – Jun 30, 2017
Nov 6 – Nov 10, 2017

HOUSTON ENERGY CORRIDOR
HOUSTON ENERGY CORRIDOR

PETROLEUM ROCK MECHANICS & APPLIED RESERVOIR CHARACTERIZATION

This training course presents workflow that makes use available geo-mechanical and geophysical data for reservoir characterization. The methodology incorporates soft computing tools as well as geo-statistical simulation techniques to improve the property estimates as well as overall characterization efficacy. The course also includes extensive hands-on training and problem solving using public domain software.

WHO SHOULD ATTEND

This course is designed for professional reservoir engineers, petro-physicists, geophysicists, geologists and asset managers.

INSTRUCTOR

DR. BENHAM JAFARPOUR

WHAT YOU WILL LEARN

- Integrated characterization framework for petroleum reservoirs with adaptable workflows for all stages of data processing, interpretation & analysis
- A novel auto-picking workflow for noisy passive seismic data used for improved accuracy in event picking as well as for improved velocity model building
- Improved seismic survey design optimization framework for better data collection and improved property estimation
- Property mapping from well logs and seismic data including stress and anisotropic weakness estimates for integrated reservoir characterization & analysis
- Integration of results (seismic and well logs) from analysis of individual data sets for integrated interpretation using predefined integration framework and soft computing tools
- Uncertainty quantification and analysis to better quantify property estimates over and above the qualitative interpretations made and to validate observations independently with quantified uncertainties to prevent erroneous interpretations

COURSE OUTLINE

- Introduction to petroleum geo-mechanics. Rock mechanical properties
- Concept of stress and strain. Stress-strain relationships. General Hooke's law
- Transversally –isotropic medium. Thomsen parameters. Young modules and Poisson's ratios
- Static and dynamic coefficients. Brittleness index. Theoretical description of overall rock mechanical properties. Rock physics modeling. Rocks and Waves. Elastic Rock Properties
- Waves-Based Forward and Inverse Problem. Waves in Isotropic and Anisotropic Unbounded Media. Reflection –Refraction. Isotropy-anisotropy
- Forward & inverse modeling of reservoir structure
- Manual and automatic history matching
- Various elements for automatic history matching workflow: Generation of multiple models, Simulation flow, Petro-elastic model, Optimization algorithms
- 4D seismic history matching workflow/case studies
- Field case studies and hands-on practice

COURSE DATES & VENUE

May 15 – May 19, 2017
Sep 18 – Sep 22, 2017

HOUSTON ENERGY CORRIDOR
HOUSTON ENERGY CORRIDOR

PIPELINE INTEGRITY MANAGEMENT

The course provides a sound review of Pipeline Integrity Management strategies, in compliance with regulatory requirements. It is highly interactive and takes the form of lectures and case studies. On completion of the course, participants will have a solid understanding of the procedures, strengths, limitations, and applicability of the main issues that comprise a Pipeline Integrity Management Program.

WHO SHOULD ATTEND

Supervisors, engineers and technicians responsible for ensuring the adequate protection of pipeline assets; maintenance planners, regulators and service-providers to the pipeline industry will also benefit from attending the course.

INSTRUCTOR

TBD

WHAT YOU WILL LEARN

- Codes used in developing Integrity Management Plans
- The elements of an Integrity Management Plan
- Threat assessment
- Critical aspects of risk assessment
- Prevention and mitigation measures
- Characteristics and limitations of different inspection methods
- A risk- based approach to maintenance

COURSE OUTLINE

- Introduction
- Elements of an Integrity Management Plan (IMP)
- Approaches to Risk Assessment Analysis
- Prevention and Mitigation Measures
- Inspection Methods: Characteristics and Limitations
- Integrity Management Plans for Facilities
- Case Studies

COURSE DATES & VENUE

Jun 19 – Jun 23, 2017
Oct 30 – Nov 3, 2017

HOUSTON ENERGY CORRIDOR
HOUSTON ENERGY CORRIDOR

RESERVOIR & ALS PRODUCTION OPTIMIZATION

The objective of this course is to introduce reservoir/petroleum engineers to practical optimization algorithms and their application to solving oil and gas reservoir development optimization problems. The course covers an overview of production optimization problems in oil and gas industry followed by the presentation of practical gradient-based and stochastic optimization algorithms that are commonly applied to field development optimization problems. The course also presents the fundamental and practical aspects of production optimization and illustrates how reservoir simulation models can be integrated with optimization algorithms to perform automated/assisted field development optimization. Case studies from well flow rate control optimization and well placement planning will be discussed.

WHO SHOULD ATTEND

This course is designed for professional reservoir engineers, production engineers, petro-physicists, geophysicists, geologists and asset managers.

INSTRUCTOR

DR. BENHAM JAFARPOUR

WHAT YOU WILL LEARN

- Introduction to reservoir modeling & inverse theory
- Knowledge of optimization algorithms and their application to solving oil and gas reservoir development optimization problems
- Knowledge of integrating production optimization and reservoir simulation models to perform automated/assisted field development optimization
- Use of optimization techniques, together with reservoir simulation tools, for planning and optimizing field development

COURSE OUTLINE

- Integrated geological model
- Petro-physical evaluation
- Numerical reservoir simulation
- Reservoir modeling, characterization, history matching and Forecasting
- History matching and production forecasting
- Single and multi-objective functions
- Production optimization elements
- Numerical Optimization Methods for Oil and Gas Reservoirs
- Applications of single and multi-objective optimization techniques to petroleum fields
- Methods for uncertainty estimation
- Field development optimization
- ALS system performance design and operations
- ALS production optimization and operations management
- Field case studies and hands-on practice

COURSE DATES & VENUE

Sep 4 – Sep 8, 2017

LOS ANGELES, CALIFORNIA, USA

RISK ASSESSMENT AND RISK MANAGEMENT IN OIL & GAS INDUSTRY

Risks are complex and interconnected with supply chains, customer and shareholder expectations, evolving technology and regulatory compliance needs. This makes risk management planning, implementation and communication increasingly necessary skills for all organizations.

WHO SHOULD ATTEND

Supervisors, engineers and technicians responsible for ensuring the adequate protection of pipeline assets; maintenance planners, regulators and service-providers to the pipeline industry will also benefit from attending the course.

INSTRUCTOR

DR. AKIN ONI

WHAT YOU WILL LEARN / COURSE OUTLINE

- Introduction to Upstream Decision
- Value Chain Analysis of the Upstream Petroleum Industry; Phases of Oil & Gas Field Developments; Project Valuation & Selection Methods
- Diversification in E & P; Sensitivity & Probability Analysis; Modeling Risk Propensity
- Introduction to Risk Assessment & Management Concepts; Structuring Decisions
- Risk versus Uncertainty; Probability Concepts and Assessment
- Modeling for Decision Analysis & Options
- Managerial Perspective on Risk in Projects and Portfolios
- Risk Assessment Techniques & Processes - Mapping
- Integrating E & P Business Strategy, Risk Management & Capital Allocation
- Operational Risks in Different Segments of Upstream Petroleum Industry
- Risk Management Workflow for Upstream E & P Projects
- Exercise #1: Applying Decision & Risk Analysis in an Hypothetical O & G Project - Framing
- Exercise #2: Applying Decision & Risk Analysis in an Hypothetical O & G Project - Modeling
- Exercise #3: Building Spreadsheet-Based Decision Models
- Probability and Statistics for Uncertainty Quantification
- Geo-statistics for Stochastic Reservoir Characterization
- Dealing with Multiple Uncertainties
- Monte Carlo Simulation and Its Interpretation
- Uncertainty Analysis with Software Tools
- Exercise #4: Making decisions based on Monte Carlo Simulation
- Exercise #5: Modeling the Efficient Frontier
- Incorporating Risk & Uncertainty in Project Evaluations for Upstream Petroleum Industry
- Risk-Sharing and Business Model Analysis (Joint Venture Examples)
- Risk Optimization Techniques: Integrating Uncertainty in E & P Projects
- Value of Information
- Maximizing Return and Minimizing Risk
- Exercise #7: Upstream E & P Projects under Uncertainty

COURSE DATES & VENUE

Dec 4 – Dec 8, 2017

HOUSTON ENERGY CORRIDOR

SUBSEA COMPLETIONS & DEEPWATER TECHNOLOGY

The course is designed to provide an overview of subsea completions & deep-water equipment in the oil and gas industry. The participants will learn about the subsea completions deep-water design options to meet deliverability, safety and integrity requirements in completions and workover operations. The main components of subsea well completions are described and analyzed by their function and design criteria. Participating will also learn to calculate tension, compression, burst, collapse, yield, and threshold strength. This course covers all the relevant subjects needed to describe structural mechanics of downhole tubular. The course will give participants the Case studies will be provided to help the participants understand the hands-on aspects of subsea completions and deep-water technologies.

WHO SHOULD ATTEND

This course is designed for reservoir engineers, production engineers and asset managers.

INSTRUCTOR

DR. IKPOTO UDOH

WHAT YOU WILL LEARN

- Proficiency and confidence that is needed to design safe and cost-effective subsea well completions and production systems including the key components
- Learn how to select the optimum completion option for the type of reservoirs and general operational procedures for preparation and start up
- Gain knowledge on how to identify the problems associated with sanding: when it will happen, mode of occurrence, volumes of sand and risk presented by these types of reservoirs
- Detailed understanding of the issues and the physics of sand producing reservoirs
- Importance of deep-water technology for oil and gas production. Different structural and platform types. Main engineering principles for deep-water technology
- Design an operation of fixed and floating structures often used in harnessing oil and gas resources in deep-water/offshore environments

COURSE OUTLINE

- Introduction to subsea well completions. Workflows for subsea well completions design
- Designing Well Completion for the Life of the Field
- Subsea well completions equipment selection. System approach to casing and tubing design
- Subsea well perforations technologies. Production Packers. Subsurface Safety Valves
- Subsea well completion performance analysis of well with and without downhole flow control technologies
- Physics of sand producing reservoirs. Sand stabilization and exclusion. Sand production management completion design
- Subsea well completion performance analysis of well with and without sand control technologies
- Subsea Wellheads, Xmas Trees and Connectors. Subsea Manifolds, Pipelines and Flowlines
- Offshore Structures and Operations. Principles of Mooring Analysis and Riser Design
- Class exercises and Field case studies

COURSE DATES & VENUE

Jun 5 - Jun 9, 2017
Oct 16 – Oct 20, 2017

HOUSTON ENERGY CORRIDOR, TEXAS, USA
DALLAS, TEXAS, USA