NEW in 2016-2017

- New Alliance Members Total, OMV, and Pioneer
- Course Progression Map (pages 4-5)
- Crude Oil Pipeline Operations (page 20)
- Turnaround, Shutdown and Outage Management (page 20)
- And More!
Anyone who has been in the industry through past downturns knows that a competent workforce has always been critical for our industry’s success, but it’s even more important with challenging product prices. Doing more with less is how we can thrive in hard times, but that requires a very competent workforce.

This guide presents the industry’s most comprehensive workforce development programs – focused on building competent people. PetroSkills brings together industry-driven and industry-approved programs that deliver flexible, practical, fit-for-purpose training and development. This guide can help you find ways to advance your technical competence and build your company’s value.

Since the first offerings of Production Operations 1 and the Campbell Gas Course® over 50 years ago, PetroSkills instructor-led training programs have set the standard for excellence from subsurface to downstream. This guide presents hundreds of sessions offered worldwide by top industry experts in each technical discipline across the value chain. Our competency-based programs are designed and delivered under the direction of the PetroSkills Alliance - 30 of the top petroleum companies worldwide, working together, to offer an industry-driven and vetted set of courses, products, and services. The Alliance continues to grow as we welcome our newest members: Total, OMV, and Pioneer Natural Resources.

Some course changes to look for in this edition include:
- NEW Introduction to Oil and Gas Production Facilities – page 9
- NEW Crude Oil Pipeline Operations – page 20
- NEW Turnaround, Shutdown and Outage Management – page 20

In addition to our instructor-led programs, our digital learning solutions and professional services continue to lead the industry. This guide outlines our electronic solutions: ePilot™, ePetro™, ActiveLearner®, Compass®, and PetroCore® - see page 3 for more details.

We are also proud to announce our blended/virtual learning program, PetroAcademy™. This unique offering delivers the same competency development as our face-to-face courses via virtually delivered Skill Modules™. available from anywhere in the world. Several courses are available in our subsurface disciplines and we will be adding facilities courses throughout 2017.

For more information, visit petroskills.com/petroacademy, or email petroacademy@petroskills.com.

I hope you find this guide useful. If there is any way that we can help you, your team, or your organization, please don’t hesitate to contact me personally at ford.brett@petroskills.com, or contact any of our regional offices (inside back cover).

Message from the CEO

Ford Brett
CEO, PetroSkills

Cover Image:
Spherical pressure vessel storage is often used for storing ambient temperature liquids such as gasoline, and naptha, as well as for partial refrigerated storage for LPGs, and can be applied for cryogenic liquid storage such as LNG.

4 Course Progression Map

GAS PROCESSING
6 Gas Conditioning and Processing (Campbell Gas Course®) – G4
7 Gas Conditioning and Processing – LNG Emphasis – G4 LNG
6 Gas Treating and Sulfur Recovery – G6
6 LNG Short Course: Technology and the LNG Chain – G29
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11 CO₂ Surface Facilities – PF81
9 Concept Selection and Specification of Production Facilities in Field Development Projects – PF3
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9 Introduction to Oil and Gas Production Facilities – PF2
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10 Relief and Flare Systems – PF44
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12 Corrosion Management in Production/Processing Operations – PF22
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Mission:

Build competent petroleum professionals by delivering learning and development when, where, and how customers need it.

OBJECTIVES:

- Provide the highest quality, business relevant programs that span all technical processes, and give management assurance they have the skilled people needed to maximize asset value.
- Offer added value to employees via new, broad-reaching courses that fill gaps, deliver the ability to perform, and provide the assurance to prove it.
- Ensure PetroSkills instructors are the best available.
- Develop and continuously improve PetroSkills Competency Maps and progression trees; continue to align Competency Maps with corporate business goals.
- Lower internal training costs by reducing administrative burdens, improving economies of scale, and/or eliminating marginal courses.
- Increase the availability of courses in both the number of offerings and the number of delivery locations, thereby delivering competencies at the lowest total cost.

For more information on membership, go to petroskills.com/membership
How do you meet the challenges of competency development?

PetroSkills Solutions

PetroAcademy™
Blended Learning Skill Modules. Integrating live classroom activities, online learning and technical coaching.

Competency Maps
Industry Benchmarks. Developed with industry-leading Alliance members.

Active Learner®
Learning and Compliance Management System. Online, on-the-job access to learning programs, progress tracking, and curriculum development.

Compass®
Competency Management. Web-based software builds, manages, and assures competency.

PetroCore®
Technical Reference. Online, on-demand access to technical knowledge, documents, and articles.

For more information, visit www.petroskills.com/elearning or email solutions@petroskills.com

petroskills.com/solutions
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## Operations & Maintenance

### O&M Management
- Process Plant Reliability and Maintenance Strategies – REL5 p.13
- Risk Based Inspection – REL61 p.13

### Operator Training
- Turnaround, Shutdown, and Outage Management – TSOM p.20

## Project Mgmt.

### Advanced Project Management II
- Managing Brownfield Projects – FPM42 p.29
- Project Management for Engineering and Construction – FPM22 p.29

### Project Cost Scheduling
- Project Cost Scheduling – PCS p.29

### Petroleum Project Management: Principles and Practices
- Petroleum Project Management: Principles and Practices – PPM p.28

## Procurement/Supply Chain Management

### Advanced Project Management
- Advanced Project Management – FPM62 p.29
- Advanced Project Management II – FPM63 p.30

### Contracts and Tenders Fundamentals
- Effective Materials Management – SC42 p.27
- Supplier Relationship Management – SC63 p.28

### Strategic Procurement and Supply Management in the Oil and Gas Industry
- Strategic Procurement and Supply Management in the Oil and Gas Industry – SC62 p.27

### Inside Procurement in Oil & Gas
- Inside Procurement in Oil & Gas – SC61 p.27

### Cost/Price Analysis and Total Cost Concepts in Supply Management
- Cost/Price Analysis and Total Cost Concepts in Supply Management – SC64 p.28

## Additional courses available in:

### Production & Completions
- Crude Oil Pipeline Operations – OT50 p.20
- Maintenance Planning and Work Control – OM41 p.20
- LNG Facilities for Operations & Maintenance – OT43 p.19
- Introduction to Project Management – IPM p.28
- Oil & Gas Processing Facilities for Operations & Maintenance – OT1 p.19
- Applied Maintenance Management – OM21 p.20

### Health, Safety, Environment
- Managing Brownfield Projects – FPM42 p.29
- Project Management for Engineering and Construction – FPM22 p.29

### Petroleum Business
- Managing Brownfield Projects – FPM42 p.29
- Project Management for Engineering and Construction – FPM22 p.29

### Professional Petroleum Development
- Managing Brownfield Projects – FPM42 p.29
- Project Management for Engineering and Construction – FPM22 p.29

### Introductory and Multi-Discipline
- Managing Brownfield Projects – FPM42 p.29
- Project Management for Engineering and Construction – FPM22 p.29
Overview of Gas Processing – G2

BASIC
G2 is a versatile overview of the gas conditioning and processing industry. This course is designed for a broad audience and is participative and interactive, utilizing basic technical exercises and terminology to communicate key learning points. This course does not cover the technology and engineering principles in depth, and is only recommended for those needing an overview of the industry and common processes and equipment used.

DESIGNED FOR
As a wide ranging overview, it is suitable for interested parties, such as geologists, reservoir engineers, line managers, and sales or business development staff; related specialists like environmental staff, operational staff, and shift foremen; those new to the industry, such as entry-level (1-2 year) engineers; or anyone interested in a general, technically-oriented overview of the gas processing industry.

YOU WILL LEARN
• An overview of natural gas and world energy trends
• Natural gas sources, makeup, properties, specifications, and related oil and gas terminology
• Markets and uses for NGL, LPG, ethane, propane, and butane
• Options for various basic gas conditioning and processing steps, including heating, dehydration, liquid extraction, and product fractionation
• Summary of gas processing costs, commercial and contract issues in liquids extraction
• How gas is transported and sold
• Review of gas measurement and common measurement devices
• Key pieces of equipment used in natural gas production and processing facilities
• Overview of related specialty processes, such as LNG, nitrogen rejection, and helium recovery, plus sulfur recovery and acid gas reinjection

COURSE CONTENT
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 reinjection)

LNG Short Course: Technology and the LNG Chain – G29

BASIC
This LNG Short Course is designed for participants requiring moderate technical coverage, coupled with information on LNG commerce and all parts of the LNG Value Chain. Over five days, the course covers technical LNG basics and facility operation topics, plus technical, design, and commercial issues. Selected exercises and syndicates are used to reinforce the main topics of LNG trade and technology. In-house versions are available with either increased technical and operational emphasis or increased project and development emphasis.

DESIGNED FOR
Commercial and managerial staff looking for a concise overview; engineers new to the LNG industry; operations supervision staff and senior plant personnel; specialists looking to broaden their general knowledge of LNG; and staff involved in LNG commerce and interested in LNG technical fundamentals.

YOU WILL LEARN
• What is LNG, why it is produced, and what is the current status of the industry
• LNG facilities world-wide
• The LNG chain and impact of contractual issues on LNG plant design and operation; LNG pricing
• A survey of commercial and contractual issues
• Project costs, feasibility, development, and issues
• Some technical fundamentals of gas processing, such as molecular weight, heating value, Wobbe Index, vapor pressure, multi-component mixtures, thermodynamics
• Refrigeration: single and multi-component refrigeration cycles
• Technologies used in the production of LNG for base-load and small scale production, issues relating to technology selection, and operation
• Main equipment used in the production of LNG: heat exchangers, compressors and drivers used for LNG, pumps, and turbo expanders
• To apply knowledge of LNG gas pretreatment, drying, and refrigeration
• About LNG storage, shipping, and terminals, sizing basis, and small scale tanks
• Types of LNG carriers, marine management issues, and LNG transfer
• LNG importing, re-gasification of LNG and distribution to consumers, basis for sizing, technology selection, and energy integration
• New developments: development of off-shore LNG operations to regasification and liquefaction; coal seam gas project issues
• Site selection and HSSE considerations

COURSE CONTENT
What LNG is and where it comes from • Physical properties of LNG • Vapor-liquid equilibrium behavior of LNG and refrigerants • Gas pre-treatment • Heat exchangers • Refrigeration • Rotating machinery • Liquidation processes • LNG storage • LNG shipping • LNG importation
Gas Conditioning and Processing – LNG
Emphasis – G4 LNG

FOUNDATION
This is the LNG-industry version of our popular G4 course, with expanded coverage of refrigeration and LNG technologies. The course includes in-depth information on basic LNG gas conditioning and processing. In addition, instructors will explain the LNG supply chain that consists of four main links—natural gas exploration and production, liquefaction, shipping, receiving, and distribution. The course covers relevant details of both the mixed refrigerant (APCI) and cascade (ConocoPhillips) processes in LNG liquefaction. New liquefaction processes are addressed, such as mixed fluid cascade and dual nitrogen refrigeration cycles. Versions of this course have been taught in many of the world’s base-load and peak-shaving LNG plants, such as Australia, Indonesia, Malaysia, Norway, Qatar, UK, and West Indies.

DESIGNED FOR
Personnel involved with natural gas processing and LNG production, as well as anyone interested in a solid technical understanding of the principles of an LNG plant.

YOU WILL LEARN
• The basics of LNG gas conditioning and processing
• Selection and evaluation processes used to dehydrate natural gas, remove heavy components and other contaminants, and extract NGLs for LNG plants
• Physical/thermodynamic property correlations and principles, including heating values, etc., as applied to gas processing facilities and LNG plants
• Fundamentals of propane, propane-precoked, mixed refrigerants, and cascade systems used in LNG plants
• Key points in other LNG liquefaction technologies
• How to perform and review equipment sizing for major process equipment
• Solutions to operating problems and control issues in LNG and gas processing facilities

COURSE CONTENT
Basic gas technology principles
Terminology and nomenclature
Physical properties of hydrocarbons
Qualitative phase behavior
Vapor-liquid equilibrium
Water-hydrocarbon system behavior, hydrates, etc.
Thermodynamics of LNG processes
Separation equipment
Gas treatment, CO₂ removal
Dehydration of natural gas (TEG and Molecular Sieve)
Heat transfer and exchangers
Pumps and compressors
Refrigeration systems
LNG liquefaction technologies
Fractionation
Other facilities topics relevant to LNG
Course summary and overview

2016-17 Schedule and Tuition / 10 Days

DOHA, QATAR 4-15 DEC 2016
HOUSTON, US 12-23 JAN 2017
PERTH, AUSTRALIA 8-19 NOV 2017

US$9600
US$56700
US$9720+GST

2016-17 Schedule and Tuition / 5 Days

DOHA, QATAR 6-10 NOV 2016
HOUSTON, US 6-10 NOV 2017
LONDON, UK 7-11 OCT 2017
PERTH, AUSTRALIA 28-30 OCT 2017

US$14900
US$14600
US$1550+VAT
US$1500+VAT

*Plus computer charge

Practical Computer Simulation Applications in Gas Processing – G5

INTERMEDIATE
This full 5-day course covers sweet gas processing and NGL extraction, using a commercial simulator to perform calculations. A basic working knowledge of the commercial process simulation package used (generalized UNISIM) is suggested to achieve the course learning objectives. Volumes 1 and 2 of the John M. Campbell textbooks, Gas Conditioning and Processing, are the basis for the material presented, coupled with a "red thread" comprehensive exercise based on a typical gas processing facility (can be applied to onshore or offshore facilities). The exercise is developed in stages as the material is covered. Participants will develop a comprehensive simulation process that includes a dow point control process, a mechanical refrigeration process with economizers, hydrate inhibition using MEG, and NGL liquid product stabilization with recycle.

NOTE: The individual exercises include condensed gas processing fundamentals drawn from the internationally famous Campbell Gas Books Vols. 1 & 2.

DESIGNED FOR
Engineers that require practical in-depth training on natural gas processing and NGL recovery processes, with emphasis on the use and benefits of a simulation package.

YOU WILL LEARN
• To determine the water content and hydrate formation conditions for gas streams using both a commercial process simulator and hand calculation methods
• Techniques to inhibit hydrate formation, including injection of inhibitors such as methanol and MEG
• Preliminary design and evaluation of TEG dehydration processes using quick hand calculations
• Process design used to control the hydrocarbon dew point of sales gas streams by removing NGLs using mechanical refrigeration processes
• Various techniques to optimize mechanical refrigeration systems
• How to use the process simulator to evaluate the impact that pressure and temperature changes have on the sizing of process equipment and levels of NGL recovery
• How to use short-cut distillation calculations to provide input to rigorous distillation simulations in order to obtain faster convergence
• Which thermodynamic property correlations are appropriate for various gas processing systems
• Limitations associated with commercial simulation packages and how the results can be quickly checked for relative accuracy

COURSE CONTENT
Physical properties of hydrocarbons
Qualitative phase behavior
Vapor-liquid equilibrium
Water-hydrocarbon equilibrium
Basic thermodynamic concepts
Separation equipment
Heat transfer
Pumps and compressors
Refrigeration
Fractionation
distillation
Glycol dehydration
Adsorption dehydration

Gas Treating and Sulfur Recovery – G6

INTERMEDIATE
This course emphasizes process selection, practical operating issues, technical fundamentals, and integration of the sweetening facilities into the overall scheme of gas processing. Sulfur recovery and tail gas processes are also covered, including standard Claus configurations, SuperClaus®, EuroClaus®, SCOT®, etc. Special design and operation topics, such as trace sulfur compound handling and the importance of H₂S:CO₂ ratio, are covered as well. Related topics reviewed during the course include liquid product treatment, corrosion, materials selection, and NACE requirements.

DESIGNED FOR
Production and processing personnel involved with natural gas treating and sulfur recovery, requiring an understanding of the principles of these process operations. This course is for facilities engineers, process engineers, operations personnel, and field supervisors, as well as others who select, design, install, evaluate, or operate gas sweetening and sulfur recovery facilities.

YOU WILL LEARN
• Evaluation and selection of processes to remove acid gases (H₂S, CO₂, COS, CS₂, mercaptans)
• The advantages and disadvantages of available gas treating technology and processes
• How to estimate solvent circulation rates, energy requirements, and equipment sizes to recognize and evaluate solutions to common operating and technical problems
• Sulfur recovery technologies, including an overview of the Claus Sulfur process
• How to select among the proper sulfur recovery process given differing process conditions
• Tail gas cleanup

COURSE CONTENT
Fundamentals of sour gas processing, sweetening, etc.
Overview of gas treating and sulfur recovery terminology
Gas specifications and process selection criteria
Generic and specialty amine treating
Common operating and technical problems
Proprietary amine solvents, such as Sulfinol® and Flexol®
Carbonate processes
Physical absorption processes, e.g. Selectol®
Metalurgical issues (corrosion)
Other technologies and new developments
Selective treating, acid gas enrichment
Solid bed and non-regenerable treating: scavengers
Liquid product treating
Sulfur recovery processes
Tail gas clean-up: SCOT-type, DGA, and others
Inherently safer design
Hazards associated with process fluids
Leakage and dispersion of hydrocarbon releases
Combustion behavior of hydrocarbons
Sources of ignition
Hazards associated with specific plant systems
Plant layout and equipment spacing
Pressure relief and disposal systems
Corrosion and materials selection
Process monitoring and control
Safety instrumented systems
Fire protection principles
Explosion protection

GAS PROCESSING
7

Process Safety Engineering – PS4

FOUNDATION
This course provides an overview of process safety engineering fundamentals for hydrocarbon processing facilities, with emphasis on the upstream oil and gas sector. The focus of this course is on the engineering/design aspects of Process Safety Management. Frequent reference will be made to historical incidents and recurring problem areas. Techniques for analyzing and mitigating process safety hazards applicable to oil and gas processing will also be reviewed. Integration of the concepts covered to achieve a measured approach to Process Safety Engineering is a key aim of this course as well. Exercises and group projects will be utilized to emphasize the key learning points.

DESIGNED FOR
Facilities, process, and design engineers, as well as new safety/loss prevention engineers who require an overview of Process Safety Engineering.

YOU WILL LEARN
• Types of equipment and process systems that have historically been problematic in the Upstream – Midstream oil and gas industry
• Basics of risk analysis
• Thinking in terms of “Inherently Safer Design”
• Most common process hazard analysis methods and where they are used
• “Layers of Protection” concept—what the different layers are and how they are applied
• Detection and mitigation methods for different types of hazards

COURSE CONTENT
Historical incidents and problem areas
Risk analysis basics
Process hazards analysis techniques – overview
Layers of protection
Inherently safer design
Hazards associated with process fluids
Leakage and dispersion of hydrocarbon releases
Combustion behavior of hydrocarbons
Sources of ignition
Hazards associated with specific plant systems
Plant layout and equipment spacing
Pressure relief and disposal systems
Corrosion and materials selection
Process monitoring and control
Safety instrumented systems
Fire protection principles
Explosion protection

2016-17 Schedule and Tuition / 5 Days

DUBAI, UAE 11-15 DEC 2016
LONDON, UK 17-21 OCT 2016
PERTH, AUSTRALIA 27-31 MAR 2017

US$5490
US$5490
US$5600+VAT
US$6350+GST
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Introduction to Oil and Gas Production Facilities – PF2

BASIC

The scope of the discussion ranges from an overview of the oil and gas industry, hydrocarbon phase behavior characteristics, and different reservoir types, to product specifications and the processes used to meet these. Other facilities considerations are addressed, such as process safety and downstream processing that may impact the production facility selection and operation.

DESIGNED FOR

Those interested in an overview of production facilities, including subsurface professionals, line managers, sales or business development staff, environmental personnel, operational staff, and those new to the industry.

YOU WILL LEARN

- How the reservoir and product specifications influence the selection and design of the production facilities
- Quick “back of the envelope” calculations for equipment sizing and capacity
- Parameters that affect the design and specification of oil stabilization and dehydration equipment
- Awareness of the parameters that determine flowlining/gathering system capacity
- The purpose of separators in a production facility and familiarity with the typical configurations
- Typical design parameters, operating envelopes, common operating problems of oil and gas production equipment, and the effect of changing feed conditions over the life of a field
- To describe oil dehydration/desalting process options and equipment
- Produced water treating options and the dependence on surface vs. subsurface, offshore vs. onshore disposal
- Compressor performance characteristics and how they affect production rates and facility throughput
- Gas dehydration process options, with a particular emphasis on glycol dehydration
- The principles of asset integrity and inherently safe design given the rate, composition, temperature, pressure of the production stream
- About midstream facilities required downstream of the primary production facility to deliver saleable products to the market, and how these facilities are affected by production rates, composition, and production facility performance

COURSE CONTENT

Overview of oil and gas industry • Qualitative phase behavior and reservoirs • Hydrocarbon properties and terminology • Typical sales/disposal specs • Flowlines, piping, gathering systems • Production separation • Oil processing • Water injection systems (including pumps) • Gas handling – compression, dehydration • Measurement and storage • Utilities, process safety • Midstream facilities – gas processing, pipelines, LNG

2016–17 Schedule and Tuition / 3 Days

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<td>2–4 Oct 2017</td>
<td>US$2995</td>
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<tr>
<td>KUALA LUMPUR, MYS</td>
<td>7–9 Nov 2016</td>
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Concept Selection and Specification of Production Facilities in Field Development Projects – PF3

BASIC

This course is similar to Introduction to Oil and Gas Production Facilities (PF2), but is presented in the context of concept selection and front-end field development planning.

DESIGNED FOR

This course is intended for those working on field development teams, as well as those who need to better understand how surface facilities are selected and how subsurface characteristics affect facility design and specification.

YOU WILL LEARN

- How to develop the project framework and decision making strategy
- How the specification of production/processing facilities is influenced by reservoir type, drive mechanism, fluid properties, location, and contractual obligations
- Operating conditions that affect the specification of the production facilities from the wellhead through initial separation
- Parameters that affect the design and specification of oil stabilization and dehydration equipment
- The design and specification of produced water systems appropriate for the rate and composition of the produced water to meet the required environmental regulations and/or injection well capacity
- The design and specification of gas handling facilities, including compression dehydration and sweetening
- The impact of artificial lift systems and secondary/tertiary production projects on facilities selection and design
- The principles of asset integrity and inherently safe design given the rate, composition, temperature, and pressure of the production stream
- About midstream facilities required downstream of the primary production facility to deliver saleable products to the market, and how these facilities are affected by production rates, composition, and production facility performance

COURSE CONTENT

Reservoir types, fluid properties, and typical product specifications • Flowlines, gathering systems, flow assurance, and production separation • Oil dehydration and stabilization • Produced water treating and water injection systems • Gas handling, including compression, dehydration, and sweetening • The effect of artificial lift systems, and secondary and tertiary recovery projects • Midstream facilities – gas processing, pipelines, product storage, and LNG • Other facility considerations – utility systems, process safety and asset integrity, and environmental regulations

2016–17 Schedule and Tuition / 5 Days

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<tr>
<td>STAVANGER, NORWAY</td>
<td>21–25 Nov 2016</td>
<td>US$4780</td>
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Oil Production and Processing Facilities – PF4

FOUNDATION

The emphasis of this course is on oil production facilities—from the wellhead, to the delivery of a specification crude oil product, to the refinery. Both onshore and offshore facilities are discussed. Produced water treating and water injection systems are also covered. Solution gas handling processes and equipment will be discussed at a relatively high level. In addition to the engineering aspects of oil production facilities, practical operating problems will also be covered, including emulsion treatment, sand handling, dealing with wax and asphaltenes, etc. Exercises requiring calculations are utilized throughout the course. This course is intended to complement the G4 Conditioning and Processing course, which is focused on the gas handling side of the upstream oil and gas facilities area.

DESIGNED FOR

Process/facilities engineers and senior operating personnel involved with the design and operation of oil and produced water processing facilities.

YOU WILL LEARN

- Well inflow performance and its impact on production/processing facilities
- About oil, gas, and water compositions and properties needed for equipment selection and sizing
- How to select and evaluate processes and equipment used to meet sales or disposal specifications
- To apply physical and thermodynamic property correlations and principles to the design and evaluation of oil production and processing facilities
- How to perform equipment sizing calculations for major production facility separation equipment
- To evaluate processing configurations for different applications
- How to recognize and develop solutions to operating problems in oil/water processing facilities

COURSE CONTENT

- Reservoir traps, rocks, and drive mechanisms
- Phase envelopes and reservoir fluid classification
- Well inflow performance
- Artificial lift
- 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
- Sand, wax, asphaltenes, and scale
- Pipeline transportation of crude oil
- Pumps
- Produced water treatment
- Water injection systems
- Solution gas handling

2016-17 Schedule and Tuition / 10 Days

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<td>1–12 May 2017</td>
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<td>DENVER, US</td>
<td>7–18 Aug 2017</td>
<td>US$6700</td>
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<td>DUBAI, UAE</td>
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<td>6–17 Mar 2017</td>
<td>US$6700</td>
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<tr>
<td>KUALA LUMPUR, MYS</td>
<td>17–28 Jul 2017</td>
<td>US$6700</td>
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<td>LONDON, UK</td>
<td>6–17 Nov 2017</td>
<td>US$6700+ VAT</td>
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Applied Water Technology in Oil and Gas Production – PF21

FOUNDATION

This course provides an overview of the main water handling systems typically encountered in upstream (E&P) production operations, both onshore and offshore. The chemistry of the main water-related problems of mineral scales, corrosion, bacteria, and oily water will be reviewed both from the theoretical and practical aspects. Produced water treatment equipment and typical water quality specifications will also be reviewed, as well as water injection and disposal systems. An exercise will be given to identify typical system problems and to apply the knowledge gained to propose solutions. Emphasis will be placed on understanding and resolving operational problems in process equipment.

DESIGNED FOR

Managers, engineers, chemists, and operators needing to understand water-related problems in oil and gas production and their solutions.

YOU WILL LEARN

• The basics of oilfield water chemistry
• How to monitor and control corrosion, scale, and bacterial growth in produced water and water injection/disposal systems
• How to implement system surveillance programs to detect potential problems before system damage occurs
• Produced (oily) water treatment options and related treatment equipment
• How to use the knowledge gained to identify typical system problems and be able to propose solutions

COURSE CONTENT

Water chemistry fundamentals • Water sampling and analysis • Water formed scales • Corrosion control • Water treatment microbiology • Produced water discharge/disposal and treatment principles • Produced water treatment equipment – theory of operation, advantages and disadvantages, and the importance of oil droplet size • Water injection and disposal systems – theory of operation, corrosion, scale, and biological control • Case study

Fundamental and Practical Aspects of Produced Water Treating – PF23

FOUNDATION

This course will provide participants with an understanding of the technical aspects required to select, design, maintain, and troubleshoot produced water equipment. Produced water composition and physical properties are covered. Water quality requirements for various disposal methods are addressed, including onshore surface discharge, offshore discharge to sea, and reinjection for disposal or wastewater. Regulatory requirements and analytical methods used to monitor and ensure regulatory compliance are discussed. Treatment technology is presented along with practical considerations for selecting and operating typical water treatment equipment. Representative process flow diagrams illustrate equipment selection, design features, layout, and processes. Chemical treatment options are also considered.

DESIGNED FOR

Managers, engineers, chemists, and senior operations personnel responsible for designing, operating, and maintaining facilities that process and manage produced water.

YOU WILL LEARN

• How produced water compositions affect water treatment system design and performance
• How to interpret produced water analysis data and calculate common Scale Indices
• How emulsions form and contribute to water treatment challenges
• How Total Suspended Solids (TSS) affects water quality—and what to do about it
• What water quality is required for surface or overboard disposal, injection disposal, or beneficial use
• The regulatory requirements for offshore water disposal and what is in an NPDES Permit
• What analytical methods actually measure and how to select an appropriate method
• How separators, clarifier tanks, CPTs, hydrocyclones, flotation cells, and bed filtration work and how to improve their performance
• The most common causes of water treating problems and how to diagnose and resolve them
• Typical PFDs and operational issues associated with various processes

COURSE CONTENT

Introduction to water treatment technology and issues • Produced water chemistry and characterization • Defining and characterizing emulsions that impact water quality and treatment • Water quality requirements for injection or surface disposal, NPDES permits, and analytical methods • Primary water treatment technologies: separators, hydrocyclones, and CPTs • Secondary water treatment: induced gas flotation • Tertiary water treatment technologies: media and membrane filtration • Chemicals and chemical treatment • Diagnostic testing and in-field observations • Diagnosing and resolving water treatment issues based on actual field experiences

Separation Equipment - Selection and Sizing – PF42

INTERMEDIATE

This course covers the different types of separation equipment typically encountered in oil and gas production facilities. Fractionation equipment and produced water treating equipment are not covered in this course. You will learn where the different types of separation equipment are used based on operating conditions and separation performance requirements. Frequent references will be made to real production facility process flow diagrams (PFDs). Typical operational problems and their solutions will also be discussed. Exercises requiring calculations are utilized throughout the course as well.

Please be aware that due to overlap in content, it is not necessary to take the PF42 course if you have already taken the PF4 Oil Production and Processing Facilities course.

YOU WILL LEARN

• Different types of separation equipment utilized in the oil and gas industry and where they are used
• Separation performance capabilities of the different types of equipment
• How to size the different types of separation equipment
• How to troubleshoot and debottleneck separation equipment
• How to calculate the wall thickness and estimate the weight of separators
• Instrumentation and controls used on separation equipment

COURSE CONTENT

Fluid properties and phase behavior • Phase separation processes • Gas-liquid separation equipment: slug catchers, conventional separators (horizontal and vertical), scrubbers, compact separators, filter separators/coalescing filters • Separator internals: inlet devices, mist extractors, baffles, weirs, etc. • Emulsions • Oil-water separation equipment: conventional 3-phase separators and freewater knockouts, wash tanks • Oil treating and desalting equipment: mainly electrostatic coalescers • Liquid-liquid coalescing filters • Mechanical design aspects: pressure vessel codes, wall thickness and vessel weight estimation, material selection, relief requirements • Operational problems

Relief and Flare Systems – PF44

INTERMEDIATE

This intensive course provides a comprehensive overview of relief and flare systems for oil and gas processing facilities. The course begins with the need for pressure control/overpressure protection, continues with the key engineering and design aspects including code considerations, and concludes with selecting and defining the components of a relief and flare system. The material of the course is applicable to onshore field production facilities, pipelines, gas plants, terminals, and offshore production facilities.

DESIGNED FOR

Engineers and senior operating personnel responsible for designing, operating, and maintaining relief and flare systems in oil and gas facilities.

YOU WILL LEARN

• Purposes of relief and flare systems and their importance in safe operations
• Causes of overpressure and the ways to control/mitigate
• Defining the possible relief scenarios
• Commonly used pressure relieving devices, selection and sizing
• Determining set/relieving pressures to meet operational, safety, and code requirements
• Operational considerations of maintenance, testing, certification, and disposal of fluids
• Designing and operating relief and flare header systems considering fluid characteristics, service conditions, volumes, gas dispersion, and radiation
• Selection and sizing other key components of a relief/flare system

COURSE CONTENT

Overview of typical relief and flare systems and key components • Codes and standards as well as good practices typical in oil and gas facilities • Safety Implications and causes of overpressure • Overpressure protection philosophy including source isolation and relief • Determination of relief requirements and defining set point pressures • Types, applications, and sizing of common relief devices • Blow-down depressurizing – purpose and design/operational considerations • Design and specification considerations for relief valves and header systems, including fluid characteristics, service conditions, material selection, and header sizing • Environmental considerations • Radiation calculations and the impact of flare tip design • Selection and sizing of key components: knockout and seal drums, vent/flare stack, vent/flare tips, and flare ignition systems • Defining need and quantity of purge gas • Flare gas recovery, smokeless flaring, and purge gas conservation • Operational and troubleshooting tips

2016-17 Schedule and Tuition / 5 Days

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Onshore Gas Gathering Systems: Design and Operations – PF45

INTERMEDIATE
This course deals with the design, operation, and optimization of onshore gas gathering systems and their associated field facilities, from the wellhead to the central gas processing facility. From a design perspective, the main variables that impact the flexibility and operational characteristics of an onshore gas gathering system will be discussed. Typical operating problems are covered including hydrates, multiphase flow issues, corrosion, declining well deliverability, etc. Exercises will be utilized throughout the course to emphasize the key learning points.

DESIGNED FOR
Production and facilities department engineers/ senior operating personnel responsible for the design, operation and optimization of onshore gas gathering systems and their associated field facilities.

YOU WILL LEARN
• The impact of produced fluids composition on gas well deliverability.
• The impact of produced fluids composition on gathering system design and operation.
• How to evaluate field facility and gathering system configurations for different applications.
• To recognize and develop solutions to operating problems with existing gas gathering systems.

COURSE CONTENT
Gas well inflow performance and deliverability • Overview of gas well decontamination methods for low-rate, low pressure gas wells • Effect of gathering system/abandonment pressure on reserves recovery • Impact of produced fluids composition • Sweet/sour • CO2 content • Rich/lean • Produced water • Hydrates and hydrate prevention • Dehydration • Heating • Chemical inhibition • Multiphase flow basics • Corrosion/materials selection • Gathering system layout • Wellsite/field facilities options • Provisions for future compression.

2016-17 Schedule and Tuition / 5 Days

BRISBANE, AUSTRALIA
7-11 AUG 2017 US$5600+GST
HOUSTON, US
24-28 OCT 2016 US$4150
23-27 OCT 2017 US$4150

Troubleshooting Oil and Gas Processing Facilities – PF49

INTERMEDIATE
This course will cover how to establish and apply a general troubleshooting methodology as well as how to conduct process/equipment specific troubleshooting. Definitions of troubleshooting will be discussed for each process/equipment type covered. Data gathering, validation and utilization procedures will be discussed. Criteria to use when evaluating possible problem solutions will also be covered. Real-world exercises will be utilized throughout the class to reinforce the learning objectives. Both onshore and offshore facilities will be discussed. It is assumed that course participants have a solid understanding of how typical oil and gas production and processing facilities work, including the commonly used processes and equipment involved.

DESIGNED FOR
Process/Facilities engineers with 5-10 years’ experience, facilities engineering team leaders/supervisors, and senior facilities operational personnel.

YOU WILL LEARN
• The difference between troubleshooting, optimization, and debottlenecking.
• How to recognize trouble when it is occurring.
• How to develop a methodical approach to troubleshooting.
• To recognize how different components of a facility interact with each other, and the significance of these interactions.
• How to gather, validate, and utilize the data needed for troubleshooting.
• The criteria to be considered for identifying the best solution when several feasible solutions are available.
• Typical causes of problems, and their solutions, for the main types of processes and equipment used in the upstream-midstream oil and gas industry.

COURSE CONTENT
Troubleshooting methodology fundamentals and data reconciliation • Gas - Liquid separators • Reciprocating compressors • Amino gas sweetening • Glycol dehydration units • 3-phase separators • Centrifugal pumps • Oil treating • Produced water treating systems • Shell and tube heat exchangers • Centrifugal compressors • Molecular sieve dehydation units • NGL recovery processes.

2016-17 Schedule and Tuition / 5 Days

HOUSTON, US
3-7 APR 2017 US$4150
LONDON, UK
14-18 AUG 2017 US$4150+VAT

CO2 Surface Facilities – PF81

SPECIALIZED FIELD TRIP
This course emphasizes the effect of carbon dioxide on the selection and operation of equipment (separators, compressors, and dehydrators), as well as sweetening process equipment. This program, first introduced in 1985, assists those working with carbon dioxide or high carbon dioxide content natural gas. This course is particularly applicable to those persons who operate and/or design enhanced oil recovery (EOR) facilities using CO2 as a miscible agent. Physical and thermodynamic property data for carbon dioxide/natural gas mixtures are discussed. Calculations are performed to illustrate principles and techniques. An extra day will be added to this course if a plant tour is available (Midland public course sessions, or in-house sessions only). The plant tour is optional.

DESIGNED FOR
Engineers and senior operating personnel involved with carbon dioxide/natural gas/CO2 EOR systems.

YOU WILL LEARN
• What to expect over the life of a CO2 EOR system.
• Impact of CO2 on the design and operation of oil production equipment.
• Physical and thermodynamic properties of pure CO2, and the impact of CO2 in hydrocarbon mixtures.
• Dehydrate high CO2-content gases.
• Best practices to deal with Dense Phase pipelines, metering, flaring etc.
• How to pump and compress CO2.
• Using purification processes: membranes, Ryan-Holmes, amines, hot carbonate, etc.

COURSE CONTENT
Overview of CO2 injection and process facilities • Heavy emphasis on CO2 for enhanced oil recovery • Physical and thermodynamic properties of CO2 and high CO2 mixtures • Materials selection and design consideration in CO2 systems • Process vessel specification • Pumps and compressors • Fluid flow and special pipeline design considerations such as the control of ductile fractures • Dehydration of CO2 and CO2-rich gases • General overview of processes to treat/recover CO2.

2016-17 Schedule and Tuition / 4 Days

MIDLAND, US†
14-17 NOV 2016 US$4340
13-16 NOV 2017 US$4340
† includes field trip

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- AICC/SCORM Compliant
Corrosion Management in Production/Processing Operations – PF22

FOUNDATION
This course will cover the main causes of corrosion in upstream oil and gas operations, as well as monitoring and mitigation methods. The various corrosion mechanisms give rise to a number of different forms of corrosion damage, which will all be considered. Participants will estimate the corrosivity of a given environment through analysis of the chemical and physical characteristics of the system; review approaches to selecting materials and coatings for corrosion resistance for different conditions and applications (including the use of NACE MR0175/ISO 15156); and be introduced to cathodic protection (CP) surveys, selecting the CP system type, estimating current requirements, and the design principles of simple cathodic protection systems. The participant will learn how to select and utilize corrosion inhibitors for different systems, and how to select and apply corrosion monitoring techniques to create an integrated monitoring program. The course content is based on a field facilities engineering point of view, as opposed to a more narrowly-specialized corrosion engineering or chemistry viewpoint. It provides an appropriate balance of necessary theory and practical applications to solve/mitigate corrosion-related problems.

DESIGNED FOR
Managers, engineers, chemists, and operators who need to understand corrosion and its control management in oil and gas production and processing.

YOU WILL LEARN
• The basics of corrosion chemistry
• The main corrosion mechanisms occurring in oil and gas production/processing systems
• The different types of damage caused by corrosion
• Materials selection for corrosion prevention
• Some methods for conducting cathodic protection (CP) surveys
• Items to consider in corrosion inhibitor selection
• Key advantages and disadvantages of the various corrosion monitoring methods
• Where the main locations of corrosion concern occur within oil production systems, gas processing facilities (including amine units), and water injection systems

COURSE CONTENT
Fundamentals of corrosion theory • Major causes of corrosion (O₂, CO₂, H₂S, microbiologically influenced corrosion) • Forms of corrosion damage • Materials selection • Protective coatings and linings • Cathodic protection • Corrosion inhibitors • Corrosion monitoring and inspection • Corrosion in gas processing facilities • Corrosion in water injection systems • Corrosion management strategy and life-cycle costs

Piping Systems - Mechanical Design and Specification – ME41

INTERMEDIATE
This five day, foundation level course for engineers and piping system designers reviews the key areas associated with the design of piping systems for oil and gas facilities. The course is focused on four areas: codes and standards, pipe materials and manufacture, piping components, and piping layout and design. Applicable piping codes for oil and gas facilities (ISO, B31.3, B31.4, B31.8, etc.) pipe sizing calculations, pipe installation, and materials selection are an integral part of the course. The emphasis is on proper material selection and specification of piping systems.

DESIGNED FOR
This PetroSkills training course is ideal for mechanical, facilities, plant, or pipeline engineers and piping system designers who are involved in the design of in-plant piping systems for oil and gas facilities.

YOU WILL LEARN
• To apply piping system codes and standards
• About line sizing and layout of piping systems in various types of facilities
• How to specify proper components for process and utility applications
• To compare alternative materials of construction
• The process of steelmaking, pipe manufacturing, and material specifications
• Joining methods and inspection techniques
• Key considerations for flare and vent systems, including FSV sizing

COURSE CONTENT
Piping codes and standards (ANSI/ASME, API, ISO) • Pipe materials and manufacturing • Basic pipe stress analysis methods • Valves and actuators • Welding and non-destructive testing • Line sizing basics (single-phase and multiphase flow) • Pipe and valve material selection • Piping layout and design • Manifolds, headers, and flare/vent systems • Non-metallic piping systems • Operations and maintenance considerations of facilities and pipelines

Mechanical Specification of Pressure Vessels and Heat Exchangers – ME43

INTERMEDIATE
This five day, intermediate level course for facility engineers and project engineers reviews the key areas associated with the mechanical design of pressure vessels and heat exchangers for oil and gas facilities. The course is focused on vessels, heat exchangers built in accordance to ASME VIII Div 1, considering material selection, key design calculations, and manufacturing processes. The course is not aimed at process engineers sizing equipment (PF42 covers these elements), although a brief review of the sizing correlations is included. The course is delivered from the perspective of a vessel fabricator to better understand the dos and don’ts of ideal mechanical specification of pressurized equipment by owner/operators, in order to optimize material utilization and minimize construction costs. Houston sessions feature an afternoon field trip to a large pressure vessel fabricator.

DESIGNED FOR
Mechanical, facilities, construction, or project engineers and plant piping/vehicle designers who are involved in the specification and purchasing of pressure vessels, heat exchangers, and other pressure-containing equipment for oil and gas facilities.

YOU WILL LEARN
• About ASME B&PV code and the commonly used sections relevant to oil and gas equipment
• To specify correct and commonly used materials according to ASME II
• How to design vessel shells, heads, nozzles, and heat exchanger details
• How to provide accurate equipment specification documents and review documentation for code compliance
• Key fabrication processes used in the workshop and how to simplify construction through correct vessel specification
• About welding processes and inspection requirements per ASME IX

COURSE CONTENT
Vessel codes and standards (ASME B&PV Code, TEMA, API) • Vessel material selection, corrosion mechanisms, heat treatment, and basic metallurgy • Essential design calculations for vessels and heat exchangers • Welding process overview and inspection requirements • Constructability and operability considerations • Vessel integrity, evaluation, and re-purposing of pressure-containing equipment according to API/ASME

Fundamentals of Pump and Compressor Systems – ME44

INTERMEDIATE
This is an intensive five day course providing a comprehensive overview of pumps and compressor systems. The focus is on equipment selection: type, unit, and station configuration; and integration of these units in the process scheme and control strategy in upstream and midstream oil and gas facilities. The material of the course is applicable to field production facilities, pipelines, gas plants, and offshore systems.

DESIGNED FOR
Engineers, senior technicians, and system operators designing, operating, and maintaining pump and compressor systems in oil and gas facilities.

YOU WILL LEARN
• Selecting the appropriate integrated pump and compressors units (drives, pumps, compressors, and auxiliary systems)
• Integrating the pump or compressor units with the upstream and downstream piping and process equipment
• Evaluating pump and compressor units and their drivers in multiple train configurations, parallel and series
• Identifying the key local and remote control elements of pumps and compressors as well as their drivers
• Defining the major life-cycle events, such as changes in flows, fluid composition, and operating conditions that can affect equipment selection and operating strategies
• Assessing the key pump hydraulics and compressor thermodynamics, and their effect on selection and operations
• Identifying significant operating conditioning monitoring parameters and troubleshooting techniques

COURSE CONTENT
Types of pumps, compressors, and drivers, and their common applications and range of operations • Evaluation and selection of pumps and compressors, and their drivers for long-term efficient operations • Unit and station configuration including multiple trains in series and/or parallel operations • Integration with upstream and downstream process equipment, local and remote control systems, and facilities utilities • Key auxiliary systems including monitoring equipment, heat exchangers, lube and seal systems, and fuel/power systems • Major design, installation, operating, troubleshooting, and maintenance considerations
Compressor Systems - Mechanical Design and Specification – ME46

**SPECIALIZED**

This five day, foundation level course is for facility design engineers, operations engineers, and technicians seeking an in-depth understanding of centrifugal, reciprocating, and screw compressors. This course presents basic knowledge of compressor types and associated auxiliary systems, mechanical design of equipment, operating and performance characteristics, control and monitoring systems, maintenance practices, and codes and standards.

**DESIGNED FOR**

Mechanical, facilities, plant, or pipeline engineers and technicians needing an in-depth understanding of the different types of compressors.

**YOU WILL LEARN**

- How to apply thermodynamics to compressor performance and operating characteristics
- How to size, specify, and select compressors
- Compressor auxiliary systems
- Series and parallel application of compressors
- How to integrate compressor systems into process facilities used in the oil and gas industry
- How to use state-of-the-art monitor and control devices in the operation, maintenance, and troubleshooting of compressors
- How to apply maintenance practices to improve compressor reliability
- Shop and field performance testing
- Compressor economics including OPEX vs. CAPEX considerations

**COURSE CONTENT**

Types and application of compressors
- Selection criteria of dynamic and positive displacement compressor
- Compressor thermodynamics and operating characteristics
- Performance curves and off-design evaluations
- Key compressor components and other auxiliary systems
- Equipment specifications
- Compressor controls and monitoring devices
- Driver and gear involvement
- Installation, operation, maintenance practices, and troubleshooting
- Economic considerations

Turbomachinery Monitoring and Problem Analysis – ME62

**SPECIALIZED**

This five day course is an intensive, specialized level program for experienced mechanical equipment engineers to develop and expand their capabilities in monitoring and problem analysis of turbomachinery. This course focuses on defining the systems and subsystems that form the turbomachinery, the potential problems with these systems and subsystems, monitoring techniques for early detection of problems, and methods to analyze the monitored variables to detect potential problems or reconstruct reasons for failures. Case studies are used throughout the course.

**DESIGNED FOR**

Experienced mechanical or facilities engineers and senior technicians needing an understanding of monitoring and troubleshooting turbomachinery.

**YOU WILL LEARN**

- How to evaluate turbine performance during startup and operation
- To identify turbomachinery system components
- How to define and use appropriate monitoring techniques and tools
- To utilize effective operation and shutdown parameters
- To solve instrumentation and control problems
- Understanding the inter-relationships of drivers, couplings, gearboxes, and driven equipment
- Installation techniques, equipment failures, and different maintenance practices
- Economic considerations

**COURSE CONTENT**

Gas turbine machinery – general description
- Operating principles of gas turbines
- Key performance variables and means to monitor
- Major components of axial flow compressors: rotors, blades, shafts, combustion chambers, nozzles, etc.
- Auxiliary systems: lube oil, seal oil, fuel, start-up, etc.
- Evaluation of turbine performance parameters during start-up and normal operation
- Troubleshooting control systems for gas turbines: start-up, speed and temperature controls, vibration
- Principles of operation and general components of compressors: rotors, seals, diaphragms, etc.
- Operating characteristics curves
- Surging phenomenon
- Choking phenomenon
- Compressor instrumentation: various control loops, anti-surge control loops
- Compressor safety interlock and trip systems
- Gas turbine and compressor systems start-up procedures
- Normal operation – monitoring of parameters
- Shutdown procedures
- Logging of monitoring checks
- Vibration monitoring
- Troubleshooting

Process Plant Reliability and Maintenance Strategies – REL6

**INTERMEDIATE**

This course is designed to teach reliability engineering skills as they apply to improving process system reliability and developing maintenance strategies. You will use modern software and analysis methods to perform statistical analysis of failures and model system performance, plus develop maintenance and reengineering strategies to improve overall performance.

**DESIGNED FOR**

Maintenance, engineering, and operations personnel involved in improving reliability, availability, condition monitoring, and maintaining of process equipment and systems. Participants should have foundation skills in statistical analysis and reliability techniques for equipment.

**YOU WILL LEARN**

- Improving reliability in new facilities/systems
- Reliability design for maintainability
- Developing initial maintenance strategies
- Virtual equipment walk-down; criticality using simulation and modeling; developing baseline condition monitoring programs; developing lubrication programs; and developing process-specific maintenance strategies with reliability-centered maintenance (RCM)
- Improving reliability in existing facilities/systems
- Analyzing process reliability plots to determine the amount of opportunity
- Continuous improvement through failure reporting, analysis, and corrective action systems (FRACAS)
- Developing policies and procedures; developing failure reporting codes; statistical analysis of failures using Weibull; and developing root cause analysis (RCA) programs (triggers for RCA and analyzing recommendations)
- Developing maintenance strategies with condition monitoring
- Identifying applicable condition monitoring methods; using criticality to determine level of condition monitoring application; and reporting asset health
- Developing maintenance strategies with RCM
- Developing policies and procedures; identifying systems for analysis; analyzing recommendations with simulation and modeling; and implementing recommendations
- Monitoring results
- Understanding the true purpose of key performance indicators (KPIs)
- Developing appropriate reliability and maintainability KPIs

**COURSE CONTENT**

Criticality analysis
- Availability simulation and modeling
- Statistical analysis of failures using Weibull
- Maintenance strategy development; condition monitoring; reliability-centered maintenance; and essential care
- Process reliability analysis
- Root cause analysis
- Failure reporting, analysis, and corrective action systems
- Key performance indicators
- Reliability definitions

2016-17 Schedule and Tuition / 5 Days

**Houston, US**

- **18-22 Sept 2017**
  - **US$4150**

See website for dates and locations

2016-17 Schedule and Tuition / 5 Days

**Houston, US**

- **15-19 May 2017**
  - **US$4150**

See website for dates and locations

All classes available at your location. Contact us today.

+1.918.828.2500 | petroskills.com | +1.800.821.5933 (toll free North America)
In this course, you will learn:

- Fundamentals of electricity, such as: voltage, current, resistance, and power factor
- Electrical specifications, such as: voltage selection, load lists, and power
- One-line diagrams and components of power distribution, including: transformers, switchgear, MCCs, VFDs, and power distribution
- Infrastructure components, such as: cable, conduit, cable tray, and duct banks
- Classification of hazardous locations and equipment specifications
- Safety risks and mitigation strategies for power systems, including: short circuit and overcurrent protection, ground faults, shock hazards, and arc flash
- Fundamentals of control systems, sensors, controllers, and final elements
- Typical control strategies and configurations for common oil and gas process equipment, such as: separators, pumps, distillation towers, filters, contactors, compressors, heat exchangers, and fired heaters
- Key requirements for instrument specifications: accuracy, signal selection, pressure/temperature limits, material compatibility, installation considerations, capabilities and limits, and relative cost
- Basics of sizing criteria of shutdown and control valves
- Control system functions, limitations, and architectures, including: PLC, DCS, SIS, RTU, and SCADA; common networking systems, including: Ethernet, Modbus and Fieldbus
- The key components of facilities electrical power distribution, which include circuit arrangements, low and medium voltage switchgear, and single-phase and three-phase schemes
- Operation, components, electromotive forces, turns and voltage ratios, losses, efficiency, rating, and connections of transformers
- The difference between direct current, alternating current, induction and synchronous current motors, motor enclosures, and how to select motors
- The principles of protecting electrical equipment, including time current curves, fuses, circuit breakers, and coordination
- What standby power is, including generators and UPS power systems
- The purpose for power generation, which includes standby, prime, base, peak, and co-generation
- What power factor and correction is
- What grounding and bonding systems are, with an overview of ignition sources, separately derived systems, and substation grounding
- Hazardous area identification principles with general information on NEC, IEC, equipment protection, certification, and definitions

Course Outcomes

- Fundamentals of insulation and conduction
- Direct current, alternating current
- Transformers power and instrument
- Motors Induction and synchronous
- Power distribution
- System protection and coordination
- Standby power systems
- Power generation
- Variable speed drive principles
- Grounding, bonding, and electrical safety
- Hazardous area identification

Course Content

- Fundamentals of electricity
- Power distribution and motor control systems for oil and gas applications
- Emergency power systems
- Hazardous area classification for oil and gas applications
- Electrical safety in industrial facilities
- Control system fundamentals
- Field measurement and control devices
- Programmable electronic systems (PLC, DCS, SIS, SCADA)
- Control system networking
- Drawings and documentation for I&E&C projects

New Operations & Maintenance Courses

Crude Oil Pipeline Operations – OT50

An intensive 5-day course utilizes case studies and industry best practices for operating and maintaining onshore crude oil and liquid pipeline systems that maximize life cycle reliability, employee, public, and environmental safety; and operational cost effectiveness.

To learn more, see page 20 or petroskills.com/course/ot50

Turnaround, Shutdown and Outage Management – TSOM

This course addresses Turnaround, Shutdown and Outage (TSO) Management principles and practices as they relate to activity planning, execution, and closeout activities for midstream, Petrochemical and refining facilities in the Petroleum industry.

To learn more, see page 20 or petroskills.com/course/tsom

2016-17 Schedule and Tuition / 5 Days

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2016-17 Schedule and Tuition / 5 Days

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<td>13-17 Nov 2017</td>
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PLC and SCADA Technologies – IC71

INTERMEDIATE
This workshop provides engineers and technicians with the basic theoretical and practical understanding of PLC and SCADA systems. It traces the evolution of the PLC as an intelligent black box replacement for the relay panel and how, with the advent of modern communications architectures, it may be combined with Supervisory Control and Data Acquisition (SCADA) systems to allow stand-alone control systems to be configured. Throughout the workshop, participants will learn through active participation using exercises, questionnaires, and practical PC-based simulation (LogixPro), covering: basic ladder logic programming; hardware diagnostics; and implementation of various communication strategies. Participants will also examine the basic requirements of a safety PLC and the various voting system architectures required to meet different Safety Integrity Levels (SILs).

DEIGNED FOR
This workshop is specifically tailored for all personnel who are responsible for developing, selecting, sizing, specifying, installing, testing, operating, and maintaining programmable logic controllers (PLCs) and supervisory (SCADA) systems. This could include facilities, process, chemical, electrical, instrumentation, maintenance, and mechanical engineers and technicians.

YOU WILL LEARN HOW TO
• Describe the fundamental principles of the PLC
• Identify the basic components
• Write a ladder logic program
• Explain the basics of advanced programming according to IEC 61131-3
• Compare different methods of analog processing
• Apply common-sense installation practices
• Examine the different components of a SCADA system
• Describe the basic principles of serial communications
• Evaluate the requirements for PLC-to-SCADA communications
• Distinguish the specific requirements of the PLC in safety-related applications

COURSE CONTENT
Introduction to control systems • SCADA versus DCS • PLC environmental enclosures • Processing and scanning • Digital processing • Analog processing • Installation practices • Interference or noise reduction • Cable spacing and routing • Earthing and grounding • Binary and hexadecimal numbering systems • The IEC 61131-3 standard • Ladder logic diagrams • Functional block diagrams • Derived function blocks • Structured text • Instruction lists • Sequential function chart • SCADA basics • SCADA set-up and simulation • System architecture • Communication strategies • Asynchronous transmission • Coding • The RS 232 standard • The RS 485 standard • Modbus • Safety PLCs • Voting system architectures

Valve and Actuator Technologies – IC72

INTERMEDIATE
This workshop provides a total in-depth insight into valve and actuator technology, covering: control valves, check valves, shut-off valves, solenoid valves, and pressure relief valves. A methodology is presented to ensure the optimum selection of size, choice of body and trim materials, components, and ancillaries. Whilst studying both liquid and gas valve sizing, delegates will also learn the correct procedures for calculating the spring wind-up or bench set. Maintenance issues also include: testing for dead-band/hysteresis, stick-slip, and non-linearity; on-line diagnostics; and signature analysis. Throughout the workshop, participants will learn through active participation using exercises, questionnaires, and practical sessions covering: systems choice; basic sizing calculations; computer-based sizing; and maintenance diagnostics.

DEIGNED FOR
Facilities, chemical, electrical, instrumentation, maintenance, and mechanical engineers and technicians involved in designing, selecting, sizing, specifying, installing, testing, operating, and maintaining safety enhancing valve and control systems.

YOU WILL LEARN HOW TO
• Compare the major technologies used in the final control element
• Calculate the valve flow coefficient Cv
• Perform flow and system pressure head loss calculations
• Contrast the different types of control, shut-off, and check valves
• Describe the principles of cavitational control and noise reduction
• Select optimum materials of construction to avoid corrosion and erosion
• Identify the correct requirements for trim selection
• Differentiate between inherent and installed characteristics
• Identify ANSI/DN pipe sizes and pressure ratings
• Explain the control valve seat leakage classifications
• Evaluate the optimum valve-actuator combination
• Apply on-line valve testing and diagnostics for deadband and hysteresis, stick-slip, and non-linearity
• Explain the principles of preventive maintenance through the application of signature analysis
• Perform a bench set and calculate actuator spring wind-up
• Pick the correct positioner using our set of guidelines

Flow and Level Custody Measurement – IC73

INTERMEDIATE
This course is designed to acquaint users with the problems and solutions for high accuracy transfer of liquid and gas petroleum products from supplier to customer. These needs have been brought about by major changes in manufacturing processes and because of several dramatic circumstantial changes such as: the increase in the cost of fuel and raw materials; the need to minimize pollution; and the increasing pressures being brought to bear to adhere to the requirements for health and safety.

DEIGNED FOR
This workshop is specifically tailored for any personnel who are, or will be, responsible for designing, selecting, sizing, specifying, installing, testing, operating, and maintaining instrumentation related to the field of custody level and flow transfer measurement. This could include facilities, process, chemical, electrical, instrumentation, maintenance, and mechanical engineers and technicians.

YOU WILL LEARN HOW TO
• Recall the basics of fluid mechanics
• Identify the fundamental problems related to uncertainty
• Compare the different methods of measuring flow in the oil and gas industries
• Describe the various methods of level measurement
• Contrast the different methods used to derive the pipeline control

COURSE CONTENT
Fluid mechanics • Flowmeter classification • Uncertainty analysis • Flow measurement: Turbine; Positive displacement; Ultrasonic flowmeters; Coriolis mass flowmeters • Level measurement: Buoyancy tape systems; Hydrostatic pressure; Ultrasonic measurement; Radar measurement • Flow calibration • Terminal custody transfer • Tank management • Radar measurement • Flow calibration • Terminal custody transfer • Tank management systems • Lease automatic custody transfer • Fluid flow calibration • Pipeline custody transfer • Estimating the effects on loop tuning using a software-based loop analysis program • Describe both cascade and feedforward control • Explain split range control • Identify and correct problems due to process dead time • Discuss the top 20 mistakes made in the field of process control

Practical PID Control and Loop Tuning – IC74

INTERMEDIATE
This workshop provides instrumentation, automation, and process engineers and technicians involved in specifying, installing, testing, tuning, operating, and maintaining regulatory PID control systems.

DEIGNED FOR
Instrumentation, automation, and process engineers and technicians involved in specifying, installing, testing, and tuning of process control systems. This could include facilities, process, chemical, electrical, instrumentation, maintenance, and mechanical engineers and technicians.

YOU WILL LEARN HOW TO
• Describe such terms as process lag, capacitance, and resistance
• Explain the significance of the process reaction curve
• Distinguish the effects of filtering on loop performance
• Contrast the effects of span on the system performance
• Analyze such problems as valve hysteresis, distortion, and non-linearities
• Evaluate the effects of proportional, integral, and derivative control
• Correctly apply both open and closed Loop Tuning according to Ziegler-Nichols
• Apply “as found” tuning
• Estimate the effects on loop tuning using a software-based loop analysis program
• Describe both cascade and feedforward control

COURSE CONTENT
Basic process considerations • Process lag, capacitance, and resistance • Process reaction curve 1st and 2nd order reactions • Instrumentation cabling • Filtering • Aliasing • Reaction masking • Sensor placement • Correct PV • Effect of span • Inherent and installed valve characteristics • Actuators • Valve positioners • Testing procedures and analysis • ON/OFF control • Proportional control • Proportional offset • Reset • Integral action and windup • Stability • Derivative action • PID control • Control algorithms • Load disturbances and offset • Speed, stability, and robustness • Open loop reaction curve tuning method (Ziegler-Nichols) • Default and typical settings • Closed loop process cycling (IC73) • Tuning method (Ziegler-Nichols) • Fine tuning • “As found” tuning • Surge tank level control • Split/parallel range control • Cascade systems • Feed-forward and combined systems • Ratio control • System integration
Pipeline Systems Overview – PL22

BASIC
A five day course that provides awareness level training for engineers new to the hazardous liquid and gas pipeline industry. The topics include the technical and economic basis for pipeline systems, all the way up to how to take the next step in advancing their breadth of the knowledge. We refer you to PL42 Offshore Pipeline Facilities and/or PL44 Terminals and Storage Facilities.

YOU WILL LEARN
• Basic concepts of liquid and gas pipeline economics
• Pipeline design overview
• Construction methods and challenges
• Essential operations
• Asset integrity management
• Regulatory and code compliance requirements

COURSE CONTENT
The business model and value-added premise of pipelines and their role in the overall energy value chain • The advantages and limitation of pipelines, and the scope and general structure of the industry • The key components and facilities that are integrated into pipeline systems • How to recognize regulatory codes and industry guidelines (API and others) that control the permitting, design, construction, operations, and maintenance of pipeline facilities • The steps from concept to operating system to abandonment—design, permitting, land acquisition, construction, and startup—with each tied to the key issues for project and operations management • The strategic operational and maintenance needs and options for pipeline systems, including system monitoring and control, leak detection, measurement and quality control, asset integrity management, efficient and safe operations, and emergency response capability

See website for dates and locations

Offshore Pipeline Design and Construction – PL43

FOUNDATION
This intensive five day foundations level course covers the principal aspects of design, construction, and operations of offshore pipeline systems. The course focuses on pipeline mechanical, strength, and stability design, and construction. Special challenges, such as shoreline crossings, foreign pipeline crossings, repair methods, flow assurance, corrosion and cathodic protection are an integral part of this course. Particulars will acquire the essential knowledge and skills to design, construct and operate pipelines. Design problems and team projects are part of this course.

DESIGNED FOR
Engineers, designers and operators who are actively involved in the design, specification, construction, and operation of offshore pipeline systems.

YOU WILL LEARN HOW TO
• Apply mechanical, strength, and physical principles to pipeline design, material selection, construction and operation
• Describe the key construction methods
• Define the importance of environmental conditions, construction methods, and pipeline system hydraulics in design, installation, and operations of offshore pipeline systems
• Identify special design and construction challenges of offshore pipeline systems
• Incorporate construction methods into the design of a pipeline system
• Identify the principal interfaces of pipeline facilities, such as platforms, floating production systems, subsea wellheads and SPMs on design, construction, and operations of offshore pipelines
• Identify offshore safety and environmental practices and their effect on design, construction, and operations

COURSE CONTENT
Overview of oil and gas transportation systems • Review pipeline hydraulics, focusing on those aspects that affect design, construction, and operations • Pipeline systems definition, survey and route selection • Safety, environmental, and regulatory considerations, focusing on Codes and Standards related to pipelines • Pipeline conceptual and mechanical design for strength, stability and installation • Pipeline construction for offshore systems and the interrelationships with design and material selection • Pipeline materials and components selection including line pipe, corrosion and cathodic protection, and coatings • Specialized equipment and materials for integrating with subsea wellhead / manifold systems, side taps, insulation, and pipe-in-pipe will be reviewed • Special design and construction considerations for risers and umbilicals, foreign pipeline crossings, single point moorings, and shore approaches • Introduction to flow assurance considerations and pipeline integrity aspects including in-line inspection, leak detection and emergency response

See website for dates and locations

Onshore Pipeline Facilities - Design, Construction, and Operations – PL42

FOUNDATION
Successful onshore pipeline businesses require personnel competent in fully integrated approaches to evaluation, planning, design, construction, operations, and asset integrity management. This intensive, five day Foundation level course explores best practices for developing and maintaining pipeline systems that maximize life cycle reliability, employee, public, and environmental safety, and cost effectiveness. Design and operating exercises are an integral part of this course.

DESIGNED FOR
Pipeline project managers and engineers, operator and maintenance supervisors, regulatory compliance personnel and other technical professionals with 1-3 years’ experience in natural gas, crude oil, refined petroleum products, LP/G, NGL, carbon dioxide pipeline engineering, construction, operations, maintenance. This course is intended for participants needing a broad understanding of the planning, development, construction, start-up, and operating and asset integrity management of onshore pipelines.

YOU WILL LEARN HOW TO
• Apply regulatory codes, standards, and industry guidelines (API and others) that control and guide the permitting, design, construction, operation, and maintenance of pipeline facilities
• Apply mechanical and physical principles to pipeline design, hydraulics, and material selection
• Describe the importance of route selection, hydraulics, and pipeline infrastructure for long term profitability, reliability, and safety
• Identify special design and construction challenges of onshore pipeline systems
• Identify the principal interfaces and potential interrelationships of pipeline facilities, such as pump stations and terminals, on design and operations
• Apply operational and maintenance tools and procedures to pipeline systems, including system monitoring and control, leak detection, custody measurement and quality control, asset integrity management, efficient and safe operations, and emergency response capability

COURSE CONTENT
Regulations and code compliance requirements • Pipeline survey and routing • Proper system sizing and design • Equipment selection criteria • Facilities sites and design and quality control, asset integrity management, including Pipeline Safety Management initiative (API 1117)

See website for dates and locations

Terminals and Storage Facilities – PL44

FOUNDATION
This five day, foundation level course reviews key issues associated with development, design, construction, and operation of terminals and storage facilities for liquid hydrocarbons and NGLs. The course focuses on six areas: 1) terminal codes and siting constraints, 2) terminal design and equipment layout, 3) types of storage and selection criteria, 4) design considerations for loading racks, fire protection, vapor recovery, blending equipment, and water treatment, 5) detailed design of storage tanks, vessels, and caverns, and 6) operations and maintenance.

Safety, quality control, system reliability, availability, and regulatory compliance are integrated throughout the course. Case studies and exercises are used to reinforce key points.

DESIGNED FOR
Project managers, operators, and maintenance supervisors and regulatory compliance personnel with 1–3 years’ experience in planning, engineering, constructing and/or operating terminals and storage facilities for hydrocarbon liquids, NGLs, and petrochemical feedstocks. This course is for participants needing a foundation level understanding of the planning, engineering, construction, operations, and maintenance of storage and terminals connected to pipelines, rail, barges/tankers and/or truck loading facilities.

YOU WILL LEARN
• Storage and terminals basics for hydrocarbon liquids, NGLs, and petrochemical feedstocks
• Design and operation of atmospheric tanks and pressurized bullet and spheres
• Fundamentals of underground storage (salt and rock caverns)
• Safety, product quality, and reliability/ availability concerns

COURSE CONTENT
Sizing criteria and economics for storage and terminal facilities • Various storage types (atmospheric storage tanks, pressure vessels, salt or rock caverns) and appropriate applications • Terminal and tank farm layout constraints • Details of industry codes and standards, plus regulatory and environmental compliance • Selection of equipment for delivery and receipt/torfrom pipelines, barges and ships, trucks, and rail, including metering options, loading arms, pumps, and control systems • Blending options and equipment, VRU/VCU, water treating, and fire protection • Key factors affecting safety, product quality, system reliability, and profitability in design, construction, and operations • Atmospheric storage tank design, layout, construction, corrosion prevention, and operations covering API 650 and API 653 • Overview of pressure vessel and sphere design and construction • Design, development, and operation of underground cavern storage facilities

See website for dates and locations
### Overview of Offshore Systems – OS21

**BASIC**

The course provides an overview of field development concepts and explains how offshore structures and facilities function as integrated systems. The content includes the full range of water depths from shallow water to ultra deepwater. All major components required for offshore developments such as fixed and floating platforms, drilling and workover rigs, pipelines, risers, process and utilities and construction equipment are discussed. The importance of life-cycle considerations during development planning is emphasized. Individual and group exercises, including a case study, are used throughout the course.

**DESIGNED FOR**

Technical staff, business professionals, technicians, analysts, and other non-technical staff who are involved but have limited experience, or will be involved, with offshore oil and gas facilities. The course provides a basic understanding of offshore systems in all water depths, from shallow to ultra deepwater, including design, construction, and operations.

**YOU WILL LEARN**

- The key steps in the development of offshore fields from discovery through decommissioning
- The elements of field architecture to define a workable field development
- Key stakeholder issues
- Offshore production facilities and structures, fixed and floating
- The impact of the ocean environment on facilities design and operations
- Major design, construction, and operational issues and interfaces of offshore systems
- Important forces on offshore structures and their influence on design and cost
- Strategic options for well drilling (construction) and servicing
- The basic processes and equipment involved in the topsides design and operation
- Fluid transportation options and equipment
- Marine equipment used in the construction of offshore facilities
- Basic issues in life-cycle and decommissioning decisions
- Advances in offshore technology

**COURSE CONTENT**

Field development concepts, fixed and floating
- Subsea systems
- Wells, construction and servicing
- Topsides facilities; processing; utilities
- Oil and gas transportation systems, design and installation
- Production operations
- Offshore construction equipment
- Fabrication, transportation, integration; installation project management
- Life-cycle considerations, including decommissioning

### Overview of Subsea Systems – SS2

**BASIC**

An overview of subsea components and how they are integrated into field architecture is provided during this five day course. Individuals will develop a basic understanding of the various subsea components used in all water depths, from relatively shallow to ultra deepwater. The participants will all learn how the components are integrated into subsea field developments, which will accelerate learning and productivity.

**INSTALLATION AND FLOW ASSURANCE**

Installation and flow assurance are emphasized as key drivers in subsea design. The course emphasizes a systems approach to design. Individual and group exercises are used throughout the course, including a case study to develop field architecture considerations, basic component selection, and high level project execution plans for a subsea development. Course instructors are experienced offshore managers.

**DESIGNED FOR**

Technical staff who are beginning or transitioning into the design, construction, and operation of subsea systems. Non-technical staff working with a subsea development team will benefit by developing an awareness of subsea systems.

**YOU WILL LEARN HOW TO**

- Recognize the integrated nature of field architecture and component selection
- Identify appropriate applications for subsea systems
- Identify the main subsea components, their functions, strengths, weaknesses, and interfaces from the well to the production facility
- Understand key design, construction, and installation issues
- Describe basic operating and maintenance considerations
- Understand the key steps, from drilling through startup, for the design, fabrication, testing, installation, and operation
- Understand the importance of an integrated approach to design, flow assurance, installation, and life-cycle considerations

**COURSE CONTENT**

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

### Fundamentals of Offshore Systems Design and Construction – OS4

**FOUNDATION**

This ten day course provides a fundamental understanding of the technology and work processes used for the design and construction of all types of offshore systems, including consideration of asset development, surveillance, and management. The content includes the full range of water depths from shallow water to ultra deepwater and will also address life-cycle considerations in all phases of offshore field development and operation. All major components required for offshore developments, such as fixed and floating platforms, drilling rigs, workover equipment, pipelines, risers, process, and utilities and construction equipment are discussed. A Case Study for an Offshore Project Development is included.

**DESIGNED FOR**

Engineering, operators, and technical managers who are responsible for offshore completions, production, and development; technical staff needing a foundation in principles, challenges, and solutions for offshore flow assurance. The course is also appropriate for persons involved in produced fluids flow in onshore production operations.

**YOU WILL LEARN HOW TO**

- Identify the key components that must be evaluated for field development
- Recognize the best applications and characteristics of each type of offshore fixed and floating structure
- Account for the effects of the ocean environment on facilities design, construction, and operations
- Identify the impact space, loads and forces have on the structural design and global performance of offshore structures and how they influence their cost
- Describe the impact topside facilities (drilling, well servicing, processing, and utilities) affect the structural design and how the topside design process is driven
- Recognize and manage key design and operational interfaces between the major components of offshore facilities systems
- Understand and apply the key design, construction, and installation issues associated with fixed and floating platforms to your work

**COURSE CONTENT**

Offshore systems overview and field architecture selection
- Well construction and servicing equipment and operation
- Flow assurance
- Topsides facilities
- Oil and gas transportation facilities
- Riser systems
- Subsea systems
- Production operations
- Infrastructure impact on design and operation
- Effects of the ocean environment
- Introduction to naval architecture
- Structural design processes and tools
- Construction plans and execution
- Project management lessons learned
- Life-cycle and decommissioning considerations

### Flow Assurance for Offshore Production – FAOP

**INTERMEDIATE**

Flow assurance is a critical component in the design and operation of offshore production facilities. This is particularly true as the industry goes to deeper water, longer tiebacks, deeper wells, and higher temperature and pressure reservoirs. Although gas hydrate issues dominate the thermohydraulic design, waxes, asphaltenes, emulsions, scale, corrosion, erosion, solids transport, slugging, and operability are all important issues which require considerable effort. The participant will be presented with sufficient theory/correlation information to be able to understand the basis for the applications. This intensive five day course has considerable time devoted to application and design exercises to ensure the practical applications are learned.

**DESIGNED FOR**

Engineers, operators, and technical managers who are responsible for offshore completions, production, and development; technical staff needing a foundation in principles, challenges, and solutions for offshore flow assurance. The course is also appropriate for persons involved in produced fluids flow in onshore production operations.

**YOU WILL LEARN HOW TO**

- Identify the components of a complete flow assurance study and understand how they relate to the production system design and operational structure
- Interpret and use sampling and laboratory testing results of reservoir fluids relative to flow assurance
- Understand the basic properties of reservoir fluids and how they are modeled for the production flowline system
- Understand the thermohydraulic modeling of steady state and transient multiphase flow in offshore production systems
- Evaluate and compare mitigation and remedial techniques for gas hydrates, paraffin (waxes), asphaltenes, emulsions, scale, corrosion, erosion and solids transport, and slugging
- Understand the elements of an operability report for subsea production facilities, flowlines, and export flowlines

**COURSE CONTENT**

Overview of flow assurance
- PVT analysis and fluid properties
- Steady state and transient multiphase flow modeling
- Hydrate, paraffin, and asphaltene control
- Basics of scale, corrosion, erosion, and sand control
- Fluid properties and phase behavior of oils
- Equations of state
- Fugacity and equilibration
- Viscosities of oils
- Thermal modeling
- Multiphase pressure boosting
- Slugging: hydrodynamic, terrain induced, and ramp up
- Commissioning, start-up, and shutdown operations

**2016-17 Schedule and Tuition / 5 Days**

<table>
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<tr>
<th>Location</th>
<th>Dates</th>
<th>Tuition</th>
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<tr>
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<td>19-23 JUL 2017</td>
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**2016-17 Schedule and Tuition / 5 Days**

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**2016-17 Schedule and Tuition / 10 Days**

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<td>ABERDEEN, UK</td>
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*plus computer charge*
PO1 represents the core foundation course of PetroSkills’ production engineering curriculum and is the basis for future oilfield operations’ studies. Course participants will become familiar with both proven historical production practices as well as current technological advances to maximize oil and gas production and overall resource recovery. The course structure and pace apply a logical approach to learn safe, least cost, integrated analytical skills to successfully define and manage oil and gas operations. Applied skills learned guide the participant with a framework to make careful, prudent, technical oil and gas business decisions. Currently emerging practices in the exploitation of unconventional resources including shale gas and oil, and heavy oil and bitumen complement broad, specific coverage of conventional resource extraction.

**SURFACE PRODUCTION OPERATIONS – PO3**

**BASIC**

This course presents a basic overview of all typical oilfield treating and processing equipment. Participants should learn not only the purpose of each piece of equipment but how each works. Emphasis is on gaining a basic understanding of the purpose and internal workings of all types of surface facilities and treating equipment. A major goal of this course is to improve communication among all disciplines, the field, and the office. Better communication should enhance operational efficiencies, lower costs and improve production economics. Example step-by-step exercises are worked together with the instructor to drive home the important points.

**YOU WILL LEARN HOW TO**

- Design and execute successful carbonate and sandstone reservoir acidizing programs
- Choose cased hole production logging tools and interpret logging results
- Identify and successfully manage organic paraffin and asphaltene deposits
- Understand the proper use of oilfield surfactants and related production chemistry
- Design and perform successful multistage fractured horizontal wells
- Design both conventional and unconventional multifracture horizontal wells
- Apply successful primary casing cementing and remedial repair techniques
- Perform system analyses (Nodal Analysis™) to optimize well tubing design and selection
- Evaluate well candidate selection to conduct a field evaluation
- Perform system analyses (Nodal Analysis™) to optimize well tubing design and selection
- Minimize water and gas losses to increase productivity
- Maximize asset team interaction and communication
- A practical understanding of all the fundamental field treating facilities: what they are, why they are needed, how they work
- The properties and behavior of crude oil and natural gas that govern production operations
- Field processes for treating and conditioning full wellstream production for sales or final disposition
- The basics of oilfield corrosion prevention, detection, and treatment
- Internal workings of separators, pumps, compressors, valves, dehydrators, acid gas treatment towers, and other treating equipment
- A wide range of produced fluid measurement and metering devices
- A description of treating equipment whether located on the surface, offshore platform, or sea floor
- **Course content**
  - Properties of fluids at surface • Flowsheets, piping, gathering systems; solids and liquid limits • Oil - water - gas - solids - contaminants • Separation and treatment • 2-3 phase separators, free water knockouts, centrifugal, filter • Storage tanks, gun barrels, pressure/vacuum relief, flame arrestors • Stabilizers • Foams, emulsions, paraffins, asphaltenes, hydrates, salts • Dehydrators • Water Treaters: SP packs, plate interceptors, gas floatation, coalescers, hydrocyclones, membranes • Acid Gas Treatment: coatings, closed system, chemicals, solvents, conversion, stress cracking • Valves: all types; regulators • Pumps/Compressors: centrifugal, positive displacement, rotary, reciprocating, jectors • Metering: orifice, head, turbine, and others • Corrosion/Scales: inhibition and treatment

**Production Technology for Other Disciplines – PTO**

PTO is an asset team course as it introduces a broad array of important daily Production Technology practices to team members. Terminologies, expressions, axioms, and basic calculations regularly utilized by production technocrats are covered throughout the course. Emphasis is upon proven technology required to effectively develop and operate an asset in a multidisciplinary development environment. Practical application of technology is emphasized. Both theory and actual field examples and well completion programs are studied along with class problems, exercises, and videos. Nodal analysis examples to assess well performance are set up. Well completion equipment and tools are viewed and discussed. Participants work several exercises such as basic artificial lift designs, acidizing programs, gravel pack designs, and fracturing programs. Shale gas and oil development challenges are thoroughly explained. Horizontal and multilateral technology is presented.

**Course content**

- Role and tasks of production technology
- Completion design • Inflow and outflow performance • Artificial lift well completion systems (beam pump, gas-lift, ESP, PCP, plunger lift) • Formation damage and well acidizing • Perforating practices • Sand control • Hydraulic fracturing • Shale gas and oil development
- Smart well completions • Field surveillance and data

**2016-17 Schedule and Tuition / 5 Days**

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<tr>
<td>LONDON, UK</td>
<td>23-27 OCT 2017</td>
<td>US$3930</td>
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*“plus computer charge*
## Gas Production Engineering – GPO

**INTERMEDIATE**

Learn the latest methods for calculating gas well performance from reservoir to sales. Reservoir performance covers the fundamentals of reservoir gas flow and details the best methods for testing wells, according to the time and money available. Reservoir calculations and diagnostic testing from production data are covered. The importance of flow regime and non-Darcy flow on test design and interpretation is emphasized for new wells and for the possibility of improving the performance of older wells. Also discussed are performances of tight formations, horizontal wells, fractured wells, and methods for estimating gas reserves. Participants will learn to calculate and determine the effect of each system component on total well performance, which permits optimal sizing of tubing, flowlines, separators, and compressors. Participants receive complimentary software at the end of the course.

**DESIGNED FOR**

Production, reservoir and facilities engineers, and others involved in gas production, transportation, and storage including sales and supervisors.

**YOU WILL LEARN HOW TO**

- Apply proven techniques to field problems to increase profitability
- Calculate gas well performance from the reservoir to the sales line
- Optimize gas well production
- Relate reservoir and well performance to time
- Predict when a well will die due to liquid loading

**COURSE CONTENT**

Gas properties: real gas behavior equations of state, imputables, mixtures, phase behavior dew point, retrograde behavior, flash calculations; classifying gas reservoirs; Reservoir performance: gas well testing; turbulence and skin effects; perforation effects; tight well analysis; horizontal wells; hydraulically fractured wells; Reserve calculations: PZ plots, energy plots, water influx, abnormal pressure effects; diagnostically testing based on production data; Flow in pipes and restrictions: pressure loss; effects of liquids-liquid loading, liquid removal methods, multiphase flow correlations; erosional velocity; Compression: types of compressors; compressor selection; effects of variables; capacity and horsepower; Total system analysis: tubing and flowline size effects; perforating effects; relating deliverability to time; evaluating compressor installations; analyzing injection wells; Flow measuring: orifice metering; other metering methods; Condensate reservoirs: reservoir types; reserve estimates, laboratory simulation; gas cycling; Field operations problems: interpreting PZ plots; hydration formation

## Surface Water Management in Unconventional Resource Plays – SWM

**INTERMEDIATE**

In order to establish and implement an optimized water management plan for hydraulic fracturing operations, operators and service companies need an understanding of a broad array of subjects, including water chemistry, systems modeling, water treatment technology, the regulatory landscape, and best practices for field operations. This course first establishes a foundation of knowledge regarding water awareness, water chemistry, fluid dynamics, and water analysis tools. Upon this foundation the course will build a model for optimizing water management in support of hydraulic fracturing operations, providing reviews of best practices and the latest industry technology, while always considering key stakeholders.

**DESIGNED FOR**

Production, completion, operations, and surface facilities engineers; operations managers, logistics coordinators, field supervisors; all personnel involved in establishing, improving, or supervising the implementation of an organization’s water management plan; personnel in service organizations seeking a more thorough understanding of the water system in unconventional resource plays.

**YOU WILL LEARN HOW TO**

- Design and implement a water management plan for an unconventional resource play
- Assess the regional hydrological cycle in the operational area
- Adopt emerging best practices regarding water management
- Establish a water sampling and analysis program
- Design and run a water treatment technology pilot test
- Find the lowest cost solution for sourcing fluid for hydraulic fracturing operations
- Select a water treatment technology for a project
- Manage the primary service/equipment providers critical to water management
- Establish basic water quality requirements necessary for frac fluid
- Build a water management plan that complies with regulations
- Build a water management cost model to use as a tool to optimize a water management plan

**COURSE CONTENT**

Global water awareness and the oil and gas industry’s impact; Flowback and produced fluid • Basic water chemistry focused on oilfield concerns • Water quality considerations for hydraulic fracturing operations • Water sampling and analysis, in the field and in the lab • Water treatment for reuse and recycling programs • Acquisition, storage, transportation, disposal, and treatment of water • Holistic field water management • Regulations applicable to water management • Water management system cost modeling

## Oil and Gas Processing Facilities for Operations and Maintenance – OT1

**BASIC**

This course will provide the basic knowledge required for understanding processes and operating issues common to gas processing facilities. Course content is customizable to client needs.

**DESIGNED FOR**

Facility operators who require a working knowledge of the various processes used in production fluid conditioning and processing, including the common operational difficulties that may arise and operational tactics used to resolve them. Also suitable for maintenance technicians, supervisors, and managers, as well as other non-engineering personnel who would benefit in an understanding of gas processing techniques that can be applied in their daily work activities.

**YOU WILL LEARN**

- About the effects of produced fluid (OGW) compositions on facility design and operation
- About various separation and conditioning processes for meeting specifications on oil, gas, and produced water streams
- Refrigeration 4-cycle process and application of economizers to the refrigeration process
- To understand how to operate facilities so as to minimize processing costs
- How to apply course material to troubleshooting gas conditioning and process anomalies

**COURSE CONTENT**

Basic chemistry and physical principles related to hydrocarbons • Quick overview of gas processing • Phase behavior fundamentals • Mass transfer operations • Amine gas sweetening • Water-hydrocarbon behavior, including hydrate formation • TEG gas dehydration • Solids bed adsorbers • Mechanical refrigeration • Gas expansion 3G recovery (turbos expanders and Joule-Thomson effect) • NGL stabilization and fractionation • Claus sulfur recovery • Specific to Geographical Regions: Stavanger/Aberdeen - Typical North Sea oil and gas producing operations, produced water treatment, seawater treating, and other offshore topics of general interest • Brisbane - Gas processing and introduction to liquefied natural gas (LNG) processes • Midland - Gas conditioning and processing, sour gas treating, and sulfur recovery • Pittsburgh - Mechanical refrigeration principles and equipment, NGL fractionation, and cryogenic LNG recovery

## LNG Facilities for Operations and Maintenance – OT43

**FOUNDATION**

This is a five day, LNG-industry version of our popular OT1 Gas Production/Processing for Operations & Maintenance course, with expanded coverage on refrigeration, liquefaction, and utilities. The course includes in-depth information on basic LNG mixed refrigerant processing. Instructors will explain contaminant removal processes employed in LNG processes. Relevant details of the APCI LNG liquefaction processes are described. Class exercises/problems focus on application of theory to operational trends, so operators can understand their processes and become proficient at identifying issues and troubleshooting problems before production suffers. Course content is customizable to client needs.

**DESIGNED FOR**

LNG facility operators who require a working knowledge of the various processes used in production fluid conditioning and processing, including the common operational difficulties that may arise and operational tactics used to resolve them. Also suitable for maintenance technicians, supervisors, and managers, as well as other non-engineering personnel who would benefit from an understanding of gas processing techniques that can be applied in their daily work activities.

**YOU WILL LEARN**

- Basic chemistry and physical principles related to hydrocarbons
- Fundamentals of gas processing and conditioning for the LNG industry
- Important specifications for gas, LNG, NGLs, and condensate
- Phase behavior fundamentals
- Practical thermodynamics: mass and energy balances
- Important topics of H2S and CO2 removal before liquefaction
- Processes used to sweeten and dehydrate produced fluids
- Mechanical refrigeration principles
- Other contaminants in LNG feed-gas
- NGL stabilization and fractionation
- Introduction to APCI LNG process

**COURSE CONTENT**

Basic chemistry and physical principles related to hydrocarbons • Introduction to LNG facilities • Phase behavior fundamentals • Mechanical refrigeration • Production separators and oil dehydration • Mass transfer operations • Amine sweetening • Water-hydrocarbon behavior • Solid bed adsorbers • Gas expansion 4G recovery • Fractionation fundamentals • Basic LNG mixed refrigerant process

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### 2016-17 Schedule and Tuition / 5 Days

**CALGARY, CAN**

21-25 NOV 2016

HOUSTON, US

KUALA LUMPUR, MY

LONDON, UK

2016-17 Schedule and Tuition / 3 Days

**HOUSTON, US**

6-8 NOV 2017

**MIDLAND, US**

6-10 NOV 2017

**O&M 19**

± OT43

**US$4127 + GST**

**US$4127 + GST**

**US$4165**

**US$4900**

**US$3075**

**US$3370**

**US$3380**

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Organizational Competence • Presenting your
Identifying critical equipment • Utilizing your
• How to work with contractors more effectively
• To focus your resources on critical equipment
• Optimization of preventive and predictive
• Essential elements of work planning and
• Key performance indicators for your
• World class maintenance standards and how
and reliable facility asset.

DESIGNED FOR
Maintenance supervisors, team leaders, or
managers needing to improve their maintenance
programs. This course is a broad survey of
elemental aspects of maintaining a safe, efficient,
and reliable facility asset.

YOU WILL LEARN
• World class maintenance standards and how
to apply them
• Key performance indicators for your
dashboard
• Essential elements of work planning and
scheduling
• Optimization of preventive and predictive
maintenance
• To focus your resources on critical equipment
• How to work with contractors more effectively
• Development of organizational competence

COURSE CONTENT
World class standards • Maintenance strategies
• Planning and scheduling • Optimizing
preventative and predictive maintenance
• Identifying critical equipment • Utilizing your
CMMS Supplier certification • Developing
organizational competence • Presenting your
action plan

Maintenance Planning
and Work Control
– OM41

BASIC
No matter the price of oil, safe, efficient
operations require well managed, integrated
asset management. Effective, well organized
maintenance management is the key. In this
course, participants will receive a sound,
integrated, basic knowledge of the maintenance
function and how to progress towards world-
class performance. Individual action plans will
carry course learning into the work environment.
Better utilization of Computerized Maintenance
Management System (CMMS) will also be
covered in this course. A pre and post seminar
self-assessment will be given to indicate
delegates’ competency improvements. The
assessment is taken from the PetroSkills
industry standard competency map for
Maintenance Management.

DESIGNED FOR
Maintenance supervisors, team leaders, or
managers needing to improve their maintenance
programs. This course is a broad survey of
elemental aspects of maintaining a safe, efficient,
and reliable facility asset.

YOU WILL LEARN
• To develop world class planning and work
control
• To employ business process analysis
techniques in work control
• How to use a gap analysis on your work
management system
• Step-by-step work control from identification
through using work history
• Optimization of preventive and condition-
monitoring activities
• Techniques: critical equipment analysis,
critical spares control, and emergency
response work

COURSE CONTENT
Work identification • Planning prioritization
• Scheduling execution • History records
• Optimizing preventive maintenance • Predictive
maintenance planning • Critical equipment
focus • Emergency response

Crude Oil Pipeline
Operations – OT50

FOUNDATION
This course utilizes cases studies and industry
best practices for operating and maintaining
offshore crude oil and liquid pipeline systems
that maximize life cycle reliability; employee,
public, and environmental safety; and operational
cost effectiveness. It focuses on open
discussions and troubleshooting techniques that
may be applied to crude, HVL (High Volatility
Liquid) and refined product pipelines and their
associated infrastructure. The course aims to
improve the operation profitability and
communication with management and
engineering staff.

DESIGNED FOR
Pipeline operations personnel who require a
working knowledge of onshore liquid pipeline
and terminal systems, including the common
operational difficulties that may arise and
operational tactics used to resolve them. Also
suitable for maintenance personnel, metering,
technicians, lead supervisors, area managers,
etc, and engineering staff that need a working
knowledge of field pipeline operations.

YOU WILL LEARN HOW TO
• Apply regulatory codes, standards, and
industry guidelines (PSMA Part 195
(Liquid), ASME B31.4, API-1173, and others)
that control and guide the operation and
maintenance of pipeline facilities
• Explain fluid properties and behavior of crude
oils, wax behavior, temperature relationships
and use of DRA in crude oil pipelines
• Explain pipeline hydraulics, pipeline pressure
gradients and predict capacity on the system
• Identify pipeline MOP, surge and causes of
overpressure and mitigation measures
• Explain pipeline facilities: pump stations,
filtration, metering and LACT units, sampling
and testing, pigging equipment, tank terminals
and truck/rail loading facilities
• Identify principle causes of loss of
containment and mitigating measures;
corrosion, environmental cracking,
overpressure, 3rd party damage and error
• Review regulatory compliance requirements
for CFR 49, Part 195, to be better prepared in
the case of compliance audits
• Explore emergency response measures to
spills and loss of containment

COURSE CONTENT
Crude oil transportation systems – Industry
codes and regulations, scope and applicability
• Crude oils, waxes and DRA, fluid properties and
behavior • Hydraulic analysis of pipelines and
gradients • Pipeline pumps – components,
operation, seal systems and seal leak detection
• Pipeline surge and overpressure protection
systems • Pipeline facilities – filtration, pressure
controls, pigging equipment • Terminal facilities
– tanks, truck/rail loading, metering, sampling
and proving • Pigging goals, processes and
activities • Pipeline repairs and maintenance
• Corrosion overview and prevention • Leak
detection methods • CFR 49, Part 195 review of
documentation requirements and terminology
• Emergency response planning, spills and loss of
containment response

Turnaround,
Shutdown and Outage
Management – TSOM

INTERMEDIATE
This course addresses Turnaround, Shutdown,
and Outage (TSO) Management principles and
practices as they relate to activity planning,
execution and closeout activities for midstream,
petrochemical and refining facilities in the
petroleum industry. The specific training received
in TSO management and the proper use of
scarce resources (time, people and materials)
will help the TSO or Project Manager improve
cost, schedule and operability results. Upon
completion of this course, the participant will
know what the critical success factors for a TSO
are and be able to utilize best practices in TSO
planning, execution and closeout. Participants
will learn to integrate craft, operations and
contractor resources relate to one another
and what tools are available for the TSO team
to ensure interfaces among key stakeholders
are managed. The course is taught using a
combination of instruction, facilitated
discussion, and hands-on exercises using real-
world TSO examples. The exercises will include
both individual and group activities that will
provide each participant with a hands-on
application of the principles and practices
discussed throughout the course.

DESIGNED FOR
Maintenance supervisors and supervisors,
project managers and project engineers,
management engineers, planner/schedulers,
operations representatives, HSE representatives,
and procurement professionals who plan,
manage, or participate in turnarounds,
shutdowns, and outage management. Special
emphasis will be placed on best practices and
future trends in TSO management.

YOU WILL LEARN
• What a day in the life of a TSO Manager
during a shutdown is like
• To establish business strategies and
objectives for a TSO to ensure support from
all facility stakeholders
• How to develop a robust TSO resource plan
and get the resources you need
• To develop and validate work scopes for both
maintenance and project activities
• How to establish criteria and the planning
cycle for TSO work scope selection
• How to select a computerized maintenance
management system, including those features
needed for TSO management
• How to integrate craft, operations and
maintenance work during a TSO
• To identify and address key TSO constraints
and operations interfaces
• To develop a robust contracting plan for the
TSO to align work scope
• Howard prepare a TSO execution plan
• To utilize fit-for-purpose progress
measurement and control techniques

COURSE CONTENT
Six-phase TSO management process • TSO
issues and challenges • TSO quality plan • TSO
safety planning • CMMS benefits, selection and
implementation • Developing an integrated TSO
plan • Managing TSO stakeholders and
resources • Monitoring progress and controlling
change • Procurement and contracting for a
TSO
Basics of Environmental Management – HS13

BASIC
Provide proof of your environmental credentials anywhere in the world with the NEBOSH Certificate in Environmental Management. Our program starts in advance of the taught course, as participants undertake a review of their own site's environmental performance using documentation supplied to them. This review sets the context for this five day class, which comprises a blended learning approach with tutorials, workshops, problem-solving and practical activities. At the end of the course, there is a formal examination and project, successful completion of which results in awards of the NEBOSH Certificate in Environmental Management.

DESIGNED FOR
Managers, supervisors, and employees throughout the world who have responsibility for managing environmental issues as part of their day to day duties. This course is particularly suitable for entry level HSE professionals, as the NEBOSH Certificate in Environmental Management is the first step in a career in environmental management.

YOU WILL LEARN
- Environmental management, and what this means for your organisation
- Ethical, legal, and financial reasons for maintaining and promoting environmental management
- The importance of sustainability
- Principles and sources of environmental information
- The purpose and importance of setting environmental policy
- Key features and content of an effective environmental management system (EMS) such as ISO 14001
- Active (leading) and reactive (lagging) monitoring, including inspections and investigations of environmental incidents
- Environmental impact assessments (EIA)
- Emissions to atmosphere and abatement measures
- Water pollution and methods to avoid contamination of water resources
- The importance of and techniques for minimizing waste
- Risks associated with contaminated land
- Energy efficiency
- Potential sources and consequence of environmental noise and nuisance
- Emergency preparedness and response
- Environmental auditing, and reporting the results to management
- NEBOSH examination and project (optional).

COURSE CONTENT
Foundations in environmental management • Environmental management systems • Assessment of environmental impacts • Control of emissions to air • Control of contamination of water resources • SOLID waste and land use • Sources and use of energy and energy efficiency • Control of environmental noise • Planning for and responding with environmental emergencies • NEBOSH Examination and Project.

Basics of HSE Management – HS18

BASIC
Recognition and effective management of HSE risks/impacts is a fundamental requirement of companies operating in our sector. This course provides participants with the underpinning knowledge on how to specify and implement an effective HSE management system at the technical level. The course is based upon a common HSE management system which explains the elements and their interaction.

A variety of exercises and case studies based on our PetroS on- and off-shore case studies, as well as readings and videos will be used to develop understanding and practice the skills.

The course is designed for the oil, gas and petrochemicals industries around the PetroSkills competence maps for HSE Management at the “Awareness” level.

This class can be taken alone, or together with our Basics of Safety (HS10). It provides the underpinning knowledge for participants seeking a career first-step qualification – the NEBOSH International General Certificate in Occupational Health and Safety (IGC). For holders of the NGC gained within the last five years, this class provides for conversion to the IGC (upon request).

DESIGNED FOR
All workers requiring basic awareness and/or a qualification in HSE management. These may include field/operations staff, office workers, engineers, supervisors, project managers, and aspiring HSE professionals.

It is ideal for anyone with no prior HSE management knowledge.

YOU WILL LEARN
- The principle elements of an HSE management system, and how these interact to promote performance improvement
- How to use ISO 14001, OHSAS 18001/ISO 45001, HSE55, and ILO OSH-2001
- Key tools for assessing risks, risk control, and active/reactive monitoring
- The roles and responsibilities of individuals within the management system and how these can affect the safety culture of the organization
- Examination techniques for the NEBOSH IGC1 exam (if required).

COURSE CONTENT
Leadership, policy, objectives • Responsibilities, resources and competence • Risk assessment and control • Planning, safe systems of work • Contractor controls • Emergency preparedness and response • Incident reporting and investigation • Inspections and audits • Management review

Applied Environmental Management – HS23

FOUNDATIONS
This course provides hands-on opportunities to learn and apply tools, techniques, and systems of environmental management in oil, gas, and petrochemicals industries. Participants work as a team to broaden and develop their understanding of the environmental management system (EMS) and environmental performance of company Petros, a fictitious but highly-realistic case study. Application of the learned techniques is practiced at the upstream Caspian Explorer platform and the downstream Orkney Depot.

Well-blended exercises, problem-solving, and scenarios are used to practice the application of learning in authentic situations. The course is designed to introduce participants to solutions to environmental challenges and to become an agent for change in their own organization.

The course follows-on from HS13, and is recommended for those developing a career in environmental management and/or planning to progress towards Full or Associate membership of the Institute of Environmental Management and Assessment (IEMA) using our Accredited Environmental Practitioner program (HS71).

DESIGNED FOR
Environmental professionals, H&S practitioners requiring broader their knowledge of the role of the managers, engineers, supervisors, project managers, and other staff who have delegated responsibilities for implementing environmental improvement(s).

YOU WILL LEARN HOW TO
- Apply environmental management systems and environmental controls which bring enhanced legal, financial, and reputational improvement
- Communicate effectively with management and staff at all levels of the organization on environmental improvement
- Incorporate EMS into strategic plans, operational activities, products, and services
- Identify environmental aspects, and how to assess the environmental impacts of activities, products, and services in normal, abnormal, and emergency situations
- Use an EMS to confirm legal compliance
- Plan and implement improvements in environmental performance
- Develop monitoring procedures and environmental performance indicators
- Develop and implement an environmental audit plan
- Engage in environmental reporting, including use of recognized methods and formats for presenting reports internally and externally

COURSE CONTENT
Effective use of an EMS • Identifying aspects and assessing impacts • Environmental improvement programs, including pollution abatement and control techniques • Environmental preparedness and response • Environmental communication • Environmental performance monitoring • Environmental auditing and reporting • Management review

Applied Occupational Health and Industrial Hygiene (OH & IH) – HS24

FOUNDATIONS
This richly-blended course, led by an occupational health practitioner, builds practical experience for the oilfield, and adds new skills to allow participants to apply occupational health (OH) and industrial hygiene (IH) techniques in their workplaces. It includes short, punchy tutorials followed by many application exercises in our fictitious, but highly realistic PetroBarola case study. This has been used by thousands of energy-sector HSE specialists to develop their skills.

In this class, PetroBarola Ltd requires your assistance to develop OH and IH systems for a new major project. This includes the construction of a large solar array and a gas-fired power plant, and the closure and decommissioning of an old coal-fired plant. Works require 120 local and 480 non-native workers residing in temporary camps for three years.

DESIGNED FOR
For HSE specialists and others with responsibilities for specifying and implementing OH and IH programs. Some prior knowledge of health-related topics is desirable.

YOU WILL LEARN HOW TO
- Implement hazard (or stressor) characterization, exposure assessment, and exposure controls
- Effectively embed health risk assessment (HRA) and health impact assessment (HIA) into HSE management systems
- Embed the Human Factors Engineering (HFE) process into projects
- Predict, explain, and interpret adverse ergonomic health effects to workers
- Identify potential medical emergencies and develop medical emergency response (MER) plans
- Evaluate fitness for duty (FFD) good practices (including implementation of drug and alcohol policies)
- Possible causes of ill-health hazards during the food handling cycle of origins of water borne health hazards, and preparation of preventive and corrective actions
- Implement procedures to prevent and respond to the impacts of thermal extremes
- Describe the procedures and monitoring required for IH including noise, vibration, chemical, and biological agents, ionizing and non-ionizing radiation
- Procedures to identify and reduce risk of psycho/social agents

COURSE CONTENT
Health risk assessment • Health impact assessment • Human factors engineering (HFE) • Ergonomics • Health and medical emergency facilities • Fitness for duty • Food and water hygiene • Thermal extremes • Medical surveillance • Industrial hygiene • Psychological agents and social impacts

- HS24

All classes available at your location. Contact us today.

+1.918.828.2500 | petroskills.com | +1.800.821.5933 (toll free North America)

See website for dates and locations
### Applied HSE Management – HS28

**FOUNDATION**

In just five days, learn how to develop and use an HSE management system to drive improvement and learning into your organization!

This course is about understanding and applying common HSE management systems in oil, gas and petrochemical industries. It includes a rich blend of knowledge development sessions, individual and team exercises, problem-solving, and sector case studies. These come together to challenge participants in a realistic but fictional case study facility, PetroBarola Limited.

The course may be taken either independently or in conjunction with our Applied Safety, Applied Health, and/or Applied Environmental Management courses.

Some prior knowledge of HSE management related topics is desirable but not essential.

### Applied Safety – HS20

**FOUNDATION**

This course teaches participants about a selection of advanced safety tools and facilitates practice use of these in a case study setting.

During just five days, we learn about safety techniques for the oil, gas, and petrochemical industries including the HSE case, Bowtie, JHA/ JSA, HAZOP, fault, and event tree analysis.

We use a rich blend of exercises, problem-solving, videos, and case studies to support the learning in realistic situations. These come together to challenge participants in our case study scenario PetroBarola.

The class concludes with participants defending the company before the HSE regulator explaining why the company should retain its operating license following a serious incident.

The course content is built around the PetroSkills competence maps at the Fundamental Application level. It may be taken either independently or in conjunction with other Foundation level courses - Applied HSE Management, Applied Health, and/or Applied Environmental Management.

This course also provides practical learning for professionals seeking professional accreditation through our Accredited H&S Practitioner (to CMOSH) or Accredited Environmental Practitioner programs (to MiEMA and Cenv) – HS70 and HS71 respectively.

### Contractor Safety Management – HS46

**FOUNDATION**

In many companies, contractors work 50%+ of the hours in the field. That's why it is important to prequalify, select, mobilize, execute, demobilize, and close out contracted activities to a high standard. An effective relationship between clients and contractors at all stages of the supply chain is essential for competing managers managing health and safety in a facility or project.

In just five days, you'll learn the processes for developing and managing a contractor safety management system based on recognized management systems, such as API Recommended Practice 2220 ‘Contractor Safety Performance Process’ and OGP ‘Guidelines for Working together in Contracting Environment’. The course includes knowledge development sessions, practical exercises and problem-solving set in a case study setting. The course concludes with a contractor pre-qualification, selection, and justification exercise.

### Environmental Management Systems - A Development Workshop – HS37

**FOUNDATION**

Since its launch in 1996, more than 250,000 organizations around the world have become externally certified to ISO 14001, the leading international standard and specification for environmental management systems (EMS). This workshop provides the learning and copyright-free template documents necessary for developing and implementing an ISO 14001-based EMS for your own facility/ies. You should bring a site plan, and some process flowcharts, which will be used in a series of hands-on exercises throughout the class. You will leave the class with a developed, draft EMS manual.

Arrangements for external audit by a certification body is left to the choice, convenience, and timing of the participant’s organization. Of course, we cannot guarantee that you will achieve certification as we will not have been to the site to verify practices there.

### Designed for

Business and other managers from large or small organizations who require the skills and support to develop a recognized EMS.

### You will learn how to

- Understand environmental management system ISO 14001 (in the current version at the time of your attendance).
- Assess the major areas of their operations’ interaction with the environment.
- Recognize corporate and legal requirements for environmental compliance.
- Plan and develop a documented EMS.
- Plan for EMS (allocating resources and developing an EMS schedule).
- Identify and prioritizing the environmental aspects and impacts of operations.
- Develop planning matrices for significant aspects by setting objectives, targets, management programs, and KPIs.
- Develop plans that meet operational goals - normal, abnormal, and emergency - using process flow diagrams.
- Modify an emergency preparedness response to include environmental requirements.
- Comply with EMS requirements including document control, internal auditing, demonstrating improvement.
- Prepare a draft EMS manual based on our templates.

### Course Content

- **Business risk and the environment**
  - Management systems and ISO 14001
  - Environmental policy
  - EMS planning - aspects, impacts, legal, and other requirements
- **Resources and training**
  - Communication, documentation, and document control
  - Monitoring and measurement
  - EMS auditing and environmental improvement

### Course Content - HSE20

- **Leadership and commitment**
  - HSE policy and strategic objectives
  - Legislation and regulation
  - Organization, responsibilities, and resources
  - Professional training and behavior
  - Risk assessment and hierarchy of control
  - Planning and procedures
  - Contractor controls
  - Security
  - Emergency preparedness and response
  - Performance management
  - Incident reporting and investigation
  - Auditing
  - Management review and improvement

### Course Content - HS46

- **Safety management**
  - Safety culture and maturity
  - Safety culture and maturity: Safety culture and maturity
  - Errors and violations, stress test
  - Environmental compliance
  - Chemical handling
  - Safety management systems
  - General principles
  - Risk management systems
  - Critical control of operations
- **EMS auditing**
  - Environmental management systems (EMS)
  - ISO 14001 requirements
  - Environmental management systems
  - Monitoring and measurement
  - EMS auditing and environmental improvement

### Course Content - HS37

- **Environmental management systems**
  - ISO 14001
  - EMS planning and auditing
  - Environmental management systems
  - EMS auditing
  - Environmental management systems
  - EMS auditing and environmental improvement

### Course Content - HS20

- **Safety techniques**
  - Safety culture and maturity
  - Safety culture and maturity: Safety culture and maturity
  - Errors and violations, stress test
  - Environmental compliance
  - Chemical handling
  - Safety management systems
  - General principles
  - Risk management systems
  - Critical control of operations
- **Applied safety**
  - Safety techniques for hazard and effect management
  - Safety culture and maturity
  - Safety culture and maturity: Safety culture and maturity
  - Errors and violations, stress test
  - Environmental compliance
  - Chemical handling
  - Safety management systems
  - General principles
  - Risk management systems
  - Critical control of operations
- **Compliance**
  - Compliance with EMS requirements
  - Environmental management systems
  - Monitoring and measurement
  - EMS auditing and environmental improvement

### Dates and Locations

**2016-17 Schedule and Tuition / 5 Days**

**HOUSTON, US**

- **18-22 SEP 2017**
  - **US$4040**
  - **US$4670+VAT**

**LONDON, UK**

- **19-23 SEP 2017**
  - **US$4040**
  - **US$4670+VAT**

**2016-17 Schedule and Tuition / 5 Days**

**HOUSTON, US**

- **31 OCT-4 NOV 2016**
  - **US$4040**
  - **US$4670+VAT**

**LONDON, UK**

- **6-10 NOV 2016**
  - **US$4040**
  - **US$4670+VAT**

**2016-17 Schedule and Tuition / 5 Days**

**HOUSTON, US**

- **7-11 AUG 2017**
  - **US$4040**
  - **US$4670+VAT**

**LONDON, UK**

- **11-15 SEP 2017**
  - **US$4040**
  - **US$4670+VAT**

See website for dates and locations.
Fundamentals of Process Safety – PS2

FOUNDATION
The course will cover the fundamentals of process safety for all staff levels of processing facilities in the upstream and downstream oil, gas, and petrochemical industry. To identify how different disciplines and roles can have an impact on process safety performance, there is a rolling case study (Project COLEX) throughout the course that involves the installation of a separator vessel, and the process safety considerations and implications are explored and discussed at the various stages, from design to full operation.

DESIGNED FOR
The course will benefit all staff associated with the operation, maintenance, and governance in production and processing facilities and is relevant to roles, including senior management, project and engineering support teams, HSE support, supervisors, and operator and maintenance technicians. It provides an understanding of the design basis and essentials for safe operations, without addressing the more detailed calculation aspects covered in Process Safety Engineering – PS4.

YOU WILL LEARN HOW TO
- Identify the systems and processes required to create process safety in a high hazard installation
- Identify and choose appropriate techniques and tools to qualitatively assess process hazards
- Determine appropriate risk reduction strategies and identify effective risk reduction measures to prevent, control, and mitigate process safety risk
- Recognize and develop systems to manage process safety in operations through operating procedures and operating limits, ensuring plant integrity through maintenance and inspection
- Use a management of change process to minimize risk of change
- Identify and monitor key performance measurements and verifications to maintain and improve safety performance

COURSE CONTENT
Business context for process safety • Risk assessment (hazard identification, hazard scenarios, consequence and likelihood analysis, and risk analysis and tools and techniques) • Risk reduction measures (barriers) [types and hierarchy of risk reduction measures (barriers)] • Management of process safety in operations [operating procedures, design and operating limits, human factors, inspection and maintenance, and emergency response] • Management of change • Learning from previous incidents and near misses • Self-verification and measurement • Process safety key performance indicators • Management review and auditing • Process safety leadership [governance and culture]

Risk Based Process Safety Management – HS45

FOUNDATION
This course introduces process safety management in the oil and gas industry, the elements and benefits of process safety management systems, and tools for implementing and managing a system. In this course the participant will learn to use tools and techniques for managing process safety. The Center for Chemical Process Safety’s (CCPS) book titled “Guidelines for Risk Based Process Safety” or “RBPS Guidelines” will be the text for this course. Participant centered exercises and selected case studies will be used to build on the concepts that CCPS advocates for risk based process safety.

Throughout the course, participants will be challenged to think how their process safety management system can be enhanced and modified to meet the concepts of risk-based decision making. An individual action plan will be developed to apply the information from the course to the workplace.

DESIGNED FOR
HSE professionals, operations and maintenance technicians, engineers, supervisors and project managers requiring a basic foundation in developing and managing process safety. The more technical aspects of process safety engineering are covered in PS4, Process Safety Engineering.

YOU WILL LEARN HOW TO
- Identify processes applicable to Process Safety Management (PSM) and describe relevant terms used
- Identify which standards are to be applied for managing process hazards
- Apply programs and tools for managing a PSM system
- Choose appropriate decision making methods and tools to identify process hazards
- Describe and use techniques available for control of hazards associated with process designs
- Describe the criteria and methods of selecting equipment and safe guarding controls
- Research and apply the performance parameters for the safety systems in operations
- Explain the role of all disciplines and their contribution to the management of potential HSE hazards

COURSE CONTENT
Process safety culture and competency • Compliance with standards • Understand hazards and risk • Operating procedures and safe work practices • Asset integrity and reliability • Management of change • Conduct of operations • Incident investigation (associated with plant failures) • Measurement and metrics • Management review and continuous improvement

Lead Auditor for Health and Safety (IOSEG) and Environment (IEMA) – HS47

INTERMEDIATE
This auditor training course is uniquely approved by IEMA and IOSH for developing integrated management systems auditors for ISO 14001 and OHSAS 18001/ISO 45001. It is recognized by IEMA (and others) for accreditation as a lead auditor, after suitable practical experience. Participants work in teams of internal auditors to appraise the HSE-MS of Petro Barola Ltd, a fictitious but highly-realistic case study based on the distribution department of an integrated oil company located on the island of Barola. Each audit team is led by an experienced lead auditor, through each stage of a five day audit in real time. The audit includes an opening meeting, live interviews, corporate documents and test results. The class concludes with a presentation of the audit report to senior management. The class is firmly based in the principles of corporate responsibility for risk management and business control, and the theory and practice of modern risk-based auditing.

DESIGNED FOR
HSE professionals, line managers and supervisors; aspiring and experienced auditors. The class has proven extremely beneficial for those preparing for secondment to an audit team.

YOU WILL LEARN HOW TO
- Lead/participate effectively in an audit or review in line with the standards of the auditing profession, including ISO 19011
- Relate audit to the essential principles of corporate governance, risk management, business control and management system standards
- Add value for senior management from the auditing process
- Apply the skills necessary to conduct an effective HSE/E audit, including:
  - Familiarizing with the auditor’s business environment and objectives
  - Developing a risk-based work plan
  - Effective interviewing, reviewing and testing techniques
  - Recording, analyzing and assessing audit findings
  - Evaluating the auditor’s HSE/E-MS
- Summarizing, presenting and reporting at high level the audit results to management

COURSE CONTENT
Risk management and business control • Principles of auditing (ISO 19011) • Initiating and planning any audit • Reviewing and testing effectiveness • Effective interviewing • Legal and ethical aspects relevant to auditing • Developing audit findings and writing business-focused recommendations.

How can you reduce health, safety, security and environment risks?

PetroSkills ePilot™ HSSE Library can help you:
- Identify knowledge gaps quickly and generate pathways to proficiency
- Achieve compliance goals with compliance-focused management and reporting
- Reduce time-to-proficiency, enable refresher training, and improve on-boarding
- Reduce expenses of classroom scheduling, travel

For more information email solutions@petroskills.com
**Distance Learning Vocational Diploma in Occupational Safety and Health – HS70**

**SPECIALIZED**

Achieve Chartered membership of the Institution of Occupational Safety and Health (CMIOSH) by flexible, distance learning. IOSH is the world’s largest health and safety professional membership organization, and its qualifications are recognized globally.

This is a mentored program typically lasting 12-18 months. Every participant has a personal adviser who works with them on a one-to-one basis. Our support is tailored to meet your needs. Communication is usually through e-conference, e-mail and telephone. The start date is flexible, and you can work at a pace that suits you and your job.

**DESIGNED FOR**

Experienced health and safety managers/advisers/specialists. You will be an active practitioner with at least two years’ experience.

**YOU WILL LEARN**

- To build your portfolio of evidence, supported by a personal mentor
- To write reflective reports using templates provided
- To identify and close any gaps in your H&S knowledge
- Through assessment and internal verification of your portfolio

**COURSE CONTENT**

Develop and implement effective communication systems for health and safety (401) • Promote a positive health and safety culture (501) • Develop and maintain individual and organisational competence in health and safety (502) • Identify, assess, and control health and safety risks (503) • Develop and implement proactive monitoring systems for health and safety (504) • Develop and implement reactive monitoring systems for health and safety (505) • Develop and implement health and safety emergency response systems and procedures (506) • Develop and implement health and safety review systems (507) • Maintain knowledge of improvements to influence health and safety practice (508) • Develop and implement the health and safety policy (601)

**Accredited Environmental Practitioner: IEMA Full Member by Applied Learning – HS71**

**SPECIALIZED**

Achieve Full Membership of IEMA (MIEMA) and Chartered Environmentalist (CEnv) in this two-part mentored, distance learning program. Part 1 comprises six units each requiring submission of work evidence to demonstrate competence. Completion leads to award of the IEMA Associate Certificate in Environmental Management (AIEMA). In (optional) Part 2, the participant is guided through a personal development program, and the application and assessment process to complete the award of MIEMA and CEnv. Each participant has a personal mentor who works with them on a one-to-one basis. Our support is tailored to meet your needs at a pace which suits you. Communication is usually through e-conference, email and telephone. You can start your program any time. Part 1 is usually spread over an 8-12 month period, but can be speeded up or slowed down to suit you. Completion of Part 2 requires 3-years full time environmental experience, but this can predate your enrollment.

**DESIGNED FOR**

Experienced environmental managers and advisers seeking Associate and/or Full Membership of IEMA (the Institute of Environmental Management and Assessment). Participants should have responsibility for managing one or more environmental impacts within their work.

**YOU WILL LEARN**

- Participants will be supported by a personal mentor to build a structured portfolio of work-based evidence, demonstrating skilled application of environmental management techniques, which collectively meet IEMA requirements
- To prepare required reports
- To close any knowledge gaps through directed reading
- Through assessment and internal verification of submitted materials
- By registering you with IEMA as an Affiliate member for one year (included in your fee), and upgrading you upon your completion to AIEMA and MIEMA as applicable

**COURSE CONTENT**

Earth’s natural systems and how human activity interacts and impacts on these • Main sources of environmental law and legislation affecting international businesses • The principle tools of the environmental professional including Life Cycle Assessment and Environmental Impact Assessment • The benefits of implementing an environmental management system • Mitigating environmental impacts • Environmental communication • The issues, science and philosophy of sustainability

**Introduction to Petroleum Business – IPB**

**BASIC**

Creation of shareholder value should be at the heart of every business decision. This course is designed for technical professionals in the petroleum industry who want to understand the nature of the petroleum business and how you will contribute to the financial success of your company. The course will introduce delegates to the structure of the petroleum business including supply and demand, how oil companies are organized and financed and what it takes to be financially successful. Success will be explored through an understanding of how we calculate long-term shareholder value both at the corporate and project level as well as the valuation of competitive advantage and incorporation of risk assessment in our models. Delegates will be introduced to the primary accounting financial statements and what they tell us about a company. Common accounting and economic terms and metrics will be reviewed. Participants should bring a PC with excel software to complete exercises.

**DESIGNED FOR**

Engineers, geologists, geophysicists, landmen, HR and other non-financial and accounting professionals who need an introduction to the business aspects of the petroleum industry including the interplay of finance and economic evaluation in the creation of long-term shareholder value.

**YOU WILL LEARN**

- How the petroleum business is structured and capital is raised
- What is shareholder value and how it is created
- The critical importance of seeking competitive advantage
- Economic and accounting terminology
- How to make an economic valuation of an investment and assess its competitive advantage
- How value creation impacts share price
- How shareholder value is measured
- What is risk and how is it assessed in economic evaluations

**COURSE CONTENT**

The importance of creating value for shareholders • History and characteristics of the oil and gas business • Introduction to Economic Evaluation including Net Present Value, Internal Rate of Return, and risk • Introduction to the key accounting financial statements and terms • The need for competitive advantage and how it is measured • How to develop spreadsheets to conduct economic evaluations

Start date for the program is fully flexible. The program fee is $4,099 USD (excluding VAT) with 18-months’ support. There will be no refund issued after registration is confirmed.

There is additional value in booking this program together with Accredited Environmental Practitioner: EMA Full Member by Applied Learning - HS71 for the combined fee of $7,999 USD.

To register or for more information, please see petroskils.com/hs70/email training@petroskills.com or call +1.918.828.2500 or toll free in North America +1.800.821.5933.

**Basic Petroleum Economics – BEC3**

**BASIC**

Could you answer the following three questions for your next project? What will it cost? What is it worth? Will it earn sufficient profit? Before undertaking any project, these questions should be answered, and this course will provide the fundamentals necessary to enable you to do so. Contractual arrangements, which also significantly impact the economic viability of a project, are covered. Participants practice cash flow techniques for economic evaluations and investigate frequently encountered situations. Each participant will receive Economics of Worldwide Petroleum Production, written specifically for PetroSkills courses. Individuals may wish to participate in either this course or Expanded Basic Petroleum Economics, which is the five day version that includes expanded material covering finance, accounting, and budgeting.

**DESIGNED FOR**

Managers, engineers, explorationists, field accounting supervisors and other personnel who need to develop or improve their skill and understanding of basic economic analysis and profitability of petroleum exploration and production.

**YOU WILL LEARN**

- How to evaluate the economic viability of a project
- Cash flow techniques applicable in economic evaluations
- How to use economic criteria to choose investments
- Models to weigh risk and uncertainty

**COURSE CONTENT**

Forecasting oil production • Defining: “reserves”, operating expenses, capital expenditures, inflation, factors effecting oil and gas prices • Cash flow techniques • Economic criteria: interest, hurdle rate, time value of money, selection, ranking criteria • Risk: uncertainty: types of risk, mathematical techniques, probabilistic models, uncertainty in economic analysis • Tips on economic factors in computer spreadsheet analysis • Ethics in economic analyses

Start date for the program is fully flexible. The program fee is $4,099 USD (excluding VAT) with 18-months’ support. There will be no refund issued after registration is confirmed.

There is additional value in booking this program together with Introduction to Petroleum Business: IPB for the combined fee of $8,099 USD.

**2016-17 Schedule and Tuition / 3 Days**

| Location          | Dates            | Tuition  
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<tbody>
<tr>
<td>CALGARY, CAN</td>
<td>3-5 APR 2017</td>
<td>US$2925+GST</td>
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<tr>
<td></td>
<td>13-15 FEB 2017</td>
<td>US$2925</td>
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<td></td>
<td>1-3 MAR 2017</td>
<td>US$2925</td>
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<td></td>
<td>10-12 JUL 2017</td>
<td>US$2925</td>
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<td></td>
<td>16-18 OCT 2017</td>
<td>US$2925</td>
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<tr>
<td>KUALA LUMPUR, MYS</td>
<td>14-16 APR 2017</td>
<td>US$3550</td>
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<tr>
<td>LONDON, UK</td>
<td>16-18 JUN 2017</td>
<td>US$3950</td>
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<td>11-13 SEP 2017</td>
<td>US$3340+VAT</td>
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<tr>
<td>SAN FRANCISCO, US</td>
<td>14-16 NOV 2016</td>
<td>US$2925</td>
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<td>13-15 NOV 2017</td>
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*plus computer charge*
**Expanded Basic Petroleum Economics**

- **BEC**

**BASIC**
Could you answer the following three questions for your next project? What will it cost? What is it worth? Will it earn sufficient profit? Before undertaking any project, these questions should be answered. This course will provide the fundamentals necessary to enable you to do so.

**Budgeting and accounting, and contractual arrangements, which also significantly impact the economic viability of a project, are covered.** Participants practice cash flow techniques for economic evaluations and investigate frequently encountered situations. Participants are invited to submit their own economic problems (in advance), if appropriate. Each participant will receive Economics of Worldwide Petroleum Production, written specifically for PetroSkills courses.

**DESIGNED FOR**
Managers, engineers, explorationists, field accounting supervisors and other personnel who need to develop or improve their skill and understanding of basic economic analysis and profitability of petroleum exploration and production.

**YOU WILL LEARN**
- How to evaluate the economic viability of a project
- Cash flow techniques applicable in economic evaluations
- Models to weigh risk and uncertainty
- Techniques to determine expected value
- The effect finance, budgeting, and contractual agreements have on a project
- The basic principles of accounting

**COURSE CONTENT**
Forecasting oil production
- Defining: reserves, operating expenses, capital expenditures, inflation, factors affecting oil and gas prices
- Cash flow techniques
- Economic criteria: interest, hurdle rate, time value of money, selection, ranking criteria
- Risk, uncertainty, types of risk, mathematical techniques, probabilistic models, uncertainty in economic analysis
- Financing, ownership in the oil and gas industry, business arrangements between operators, between mineral owners
- Accounting versus cash flow: accounting principles and definitions, differences between accounting cash numbers, depreciation, depletion, amortization
- Budgeting: types, processes, selecting of projects for the budget
- Economic analysis of operations
- Computer economics software
- Tips on economic factors in computer spreadsheet analysis
- Ethics in economic analyses

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**Cost Management – CM**

**FOUNDATION**
 Few problems threaten the petroleum businesses more than uncontrolled costs. Economic realities have made it necessary for most companies to operate with a “lean and mean” philosophy. As the price of our products fluctuates widely, the most vulnerable companies are those that are ineffective in understanding and managing their costs. The ability to properly manage costs is now paramount in a company’s success and even their ultimate survival. As the energy industry goes through its most monumental changes since the 1970s, the companies that can identify efficiencies and inefficiencies will be able to react to the challenges of the global market place, thus generating higher profits. This seminar is an introduction to Practical Cost Management techniques designed to help the participant better understand the underlying dynamics of cost using recent events and trends, using relevant exercises, timely case studies and role-playing techniques.

**DESIGNED FOR**
Operating managers, field personnel, project managers, technology managers, budget managers, or anyone wanting to manage costs more efficiently and effectively.

**YOU WILL LEARN HOW TO**
- Understand the different cost classifications and cost drivers
- Develop and monitor the behavior of costs
- Build your own activity dictionary
- Design management control system that works
- Understand the principles of Activity Based Cost Management (ABCM) and its development and implementation
- Analyze capital projects using the proper tools and techniques
- Manage and not mismanage costs
- Develop tools to use for managing costs

**Evaluate costs for effectiveness**

**COURSE CONTENT**
Defining costs, classifications and terminology for an E&P company
- Determining cost objects, cost drivers and their behaviors
- Analyzing different types of cost management systems
- Using Activities Based Management (ABM) to monitor costs and processes Building and using an activity dictionary
- Using value added costs versus non value-added costs for improvement Distinguishing between cost effectiveness and cost efficiencies
- Developing productivity measurements that work
- Operating Cost Management using the budgets efficiently and effectively Using GAP analysis in measuring productivity of costs
- Support departments cost allocations Transfer pricing
- Determining the break-even cost and volumes Using variance analysis budget for monitoring performance Optimizing the supply chain Developing and analyzing capital investment Projects Replace versus maintain Life Cycle Costing Using different scenarios to more effectively manage costs Performance Measurement using capacity management techniques

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**Economics of Worldwide Petroleum Production – EWP**

**FOUNDATION**
In the area of corporate and international petroleum production, do you know how to choose the best investments? Can you properly evaluate investment opportunities? Do you know the investment criteria to use for best results? Answers to these questions will greatly improve your ability to make profitable decisions. Techniques for predicting profit, production, operating costs, and cash flow enable the analyst to evaluate decision alternatives for optimum results.
Understanding cost of capital, financial structure, risk and uncertainty, present worth, rate of return, and other economic yardsticks enhances the quality and the value of economic analysis.

**Discussion of real-life examples with participants from many different countries enhances the value of the course.**

**DESIGNED FOR**
Managers, supervisors, and operating personnel concerned with costs, profitability, budgets, the company “bottom line” and other aspects of economic analysis of petroleum production on a project, corporate, and worldwide basis, who have had some previous experience in this area. Due to similarity in content, PetroSkills recommends that participants take this course if they have not previously taken the CM course as the content course is more advanced than Expanded Basic Petroleum Economics. Take one or the other, but not both courses.

**YOU WILL LEARN HOW TO**
- Use cash flow techniques in economic evaluations
- Evaluate and choose investment opportunities
- Use models to weigh risk and uncertainty
- Evaluate decision alternatives using predictive techniques
- Evaluate how projects effect the corporation

**COURSE CONTENT**
Pricing: natural gas, marker crudes, OPEC, spot and futures markets, transportation
- Production rate: mathematical models
- Cash flow: revenue, capital and operating costs, spreadsheet exercises
- Economics: decision making: present value concepts, sensitivity and risk analysis, decision trees, royalty, sources of capital, incremental economics, sunk costs, inflation, inflation: Budgeting: examples and exercises, long-range planning
- Cash versus write-off decisions: depreciation, depletion, and amortization
- How to read an annual report: statements, financial ratios, what is and is not included, reading between the lines
- Worldwide business operations: concessions, licenses, production sharing contracts, joint ventures, cost of capital, sources of funding, debt and equity Performance appraisal: buy/sell assessments
- Computer economics software
- Tips on formal and inclusion of economic factors in computer spreadsheet analysis
- Ethics in economic analyses

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**Petroleum Finance and Accounting Principles – PFA**

**FOUNDATION**
Making the most efficient use of your resources is critical to the success of any company. Finance and accounting comprise the universal business language and help you manage those resources effectively. Planning and decision making that occur in an informal financial context permit better application of resources and promote competitive advantage. The aim of this course is to improve delegates’ job performance by enhancing their understanding of current international practices in finance and accounting within the E&P industry. The latest issues.

**DESIGNED FOR**
Personnel new to the oil and gas accounting industry – accounting, finance, or economists, others desiring to understand or refresh their knowledge of basic petroleum accounting concepts, financial personnel needing to understand unique issues as they relate to the petroleum industry, and technical or asset team members looking for the basic concepts of accounting and finance. Participants are encouraged to bring their company’s financial reports. This course may qualify for up to 34 hours of CPE for US CPAs.

**YOU WILL LEARN HOW TO**
- Understand financial reporting requirements for oil and gas companies under IFRS and US GAAP
- Apply basic concepts and terminology for accounting and finance in oil and gas
- Create accounting statements, including a cash flow statement from data accumulation to audited financial statements
- Distinguish between the different financial statements and their roles
- Distinguish between financial, managerial, and contract (joint operations) accounting
- Recognize the different oil and gas accounting methods
- Determine the difference between profits and cash flow
- Apply capitalization rules and depreciation methods
- Recognize accounting treatments of joint ventures such as Production Sharing Agreements
- Evaluate capitalized assets using a ceiling-test
- Read and understand those confusing footnotes
- Prepare, read, and use the disclosures for oil and gas companies
- Recognize how accounting decisions can affect earnings, cash flows, and operational decisions
- Calculate, understand, and analyze financial reports and basic oil and gas ratios

**COURSE CONTENT**
Getting started: financial terms and definitions, the language of business; accounting rules, standards, and policies
- Constructing the basic financial statements
- Classifying revenues, assets, liabilities, and equity
- Comparing different accounting elements
- Accounting for joint operations
- Accounting and reporting

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**2016-17 Schedule and Tuition / 5 Days**

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Advanced Decision Analysis with Portfolio and Project Modeling

Specialized

Quality forecasts and evaluations depend upon well-designed project and portfolio models that are based upon clear decision policy, sound professional judgments, and a good decision process. In this course participants learn to build good models. We use the familiar Microsoft Excel spreadsheet as the platform for project and risk assessment models. Add-in software provides Monte Carlo and decision tree capabilities. The course emphasis is on the evaluation concepts and techniques, rather than particular software programs.

Designed for

Evaluation engineers, analysts, managers, planners, and economists. This course is intended for professionals involved with developing project evaluation, portfolio, and other forecasting and assessment models. Prior background in decision analysis is expected.

You will learn how to

- Frame, build, and evaluate decision models and extract key insights
- Apply the exponential utility function for risk policy
- Design investment portfolio optimization models that include constraints, requirements, and typical interrelationships between projects
- Use decision tree software for value of imperfect information analysis
- Use Monte Carlo simulation software with optimization
- Develop quality Excel models for projects and portfolios

Course Content

Decision Tree Modeling: application of DA process for modeling; influence diagrams; tree cash flow concept; sensitivity analysis; good modeling practices; real options overview • Monte Carlo Simulation: prospect risk (similar to play analysis); calculating probabilities and distributions with simulation; modeling and optimizing investment portfolios; valuing added control and flexibility; stopping rules; ways to model correlation • Decision Tree Analysis: value of information review; sensitivity analysis; solving with utility for risk aversion • Decision Policy: overview of finance theory related to PV discount rate and risk (CAPM, modern portfolio theory); shareholder value model; portfolio optimization to maximize value; efficient frontiers; multi-criteria decisions; risk policy as a utility function; expected utility and certain equivalent; insurance and hedging • Implementation: presentation formats; judgments and biases; model-centric enterprise model and balanced scorecard element focusing on shareholder value creation

Fundamentals of International Oil and Gas Law

Specialized

International petroleum transactions occur within a complex legal environment that limits what petroleum companies, host governments and service companies can do, and interprets and enforces many of their promises. Petroleum professionals often lack the broad understanding of what makes up this legal environment and how it can have an impact on their work. This course is designed to give participants a basic understanding of the legal fundamentals that make their international transactions work, including the principles that apply to interpreting and enforcing their agreements, the procedures for resolving their disputes, addressing interpretational issues posed by common contract provisions, and avoiding liability under environmental and bribery laws. The course will teach participants to confidently identify potential legal problems, address them before they become serious, and facilitate the smooth interaction between oil and gas professionals, host government representatives, and their lawyers.

Designed for

Petroleum managers who deal with international oil and gas legal matters in the course of their business, and legal professionals with little or no specialized training in oil and gas law, but expect to deal with international oil and gas law matters.

You will learn how to

- Recognize differences between international legal systems and transactions
- Understand legal fundamentals behind international transactions

Course Content

Law governing international petroleum transactions (including significant differences between various national legal systems, and the sources, principles, and limits of international law as applied to petroleum transactions) • Interpretation and enforcement of treaties and private contracts • Effects of international trade (and producing country) agreements such as the E.U., NAFTA, Mercosur, and OPEC • Dispute resolution approaches, including litigation and arbitration • Procedures under and enforcement of common arbitration provisions • Legal defenses available to foreign companies, states, and state-owned or connected entities, and recognition and enforcement of judgments and arbitration awards • Legal conceptual frameworks of ownership of mineral rights (onshore, offshore, and deep-sea bed) • Expatriation and compensation issues • State-owned entities and privatization • Laws bearing on development rights • Legal interpretational issues of common contract provisions • Interpretational issues for service contracts • Transfer and protection of technology and confidential business information • Operating agreements and unitized operations • Environmental protection laws • Criminal and civil liability for oil spills • Indemnification and guaranty issues • Bribery laws • Marketing and transportation • Petroleum futures

Strategic Thinking: A Tool-Based Approach

Specialized

This course is a hands-on case-based course focused on enhancing strategic thinking capabilities of decision makers in the oil and gas industry including those responsible for building and sustaining successful strategic plans. Participants are presented with several strategic tools for analyzing different aspects of the petroleum business from both a macro and micro perspective. There is a major emphasis on understanding how the petroleum industry has developed over the last 150 years including both successful and unsuccessful strategies that were used. This provides a basis for evaluating “game changers” that are now transforming the industry and positioning our businesses to maximize shareholder value. Case studies during this course provide opportunities for individualized and team-based learning. Teaching approach follows an iterative process of interactive discussions, application of materials, discussion of results, and re-application of materials to new contexts.

Designed for

Geologists, geophysicists, engineers, managers, and executives responsible for defining, assessing, and developing business alternatives and strategy in the petroleum industry.

You will learn how to

- Summarize, present, and discuss strategic management topics and issues
- Determine the factors that influence organizations to change their level of strategic thinking
- Identify, understand, analyze, and evaluate the strategies of their own units/divisions and other businesses in light of current and potential “game changers”
- Describe, apply, draw, and defend conclusions from strategic analysis tools

Course Content

Review of the history of strategic thinking • Assessment of the petroleum industry from a strategic perspective as a supplier of energy • Understanding of the current petroleum and gas industry and what are the “game changers” that are now framing its future • STEEPLE framework • Michael Porter’s value chain analysis • Competitive Advantage: defined theoretically and quantitatively • SWOT (strengths, weaknesses, opportunities, threats) analysis • Strategic thinking as a craft • Scenario analysis and planning • Six sigma • Boston Consulting Group (BCG) growth share matrix • Personal application of strategic thinking
Foundation
This three day course is designed to help companies award the right contracts to the best providers. Contracting involves many roles that must work together to negotiate, document, and ensure a reliable supply of goods and services for capital projects and ongoing operations. Everyone involved in contracting with suppliers and service providers must understand the entire process, the keys to success, and what is required of their role if contracts are to be effective in managing supply risks. Materials and exercises in this course are specifically built around oil and gas industry issues.

Designed for
Individuals involved in any aspect of sourcing, tendering, selecting, forming, and executing contracts with suppliers of goods and services to the oil and gas industry. Included are project technical roles such as facilities engineers, drilling engineers, project engineers, commissioning engineers, contractors engineers, and planning engineers.

You will learn
• How to better manage project and legal risks with the contracting process
• How to successfully manage disputes and contract performance issues
• What is required in a successful tender package
• How to identify the appropriate contract price strategy to minimize financial risks and contract costs
• The difference between cost and price analysis and how to use each technique to evaluate a proposal
• Appropriate commercial and legal contract terms and conditions

Course content
Overview of the contracting process  Key issues in forming a contract in the oil and gas industry  Establishing risk management priorities throughout the contracting process  The legal environment and best use of legal counsel in contracting  Avoiding and managing contract disputes in a challenging industry  The tendering process and key documents in the tender package  Buyer and seller pricing objectives to consider when tendering  Tools used in tendering to address financial key risks  Types of contracts and examples of industry applications  Using economic price adjustment clauses in lump sum agreements  Bid evaluation and award considerations including price/cost analysis  Using a formal contract change control process

Advanced Procurement in Oil and Gas – SC41
Foundation
This three day course covers practical considerations essential to achieve major improvements in planning, buying, storing, and disposing of the vast array of materials and spare parts needed in the oil and gas industry. Evolving best practices by major oil and gas companies are explored under three inter-related modules—inventory management, warehousing, and investment recovery.

Designed for
Professional and management personnel who have responsibilities for materials, spare parts, and supplies needed to support any refinery, gas plant, onshore/offshore production, or other industry operations.

You will learn
• How to provide better customer service for long lead or critical materials and spare parts essential to the success of any well field operation, offshore platform, refinery, gas plant, or chemical processing facility  • How to establish the best methods of inventory analysis and create performance measures for min/max and order point systems  • How to use supplier stocking programs, contract inventory, and integrated supply agreements  • How to improve warehouse efficiency, layout, and space utilization for better inventory management  • How to improve inventory record accuracy and physical control of materials to lower inventory levels and increase space utilization  • Best practices used to manage surplus or inactive assets and increase investment recovery dollars

Course content
Setting comprehensive inventory goals and objectives  Understanding carrying costs and economic order quantity theory  Improving material identification and coding  Segmenting inventory for analysis  Using formal procedures for making the decision to stock  Determining safety stock levels and order points  Improving min/max systems and settings  Understanding and using material forecasts  Establishing a warehouse scorecard  Creating best practices in the physical control of materials  Measuring record accuracy and improving cycle counting systems  Increasing the use of warehouse technologies  Improving warehouse safety and security  Preventing and reducing surplus materials  Understanding Investment recovery techniques  Using the disposition value chain for investment recovery

Inside Procurement in Oil and Gas – SC61
Intermediate
This course will expand the industry understanding of supply chain professionals and increase their value added in a global, fast changing environment. Participants will learn what each industry segment requires from procurement and be given insights to maximize value delivery and increase their contribution. The course includes an online, interactive forum with the instructor, and pre-read materials designed to familiarize course attendees with relevant issues. Attendees will leave better prepared to create and support procurement strategies that meet stakeholder needs, whether for projects or operations support.

Designed for
Supply chain professionals with 2-7 years’ experience either inside or outside the oil and gas industry. The course is for anyone who needs a better understanding of procurement value creation in the oil and gas industry and includes buyers, procurement specialists, logistics specialists, business analysts, team leaders, project managers, commodity managers, materials managers, and new sourcing specialists or category managers.

You will learn
• How industry is structured, including host country and strategic relationships  • Business drivers and interface issues to be supported by procurement  • The role of industry economics in dictating procurement good practices in cost management  • Industry global compliance needs and how procurement can add value  • How the industry is modeled in the E&P (upstream), midstream, and downstream value chains  • The E&P Asset Management Cycle and Total Cost of Ownership concepts  • Characteristics of supply markets to oil and gas and the emphasis on market intelligence practices and managing supply risks  • What constitutes effective procurement/supply chain metrics for performance improvement  • Procurement challenges unique to the industry

Course content
Industry overview for procurement including host country and strategic relationships  Key business drivers and interface issues between projects (CAPEX) and operations (OPEX)  Procurement’s role in oil and gas value chain management – upstream, midstream, and downstream  E&P asset management cycle and total cost of ownership  Economics of oil and gas that drive procurement value creation  Industry regulatory and contractor compliance issues  Industry market intelligence practices in procurement  Industry spending analysis characteristics and strategies  Creating industry category management (sector) strategies  Key procurement and supplier performance metrics  Trends in global sourcing and local content requirements  Oil and gas law and global contracting risks  Influence of e-commerce and e-procurement initiatives in oil and gas

Strategic Procurement and Supply Management in the Oil and Gas Industry – SC62
Intermediate
The development and implementation of carefully crafted strategies for the procurement of all goods, equipment, materials, and services has become a critical issue for all those in the oil and gas sector wishing to reduce operating cost while improving quality and productivity. This program explores key concepts forming the basis of strategic supply management, and moves today’s supply management organization from its typical tactical focus to the strategic focus needed to successfully implement the processes and methods needed to reach world-class performance.

Designed for
Managers and professionals in supply management, procurement, purchasing, contracts, materials, inventory control, projects, maintenance, and general management (including all other professionals interested in lowering total cost and increasing productivity and profit contributions from better supply management operations).

You will learn
• Stages to world class supply management  • Skill sets in supply management  • Organizing the spend profile  • Greater abilities in leading continuous improvement programs  • Ways in dealing with economic uncertainties  • Questions for internal surveys to enhance purchasing performance  • How to develop a “Purchasing Coding System”  • Steps in the development of a Composite Purchase Price Index  • How to get more time to work on strategic issues  • Negotiation planning and strategies  • To understand the elements of cost that make up a supplier’s price  • Categories in a purchased materials/services strategic plan outline

Course content
Stages to world class supply management  Changing and becoming more strategic  Supply management skill sets  Defining supply management  Examples of job descriptions for supply management  Developing the spend profile  Creating time to be strategic  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  Requesting supplier’s cost and pricing data  How to compute both “should cost” and “what can be done”  Savings reporting procedure  Developing purchased materials/services strategic plans  Developing the purchase price index for your organization  Negotiation skill sets  Steps in negotiation preparation  Positional negotiations  Final points before the negotiation

2016-17 Schedule and Tuition / 3 Days
14-16 Nov 2017
US$2730
US$2730

DUBAI, UAE 6-8 Nov 2016
5-7 Nov 2017
US$3400
US$3400

US$2730

US$2730

All classes available at your location. Contact us today. +1.918.828.2500 | petroskills.com | +1.800.821.5933 (toll free North America)
Supplier Relationship Management – SC63

INTERMEDIATE

The traditional adversarial relationship and transactional focus of buyers and suppliers cannot meet the demand for continuous improvement in lead-time, quality, and overall supplier performance. As a result, significant changes are occurring in the philosophies and approaches that define the relationship between purchasers and sellers in world-class organizations. Simply put, Supplier Relationship Management (SRM) and collaboration provide an organizational focus on communicating with suppliers on the many steps of the Supply Management process. This focus reduces the lead-time and total cost of acquisition, transportation, administration, and possession of goods and services for the benefit of both the buyer and seller, and as a result, provides a competitive advantage and improved profits.

DESIGNED FOR
Managers and professionals involved in purchasing, projects, contracts, supply management, operations, maintenance, engineering, quality, and other activities that expose them to dealings with suppliers for goods, equipment, and services in the oil and gas industry.

YOU WILL LEARN
• The Supplier Relationship Management Maturity Model
• Importance of SRM in continuous improvement
• Critical steps in developing trust with suppliers
• Supplier segmentation models
• 8 Step Strategic Alliance Development
• The difference between SRM and collaboration
• Best practices in managing supplier relations
• Key elements in improving the supplier relationship
• Best practices in supplier qualification, measurement, and recognition
• The importance of reengineering in SRM
• Supplier risk management process

COURSE CONTENT
The organizational challenge • Defining the supply management mission and vision • Critical supply strategies • Defining Supplier Relationship Management (SRM) • The SRM Maturity Model • Major components of SRM • Defining levels of the organization’s SRM Maturity • The critical ABC analysis • Commodity and service coding • Definition of the supplier base • Defining the alliance • The alliance process • Success factors and barriers to alliances • Focusing on high value activities • Reengineering • Detailed mapping of processes • Be on the Look Out List • Developing the skills and defining the organization’s mission in building supplier relationship • Best practices for managing supplier relations • A survey for letting the supplier rate you • Maintaining good supplier performance • Who and what to measure • Monitoring supplier performance • Developing and maintaining a supplier performance index • Supplier recognition and expectations • Supply Risk and trends leading to greater risk • Typical trends leading to greater risk • Typical Supplier recognition and expectations • Supply chain performance • Who and what to measure • Developing the skills and defining the process of supply chain for the life of the product or service. Fundamental to developing and implementing these strategies is knowledge of cost/price analysis, value analysis, and total cost of ownership concepts. This course provides the concepts that are essential skill sets in developing and implementing the strategies required to achieve the high levels of cost reductions possible from the supply chain. SC64 is also available as a five day in-house course with expanded content.

DESIGNED FOR
Managers and professionals in purchasing, procurement, and contracts as well as those involved in operations, engineering, maintenance, quality, projects, and other company activities that expose them to suppliers and buy activities for raw material to final product material to overnight mail. Maintaining a competitive position and even survival will depend on the organization’s ability to use all of the continuous improvement strategies that have been developed to reduce cost across the entire supply chain for the life of the product or service. Fundamental to developing and implementing these strategies is knowledge of cost/price analysis, value analysis, and total cost of ownership concepts. This course provides the concepts that are essential skill sets in developing and implementing the strategies required to achieve the high levels of cost reductions possible from the supply chain. SC64 is also available as a five day in-house course with expanded content.

COURSE CONTENT
Use of price indexes • Cost/price analysis • Total cost of ownership • RFQ/tendering as a price analysis tool • Cost estimating relationships • Purchasing savings impact on the bottom line • Developing the spend profile • Sources of spend data • How to perform the ABC analysis • Examples of using pivot tables in Excel for data mining • Continuous improvement skill sets • Difference between cost and price analysis • Selection tool • Methods of price analysis • Historical analysis • Developing company purchase price • Index methods of cost analysis • Major elements of cost • Requesting supplier cost info • Sources of cost information • What and how important are supplier overheads • How much profit should the supplier make economic • Price adjustment clauses • Total costs of ownership models • How to combine price and performance to obtain TCO

Cost/Price Analysis and Total Cost Concepts in Supply Management – SC64

Introduction to Project Management – IPM

FOUNdATION
As the relative importance of effective Project Management continues to grow in corporate recognition, and as strategies are increasingly set with a project-based delivery vehicle in mind, the need for in-depth understanding of this complex subject grows. Those in the industry with the knowledge and expertise have an ever shorter period of their working lives left, to be replaced by a new and younger generation, so focus on the basics from which to build a robust and deep knowledge and skill set is increasingly desirable. In order to ensure that competence is created within the next generation of project managers, this course serves as an in-depth primer for those wishing to make this fascinating and dynamic area a career.

DESIGNED FOR
Now employees, graduates, or anyone else wishing to obtain a firm understanding of the basics of Project Management. This course serves as a foundation upon which to build further specialist knowledge and create a transferable skill set applicable across the industry.

YOU WILL LEARN HOW TO
• Adopt project planning and methodology
• Incorporate project interfaces and communication
• Manage resource identification and alignment
• Utilize scheduling resources and tasks
• Apply critical compromise

COURSE CONTENT
The project methodology • Identifying project risks and opportunities • Project lifecycle • Project manager • Project business case • Project sponsor • Project scope • Understanding project interfaces • Managing a project budget • Project scheduling • Resource management • Lead time and project inventory management • Remote teams

Petroleum Project Management: Principles and Practices – PPM

INTERMEDIATE

Running a successful petroleum operation requires a blend of technology, business savvy, and people skills. If you already have a firm grasp of exploration or production technology, learn to amplify its effectiveness with applied project management techniques. This course is aimed at helping technical personnel make the best business decisions that lead to lowest project cost while still meeting all production or exploration goals. Petroleum Project Management covers the principles and application of project management to the upstream oil and gas business. Participants may choose a case study from a number of real-life exploration, production, facilities, and general management situations, or they may bring the details of one of their own current projects.

Because of this experience with practical situations, participants can use these project management principles their first day back on the job.

DESIGNED FOR
Exploration, production, and management personnel interested in applying project management techniques to their operations. If you are a facilities engineer, we refer you to our Project Management for Engineering and Construction (FPM22) and Project Management for Upstream Field Development (FPM22) courses.

YOU WILL LEARN HOW TO
• Properly define a project scope
• Use project management tools to create a project schedule to meet goals, deliverables, and resource constraints
• Use practical tools to identify and manage a project’s risks
• Manage a project team
• Organize your project to capture lessons learned

COURSE CONTENT
The project management process • Scope definition • Scheduling tools • Manpower resources • Project risk management • Learning, continuous improvement, and quality management in projects • Project team management • Case studies and exercises

See website for dates and locations

2016-17 Schedule and Tuition / 3 Days


2016-17 Schedule and Tuition / 3 Days


2016-17 Schedule and Tuition / 5 Days

HOUSTON, US 7-11 NOV 2016 US$4140*

KUALA LUMPUR, MYS 3-7 OCT 2016 US$4835*

LONDON, UK 11-15 SEP 2017 US$4770*+ 

*p plus computer charge
Project Cost Scheduling – PCS

INTERMEDIATE
The financial dynamic to successful project delivery lies at the very heart of effective project management. A project is a complex series of interactions between time, people, and resources— their allocation and utilization. All of these activities have a cost, which may be either direct or indirect, but nevertheless, will impact a project’s budget. Although many projects deliver what they set out to achieve, they are often over budget—which raises the ultimate question as to whether or not their efforts should be considered as successful. Project Cost Scheduling highlights and informs the participant of how to manage the project cost function—its dynamics and components—leading to an enhanced understanding and application of techniques that will contribute directly to more efficient project management processes. This course is not about number crunching—it is about becoming familiar with the interactions and processes that underpin and ultimately inform the cost scheduling activities within projects. The course contains a significant element of practical exercise that builds daily, allowing participants to grasp the inter-relationships between cost, project lifecycle, and operational activities, thereby imparting clarity to the whole process of successful project delivery.

DESIGNED FOR
Exploration, production, and management personnel who wish to apply project management techniques to their activities and operations.

YOU WILL LEARN HOW TO
• Understand the integration of cost scheduling into project management processes and procedures
• Have awareness throughout a project lifecycle of the central importance of managing costs
• Apply such techniques as the Work Breakdown Structure (WBS), the Work Package, and the Cost Breakdown Structure (CBS)
• Estimate costs and deal with cost escalations and reductions
• Understand key contractual forms and issues
• Apply the basics of managing a project budget
• Have awareness of reporting responsibilities

COURSE CONTENT
Project estimation and schedule • Integrating cost and schedule • The project lifecycle • Tools and techniques used in cost scheduling • Cost estimation • Cost escalation and reduction • Information; communication, monitoring, and control • Stakeholder management • Contractual issues and forms • The project budget • Ownership and reporting requirements

Project Management for Engineering and Construction – FPM22

INTERMEDIATE
This course provides a comprehensive discussion of modern project management principles and practices as they relate to project concept selection, development planning, and engineering design; procurement; and construction activities for facilities in the oil and gas industry. The specific training received in schedule and cost management, risk management, and the proper use of scarce resources will enable participants to help the project manager make the best decisions possible. Upon completion of this course, the participant will know what the six project management phases entail and be able to employ key project management knowledge areas and project control. Participants will understand how project management process groups relate to one another, how execution plans are used to integrate the work effort, what tools are available for the project manager to use, what information will be generated, and what that information means. The course is taught using a combination of instruction, facilitated discussion, and hands-on exercises using real-world project examples related to facilities design, procurement, and construction. The exercises will include both individual and group activities that will provide each participant with a visual application of the principles and practices discussed throughout the course.

DESIGNED FOR
Project managers, project engineers, facility engineers, operations engineers, and purchasing personnel including team leaders and managers who plan, manage, or participate on multi-discipline project teams.

YOU WILL LEARN HOW TO
• Define project phases and execute them skillfully
• Develop scope of work and execution plans
• Utilize control techniques and earned value analysis
• Develop checklists to ensure project deliverables for each phase are addressed
• Apply project management skills to your current projects
• Guide project stakeholders through technical reviews and secure management approvals
• Develop sustainable, repeatable knowledge management for projects

COURSE CONTENT
Introduction to project management systems for the oil and gas industry • Six phases of a project • Key project management knowledge areas • Leadership • Project types • Contracting • Execution planning • HSE management • Risk management • Interface management organization and staffing project controls • Work breakdown structure • Planning and scheduling • Progress measurement • Cost estimating • Earned value • Change management • Reviews and approvals

Managing Brownfield Projects – FPM42

INTERMEDIATE
This course is designed to teach the skills necessary to effectively plan and manage Brownfield projects or those in existing facilities. This includes due diligence of existing infrastructure, framing the project, concept selection techniques, managing stakeholders, and integration with Operations led projects. The course focuses on the unique challenges of Brownfield projects and how project leaders can effectively work in this Operations-centric project environment. Exercises, the case study, and discussions make the sessions challenging and insightful.

DESIGNED FOR
This course is designed for project managers, project engineers, operations staff, and all disciplines that work on integrated project teams for Brownfield onshore and offshore projects that are installed in existing facilities. This course addresses the unique aspects of a Brownfield project and why it must be managed differently than a Greenfield project. Case studies include modifications to offshore structures as well as onshore projects.

YOU WILL LEARN HOW TO
• Plan and deliver a Brownfield project • Effectively manage Brownfield project challenges
• Apply the unique stages of a Brownfield project
• Utilize methods for conducting facility due diligence and why this is critical to project success
• Establish a project oversight board to ensure alignment among all stakeholders
• Skills to develop, gain stakeholder alignment, and control a Brownfield scope of work
• Develop a contracting strategy for a Brownfield project
• Address the unique constructability issues associated with a Brownfield project
• Ensure that Operations staff align with project objectives

COURSE CONTENT
Brownfield stage gate system • Brownfield project challenges • Staffing the Brownfield project team • Communications management • Stakeholder management • Concept selection and Brownfield projects • Key-value improving practices for Brownfield projects • The importance of due diligence on the existing facility • Quality management in engineering, procurement, and construction • Brownfield projects and risk • Change management • Contract strategy and contract selection • Procurement, logistics, and material management • Construction management and HSE • Managing cost/schedule stakeholder expectations for a Brownfield project • Performance reporting • Commissioning and startups • Roles and qualities of successful project managers

Advanced Project Management – FPM62

SPECIALIZED
This five day, specialized level course is for project managers, asset managers, project control managers, and project engineers seeking an in-depth understanding of key topics associated with large domestic and international projects. This course provides advanced knowledge in contract strategy, project governance, engineering and technology management, stakeholder management, joint venture and non-operated projects, interface management, risk management, reviews and approvals, and management information systems.

DESIGNED FOR
Project managers, asset managers, project control managers, and project engineers that are involved in the engineering, procurement, and construction of surface facilities and pipelines for large onshore and offshore projects.

YOU WILL LEARN HOW TO
• Assess project governance structures for both domestic and international projects and create a plan to facilitate decision making
• Develop a project work breakdown, assess key market drivers, and compose a contract strategy plan that minimizes project risk and efficiently utilizes resources
• Identify and evaluate risks associated with technology selection and engineering development and prepare an engineering management plan
• Identify internal and external stakeholders and create a strategy to address their needs
• Establish a program to identify and manage project interfaces
• Evaluate the effects of major project risks and mitigate their impact on cost, schedule, and operability
• Create a decision support package and successfully navigate the reviews and approvals process associated with funding gates

COURSE CONTENT
Key aspects of a stage-gate process • Influence of markets and regional practices on contract strategy development • Governance structure in decision making • Technology selection and engineering management in a limited resource environment • Stakeholder identification and influence planning for large, complex projects • How to influence the outcome of joint venture and non-operated projects • Critical factors in successful interface management • Risk identification and mitigation methodologies essential to preserve project value • Managing expectations associated with peer reviews, technical assists, and gate approvals

2016-17 Schedule and Tuition / 5 Days


LONDON, UK 2-6 AUG 2017 US$4150


LONDON, UK 3-7 SEP 2017 US$4150

2016-17 Schedule and Tuition / 5 Days


LONDON, UK 19-23 May 2017 US$4780+VAT


LONDON, UK 3-7 JUN 2017 US$4780+VAT

2016-17 Schedule and Tuition / 5 Days


LONDON, UK 25-29 Aug 2017 US$4150


LONDON, UK 1-5 Sep 2017 US$4150

2016-17 Schedule and Tuition / 5 Days


LONDON, UK 2-6 Dec 2016 US$4780+VAT


LONDON, UK 11-15 Aug 2017 US$4780+VAT

2016-17 Schedule and Tuition / 5 Days

HOUSTON, US 3-7 APR 2017 US$4140

KUALA LUMPUR, MYS 6-10 Nov 2017 US$4855


LONDON, UK 23-27 OCT 2017 US$4150


LONDON, UK 27 NOV-1 DEC 2017 US$4150

2016-17 Schedule and Tuition / 5 Days


KUALA LUMPUR, MYS 10-14 Nov 2016 US$4935

2016-17 Schedule and Tuition / 5 Days


LONDON, UK 6-10 JUNE 2017 US$4855
Advanced Project Management II – FPM63

SPECIALIZED
This five day, advanced level course for experienced project management professionals addresses the fundamental principles and techniques of project management and how to apply them on large international projects. This course will cover all the project phases, with hands-on content directly supported by practical case studies.

DESIGNED FOR
Experienced project managers, project engineers, project controls managers, and construction managers who are working on large international projects or about to start new assignments on international projects. Practical case studies will cover the entire spectrum of a large international project and will include offshore and onshore capital investment.

YOU WILL LEARN
• Why international projects fail and the early warning signs to look for
• The principles of project management that ensure project success
• How to build a strong and effective Project Management Team (PMT)
• How to identify and manage project stakeholders
• How to conduct business and yourself in the international arena
• How to select an effective contracting strategy and the appropriate negotiation style
• The practical approach for global engineering, procurement, logistics, fabrication, construction, and commissioning
• How to conduct project risk management throughout the entire project lifecycle
• How to apply effective leadership and strategy on your international project

COURSE CONTENT
Why projects fail • Project Management principles (PMT, scope, cost, schedule, safety, and quality) • Stakeholders management on international projects • Host country – business and culture contracting • Strategies and negotiations • Global engineering – from concept through detailed design procurement and logistics • Fabrication, construction and commissioning • International project risk management • Leadership and strategy

Managing and Leading Others – MLO

FOUNDATION
Managers and supervisors, regardless of technical expertise, can make an error setting off an uncontrolled and disastrous chain reaction unless he/she has command of principles and practices leading to employee effectiveness, productivity, and teamwork. The first-line and mid-level supervisor has more direct effect on employees and the productivity of a work group than any other single entity in the organization. This course increases the confidence and productivity of leaders, supervisors and managers who may be scientific or technical specialists, but have minimal training in the science and art of leading others. Skills in human relations, communication, motivation, and leadership are essential tools for the supervisor and manager. This course provides techniques enabling leaders to efficiently use one of the greatest resources a company has, its people. This highly interactive learning program will assist you in expanding your options for leading others. You will explore different concepts of management and leadership and how to apply your new skills in real world applications.

DESIGNED FOR
Anyone responsible for leading others in the daily performance of a work group or the team responsible for leading front-line, leaders, new and experienced supervisors and managers, team leaders, coaches, and mentors.

YOU WILL LEARN HOW TO
• Apply concepts of leadership and management to real work situations
• Coach and supervise a diverse and dispersed workforce
• Set appropriate goals and manage performance and change to ensure these goals are reached
• Empower your workforce to exceed expectations
• Develop effective communication skills

COURSE CONTENT
The role and function of the leader, supervisor, and manager • Understanding and applying essential behavioral management concepts • Understanding and increasing employee motivation • Understanding and applying leadership concepts • Effectively supervising a diverse workforce • Basic skills in interpersonal communications • Performance management • Coaching • Working with difficult employees • Goal setting • Empowering subordinates • Creating positive and functional thinking about work • Making ongoing change for growth and improvement • Taking personal responsibility • Developing personal plans to improve team effectiveness

Team Leadership – TLS

FOUNDATION
This program will develop and refine the skills essential for leading a high performance team. Emphasis is placed on the leader’s role in effectively enhancing total team functionality and maximum team productivity. Individual communication styles will be assessed and examined to identify the most appropriate communication style to use with your team. This will be an active experience. In addition to receiving individual assessment information, participants will be exposed to team concepts, theories, and skill development through the use of lectures, videos, readings, role plays, case studies, and discussions. This course has been constructed to maximize opportunity to improve both knowledge and practical skills in leading a team and being a team player. (This is a great course to attend immediately following PetroSkills’ course titled: Leading and Managing Others.) In addition to this program designed specifically for Team Leaders, PetroSkills has a two day course titled: Team Building for Intact teams.

DESIGNED FOR
Team leaders, supervisors, managers, and other responsible for leading a team and interested in establishing and/or being a part of a highly productive team.

YOU WILL LEARN HOW TO
• Characterize high performance teams
• Gain clarity of goal and worthiness
• Develop a team charter
• Gain commitment
• Build team collaboration and trust
• Establish operational norms
• Recognize stages of team development
• Define team roles and relationships
• Understand system influences
• Promote conditions for effective team building
• Conduct individual and team assessments
• Improve team communications
• Improve team dynamics
• Develop personal plans to improve team effectiveness
• Foster team leadership
• Monitor team progress

COURSE CONTENT
Definition and purpose of teams • Characteristics of a high performance team • Gaining clarity of goal and worthiness • Developing a team charter • Gaining commitment • Team collaboration and trust • Establishing operational norms • Stages of team development • Team roles and relationships • System influences • Conditions for effective team building • Individual and team assessments • Team communications • Group dynamics • Developing a personal team leadership plan • Monitoring team progress • Developing a team leadership action plan

Essential Leadership Skills for Technical Professionals – OM23

BASIC
In the oil and gas industry, skillful and competent leadership is extremely important for safety, productivity, and asset management. The 21st century brings new emphasis on leaders, new communication technologies, increased focus on safety, information overload, workforce dynamics, asset integrity, and many other concerns which challenge even the most proficient leader/manager. How do we blend these new challenges with tried and true wisdom of success? There are skills to learn that will help you be more effective, with less stress. In this seminar/workshop you will explore your internal drivers and learn how to combine them with new skills for greater effectiveness. This seminar/workshop will include self-assessment, discussion, lecture, readings, role-playing, games, video examples, and creation of participant action plans. This course will help you unleash natural motivators and increase your team. Your stress level can be lowered by working more efficiently and effectively by tapping the emotional intelligence of your team and co-workers.

DESIGNED FOR
Anyone who has new responsibilities to lead a team. Supervisors, team leads, managers, and others interested in becoming a better leader and a contributing team member will greatly benefit from this one week experience. Many may want to take this seminar/workshop more than once for continuous improvement.

YOU WILL LEARN HOW TO
• Become a more effective leader by overcoming the “pyramid of the urgent” with better time management
• Make better decisions by assessing when to make what kind of decisions
• Help others develop themselves by unleashing their career motivation
• Have more effective communications with technical and non-technical teams by developing the patience to let the team do its work
• Recognize and resolve conflicts before they get out of control by early detection of conflicts, when they’re simpler and have less impact
• Develop the ability to lead an empowered team of technical professionals by more effective delegation
• Reduce your own stress level by teaching yourself how to lower your stress with clearer thinking
• Learn assessment techniques for yours and others’ people skills by raising the competency levels of yourself and your team
• Walk your talk by getting buy-in for your ideas and vision
• Leading by example

COURSE CONTENT
The nature of teams • Leadership vs. management • Self-centering and tangential leadership • Listening • Motivation • Group dynamics • Conflict management • Team building • Critical thinking and taking action

2016-17 Schedule and Tuition / 3 Days

COLORADO SPRINGS, US 7-9 AUG 2017 US$3015
DUBAI, UAE 29-31 OCT 2017 US$3910
HOUSTON, US 1-3 NOV 2017 US$3395
LONDON, UK 6-8 NOV 2017 US$3480+VAT

2016-17 Schedule and Tuition / 2 Days

COLORADO SPRINGS, US 10-11 AUG 2017 US$2490
DUBAI, UAE 1-2 NOV 2017 US$3040
HOUSTON, US 4-5 MAY 2017 US$2240
LONDON, UK 9-10 NOV 2017 US$2780+VAT

COLORADO SPRINGS, US 24-28 APR 2017 US$3680
DUBAI, UAE 29-31 OCT 2017 US$3280
ORLANDO, US 5-9 DEC 2016 US$3280
LONDON, UK 4-8 DEC 2017 US$3380
Essential Technical Writing Skills – ETWS

**BASIC**
Writing for work-related purposes ought to be brief, clear, informative and above all, readable. In this practical hands-on course, you gain a solid foundation in technical writing skills. The primary theme for the course is that a writer must “think constantly about their readers.” Examples and exercises provide hands-on experience. You may choose to bring a sample of your writing for one-on-one feedback.

**DESIGNED FOR**
All engineers, managers, IT/computer support staff, team leaders, supervisors, and individuals responsible for writing letters, memos, reports, procedures, test results, and proposals that are clear, concise, and professional.

**YOU WILL LEARN HOW TO**
- Focus on the reader as the receiver of the information
- Develop quality writing that will:
  - Improve business relationships and communication
  - Write better and faster
- Make your writing more credible
- Make you more confident in your writing

**COURSE CONTENT**
Develop essential technical writing skills to convey a convincing message.
- Compose clear messages using a structured writing approach
- Adapt your writing style to your audience’s needs
- Edit at the word level to improve persuasiveness and impact
- Write precise and concise memos, letters, summaries, and reports
- How to best display visual information
- Create informative content using lists, bullets, and short paragraphs as the primary writing mode

Negotiation Skills for the Petroleum Industry – NSPI

**BASIC**
This course helps you to develop strong interpersonal skills in the art and science of negotiation. You will learn to apply these skills to complex organizational issues and individual needs. The course includes a Negotiating Style Profile self-assessment to determine your preferred negotiation style(s). Various tools and techniques are used to negotiate differences and disagreements to produce positive results. A group workshop conducting a collaborative negotiation, allows attendees to engage in, comment on, and improve their competencies in negotiation skills.

**DESIGNED FOR**
Petroleum industry personnel who are responsible for negotiating the best possible terms of an agreement in public and private sectors and those negotiating resources and deliverables in projects and programs.

**YOU WILL LEARN HOW TO**
- Follow a step-by-step method to the structure, techniques, and approaches available to positively influence an effective negotiation
- Adapt negotiation at each stage of the negotiation
- Leverage the power of Best Alternative To A Negotiated Agreement (BATNA), Worst Alternative To A Negotiated Agreement (WATNA), Zone of Possible Agreement (ZOPA), and Walk Away Price (WAP)
- Modify your communication style to achieve desired results
- Respond to tough negotiators
- Select a strategy for your negotiation
- Use the Agree, Bargain, Control or Delay (ABCD) method
- Practice your negotiation skills in real world practice sessions
- Apply what you’ve learned to plan a negotiation back on the job

**COURSE CONTENT**
Learn a step-by-step method to the structure, techniques, and approaches available to positively influence an effective negotiation.
- Know what behavior to adopt at each stage of the negotiation
- Leverage the power of Best Alternative To A Negotiated Agreement (BATNA), Worst Alternative To A Negotiated Agreement (WATNA), and Walk Away Price (WAP)
- Adjust your communication style to achieve desired results
- Deal with tough negotiators
- Craft a strategy for your negotiation
- Use the Agree, Bargain, Control or Delay (ABCD) method
- Practice your negotiation skills in real world activities
- Apply what you’ve learned to plan a negotiation back on the job

Team Building for Intact Teams – TB

**FOUNDATION**
This workshop is most effective when attended by an entire team. Team members will develop and refine the skills essential for high performance teams. Emphasis is placed on learning more effective ways to enhance total team functionality and maximum team productivity. Individual communication styles will be assessed and examined to identify the most appropriate uses of team strengths. This will be an active experience. In addition to receiving individual assessment information, participants will be exposed to team concepts, theories, and skill development through the use of a variety of learning techniques. This course has been constructed to maximize opportunity for intact teams to strengthen team performance and team productivity.

**DESIGNED FOR**
Any intact team interested in becoming a stronger and more productive team, such as project teams, leadership teams, cross-functional teams, production teams, quality improvement teams, etc.

**YOU WILL LEARN HOW TO**
- Characterize high performance teams
- Ensure that your team has clarity of goal and work methodology
- Jointly develop a team charter
- Gain commitment of all members
- Build team collaboration and trust
- Establish and follow group operational norms
- Work through the stages of team development
- Define team roles and responsibilities
- Understand system influences
- Promote conditions for effective team building
- Conduct individual and team assessments
- Improve team communications
- Improve group dynamics
- Problem solve in teams
- Develop a team plan to improve team effectiveness
- Lead when necessary
- Monitor team progress

**COURSE CONTENT**
Purpose of teams: Characteristics of a high performance team: Gaining clarity of goal and work methodology: Developing a team charter: Gaining commitment: Team collaboration and trust: Establishing group operational norms: Working through the stages of team development: Effective team roles and responsibilities: Dealing with system influences: Conditions for effective team building: Individual and team assessments: Team communications: Group dynamics: Problem solving in teams: Developing personal plans to improve team effectiveness: Taking the lead: Effective team meetings: Monitoring team progress

Presentation Skills for the Petroleum Industry – PSPI

**FOUNDATION**
One of the prime requisites for oil and gas professionals is the ability to deliver clear, concise, and well-designed presentations. Some industry technical professionals are naturally gifted speakers and presenters, while others are not. However, with the proper training and practice any oil and gas professional can learn to make a convincing and persuasive presentation, and do so in a confident, assured, comfortable, and relaxed manner. This course is for individuals who are required, as part of their jobs, to deliver presentations in-house or in public, and who wish to perfect the art and craft of dynamic presentation-making in order to do so. Participants will participate in a full array of “hands-on” class exercises to improve presentation-making skills, vocal techniques, social interaction skills, visual aid preparation, etc. Attendees will deliver two presentations in class, both of which will be videotaped to measure improvement, and will discuss their performances in one-on-one private conversations with the instructor at the end of the course. Participants’ progress will also be charted to quantifiably show areas in which actual improvement has taken place.

**DESIGNED FOR**
Industry personnel who wish to acquire the skills and techniques needed to design and deliver technical material clearly, confidently, and convincingly either face-to-face or online.

**YOU WILL LEARN HOW TO**
- Design and deliver a presentation both in person and on-line
- Keep an audience engaged through use of various delivery methods
- Appropriately use technology and visual aids
- Speak confidently in front of groups

**COURSE CONTENT**
Communication and the role it plays in presentation-making: Overcoming fears: The similarities and differences between face-to-face and on-line presentations: The four fundamental basics to effective presentation-making: Presence/demeanor/appearance: posture, movement, and physical comfort: Delivery: the voice, gestures/facial expressions, skill in using silence, rhythm, and language: Production: flow/rhythm, skill in using visual aids/technology: skill in using time, skill in listening/observing/questioning, skill in using the venue, connectivity, eye contact, knowledge of audience, and skill in handling audience/situation: Construction and organization: design (presentation), design (PowerPoint slides/other visuals), and integration (presentation with visuals)

196-17 Schedule and Tuition / 3 Days

2016-17 Schedule and Tuition / 3 Days

2016-17 Schedule and Tuition / 2 Days

2016-17 Schedule and Tuition / 3 Days

All classes available at your location. Contact us today. +1.918.828.2500 | petroskills.com | +1.800.821.5933 (toll free North America)
Meeting Management and Facilitation for the Petroleum Industry

**FOUNDATION**

- Properly planned and managed, meetings are extremely positive and dynamic ways to exchange ideas, shape policy, resolve problems, effect change, etc. However, when poorly designed and implemented, meetings become virtual breeding grounds for confusion, tension, frustration, boredom, and negativity. During this interactive session, participants will learn how to perfect meeting facilitation skills; master meeting agenda design skills; and polish meeting communication skills so that they’ll be able to run meetings efficiently, effectively, and smoothly.

**YOU WILL LEARN HOW TO**

- Run efficient face-to-face and online meetings
- Prepare and implement meeting agendas
- Incorporate meeting facilitation techniques and tools
- Understand meeting roles and responsibilities
- Use meeting facilitation tools
- Master meeting management skills, i.e., use time wisely, avoid topic confusion, handle personal attack, avoid traffic problems, deal with individual and group communication, and maintain topic (agenda) focus
- Recognize and understand the various roles that a facilitator plays during the course of a meeting

**Overview of the Petroleum Industry – OVP**

**BASIC**

OVP presents an overview of the Petroleum Industry from the point of view of the Asset Life Cycle. Participants will gain an understanding of Exploration, Appraisal, Production and Development phases – with particular emphasis being placed on actions they can personally take within each phase to support value creation. Through use of lecture, multimedia and class interactive exercises – a breadth of upstream business acumen will be delivered – covering economic, business, geoscience and engineering topics. Discussions will include topics related to all types of resources plays including deepwater, shale oil/gas and enhanced oil recovery technologies.

**DESIGNED FOR**

Both technical and business oriented professionals who are either new to the upstream oil and gas industry or experienced in one part, but could benefit from a wider point of view. OVP will likewise deliver for non-industry personnel a broad, basic knowledge set of multiple E&P topics. Legal, Financial, Accounting, Management, and Service Company team members will certainly benefit.

**YOU WILL LEARN**

- The critical importance the industry plays on the world’s economic “stage”, including discussions of pricing, global reserves, and key short-term/long-term energy trends
- Business and exploration elements critical to the success of organizations in search of new reserves
- Methods by which new field prospects are evaluated and risk factors assessed (Geology, Geophysics, Petroleum)
- How exploration rights are acquired (Land Themes, International Concessions)
- The basic process for drilling and evaluating an exploration well (Drilling, Petrophysics, Testing)
- Major steps required to appraise a new discovery and estimate its commerciality (Reservoir Engineering)
- Strategies to maximize the value of an oil or gas field asset
- How geology and reservoir management plans are used to guide new field development
- Major steps in the design, construction, and commissioning of facilities
- Basic technical and operational steps required to produce an oil or gas field (Production Engineering)
- The types of opportunities to optimize older fields and increase production

**COURSE CONTENT**

- The business of E&P
- Hydrocarbon origin
- Exploration – acquisition of exploration/development rights
- Exploration – prospect generation and evaluation
- Appraisal – asset characterization and reserve quantification
- Development – drilling, completion, and facilities
- Produce Asst – recovery optimization strategies

**Basic Petroleum Technology – BPT**

**BASIC**

This course presents a non-technical, practical understanding of petroleum industry technology in an interesting and effective manner. Industry technology basics and terminology are learned by progressing through the E&P asset management cycle from exploration to abandonment. Participants are placed in the position of Reservoir Engineer, and “Our Reservoir” is defined, analyzed and put in production. Participants are then placed in the position of Drilling/Completion Engineer, and the drilling/completion program for “Our Well” is analyzed. Participants will then gain an introduction to the industry and cover reservoir fluids. The next two days will include petroleum geology and reservoirs, and introduce exploration technology. The fourth day will cover drilling, engineering operations, and well completion technology. The course will wrap up with production technology, reservoir development, and surface processing.

**DESIGNED FOR**

- Administrative, service personnel, management, field support, accounting, purchasing, executive, legal, finance, human resources, drafting, and data processing personnel, as well as investors and royalty owners. Participants involved at the technical level of the industry, particularly engineers, should register for the Basic Petroleum Engineering Practices course.

**YOU WILL LEARN**

- Terminology of exploration and production (language of the oil field)
- Basic geology as related to oil and gas reservoirs
- Reservoir fluid and rock properties
- Basics of seismic technology
- Reservoir definition and development
- Production technology
- Unconventional reservoirs
- Fundamentals of drilling, well completions and production operations
- Basic concepts of primary and enhanced recovery operations
- Surface operations

**PRACTICAL ACTIVITIES**

- Through use of lecture, multimedia and class interactive exercises – a breadth of upstream business acumen will be delivered – covering economic, business, geoscience and engineering topics. Discussions will include topics related to all types of resources plays including deepwater, shale oil/gas and enhanced oil recovery technologies.

**EXTRA-SPECIAL FEATURES**

- Properly planned and managed, meetings are extremely positive and dynamic ways to exchange ideas, shape policy, resolve problems, effect change, etc. However, when poorly designed and implemented, meetings become virtual breeding grounds for confusion, tension, frustration, boredom, and negativity. During this interactive session, participants will learn how to perfect meeting facilitation skills; master meeting agenda design skills; and polish meeting communication skills so that they’ll be able to run meetings efficiently, effectively, and smoothly.

**YOU WILL LEARN HOW TO**

- Run efficient face-to-face and online meetings
- Prepare and implement meeting agendas
- Incorporate meeting facilitation techniques and tools
- Understand meeting roles and responsibilities
- Use meeting facilitation tools
- Master meeting management skills, i.e., use time wisely, avoid topic confusion, handle personal attack, avoid traffic problems, deal with individual and group communication, and maintain topic (agenda) focus
- Recognize and understand the various roles that a facilitator plays during the course of a meeting
DR. ROSALIND ARCHER is Professor of the Mighty River Power Chair in Geothermal Reservoir Engineering as well as Head of the Department of Engineering Science at the University of Auckland in New Zealand. She is also Director of Auckland Geothermal Institute. She has received several awards including the Supreme Excellence in Teaching Award within the Faculty of Engineering. She is an accomplished technical writer, collaborator and editor with over 25 articles published in the last five years. Dr. Archer has taught courses on Well Testing, Reservoir Engineering, Reservoir Simulation and PVT Analysis for industrial clients including Chevron/Schlumberger, Chevron, China, OMV, Petronas, Yukos Petroleum, PTT Exploration and Schumacher. She directs her own consulting practice undertaking technical work, expert witness work and training for a wide range of clients. She has performed technical work for Todd Energy, Shell Todd Oil Services, Austral Pacific Energy, Gwynedd Petroleum, Mighty River Power, Genesis Energy, Scott Hawkins (USA) and Sigma Energy (USA). She holds PhD and MS degrees in Petroleum Engineering from Stanford University and a BE degree in Engineering Science from the University of Auckland.

DR. FRANK ASHFORD has over 50 years’ experience in oil and gas reservoir engineering, downhole and surface design and operations, as well as oil and gas conditioning and producing facilities. He has been with PetroSkills since 1988 and has worked extensively in most energy producing countries throughout the world. He provides instruction fluently in either English, Spanish, or Portuguese based on material originally prepared in those languages. He worked with Gulf Research (GR&DC) in Houston, Texas where he developed many reservoir engineering laboratory techniques for the determination of applicable oil/gas/water relative permeability correlations, and choke performance prediction techniques still in application today. Previously, Dr. Ashford was a Professor of Petroleum and Natural Gas Engineering at the Central University of Venezuela in Caracas, where he taught various courses in natural gas engineering technology. He was a founder of the Petroleum Engineering Department in INTECVE, the research institute for PDVSA (Venezuela). He was a participant in the initial gas lift optimization operations held in Venezuela, and developed many field, and numerical techniques and correlations for downhole, and surface choke performance with Otis Engineering (US, and Venezuela), and Compania Shell de Venezuela (CSV). He has authored technical articles published in World Oil, JPT, SPE, Inteviul Pub., PDVSA, Pacific Oil World, APIEPE, SPIEAC, and GPA. He holds a BS (1961) and MS (1963) in Petroleum Engineering and a PhD in Engineering Sciences (1970) from the University of Colorado. He was one of Dr. John M. Campbell’s graduate students from 1962-1968, and participated in the initial data collection and organization for the original John M. Campbell technical textbooks Gas Conditioning and Processing, Volumes I and II. These books provided the basis for a worldwide and extensive training organization initiated by Dr. John M. Campbell during the late 1960’s, and are still applied by PetroSkills | John M. Campbell for worldwide engineering training to this date.

DR. OMAR BARKAT is a registered and licensed Professional Engineer and the Executive Director for Upstream Operations with PetroProTech. He has been a training specialist and technical consultant for OGCI-PetroSkills since 1997. He has over 28 years of combined industrial and academic experience in the USA, North Africa and Europe. He has been an active international oil and gas consulting engineer since 1993 involved in projects related to surface production operations, upstream facilities, field development, oil and gas production systems performance optimization, equipment selection, petroleum fluids treating and processing and fluids disposal management. From 1980 to 95, he worked on several oil and gas production technical issues and led research and development projects in areas such as: cement slurries, hydraulic fracturing fluids, proppant transport, emulsions, drilling muds, formation damage, cutting transport, H2S/CO2 corrosion, fluid flow and rheology, drag and Sour point reducing agents and petroleum processing. He has successfully designed and delivered several short courses, seminars and lectures in a variety of oil and gas topics throughout the world. He is a former tenured university full professor in Louisiana and Oklahoma, a current member of several international societies including SPE, AICHE, ACS and ASEE, and a member of the US National Engineering Honor Society Tau Beta Pi. He is an invited Adjunct Professor of Petroleum Engineering at the University of Tulsa and a member of its Industrial Advisory Board. He is the author of numerous technical publications, the recipient of several professorships, research, teaching and merit awards and listed in the Who’s Who in Science and Engineering. He received a Chemical Engineering State Diploma from the National Polytechnic School of Algiers, an MS and a PhD from the University of Tulsa.

MR. PAUL M. BARRY is a petroleum engineering consultant specializing in production technology, production operations, and project evaluations. Mr. Barry has over 42 years of international and domestic USA, upstream oil and gas production and reservoir engineering and management experience in conventional and unconventional reservoir development. Assignments include working and residing in South America, SE Asia, the Middle East, the North Sea region, and the USA. He has been a PetroSkills instructor since 2002: during this period, he was based in Perth, Australia from 2007-2009 and in Dubai, UAE, from 2003-2006; developing PetroSkills regional business in both locations. Earlier industry experience was as field production engineer and field production engineering manager of an onshore oilfield re-development project for PDVSA and partners in Venezuela which required a combination of new development well and well re-completion designs for gas lift, subsurface pump, and rod pump artificial lift technology, and frac pack and gravel pack sand control well completions. Previous Indonesia experience was in the design and completion of dual string, multiple selective, underbalanced, tubing conveyed perforated high pressure gas wells, acidization well testing and evaluation for Pertamina and Atlantic Richfield, Huffco, Virginia Indonesia, and joint venture contract partners for both oil operations and Bontang LNG gas supply operations. As district reservoir engineer for Pertamina and Arco partners in Indonesia, Mr. Barry was responsible for the plan of development and reserves determination and certification for a 1.3 TCF offshore gas field. He has also worked as field engineer in Saudi Arabia, responsible for a 1.2 MMSCFD reservoir pressure support injection well system, injection water quality assurance, producing well gravel pack completions, internal and external well and flowline corrosion control systems, and, as Mobil Oil facilities engineer in the Arabian American Oil Company (ARAMCO) Gas Projects department. He has represented company technical and commercial interests in both UK and Norwegian North Sea sectors oil and gas producing fields. Mr. Barry has served as an officer in the Jakarta and Dubai SPE sections. He holds a BSCE from the University of Notre Dame and an MSCE from Marquette University, and is a registered Professional Engineer in Colorado, USA.

MR. JAMES (JIM) BEASLEY joined Butler Associates, Inc., the predecessor company of Willbros Engineers (US), LLC, in 1973 as a Project Manager. He was named Vice President and Manager of Projects in 1981. In 1984, Mr. Beasley became Executive Vice President and Chief Operating Officer, and in 1986 was promoted to President and Chief Operating Officer, a position he held until August 2003. In 2001, Mr. Beasley was over selected as ISM’s National President of the Year. President of Willbros USA, Inc., the parent company of Willbros Engineers (US), LLC. He has over 40 years of experience in project management, engineering, and construction management of pipeline systems and military facilities.

MR. DON BEESELS has over 38 years of management, engineering, and operations experience in the oil and gas industry – virtually all on Gulf of Mexico projects, including subssea systems, floating systems and fixed platforms. He has worked for operators Eni, Shell and Texaco, and has held management positions including Project Development Manager and Production Manager. Mr. Beesley has been a member of industry groups Deep Water Repair Underwater Pipeline Emergencies (DWUPE) and Subsea Tieback Forum (STFB). He earned his BS in Civil Engineering from Auburn University, and is a registered professional engineer in the states of Texas and Louisiana.

MR. ROBI BENDORF CPSP, MCIPS, C.P.M., M.Ed., has over 35 years of purchasing and sales experience, involving domestic and international activities, for a broad range of manufacturing and service businesses. He has extensive experience in consulting and training in purchasing, contracts, reengineering the supply management process, the management of procurement functions, global sourcing of materials and components, reducing cost of purchased materials and services, and negotiation of complex transactions and contracts. He has held purchasing and contracts management positions in high volume manufacturing, subcontract, job shop, and service operations, involving gas turbine manufacturing, power generation, nuclear and fossil power plants, electrical distribution and control, air conditioning equipment and global sourcing services. Prior to becoming a full-time consultant in 1994, he served as Manager of Customer and Supplier Development for the Westinghouse Trading Company. He has given presentations on numerous purchasing and contract management topics to the Institute for Supply Management (ISM/ NAPM), major universities, and numerous in-house seminars for industrial and services clients in the US and over 170 public seminars internationally. He was selected to present seminars at the last 17 Institute for Supply Management International Conferences and is the contributor of numerous articles published in Purchasing Today and Inside Supply Management. Robi was selected as ISM’s National President of the Year in both Global Resources and in Education/Learning. Robi is a lifetime CPM, and has received ISM’s new certification, the CPSP, and also holds the MCIPS Certification as awarded by CIPS. He has an undergraduate degree from the University of Texas, and a Masters Degree from Penn State University. His energetic and enthusiastic style, combined with extensive functional experience, makes him an excellent consultant, trainer and facilitator of change.

MR. JAN BLUM is a seasoned Asset Management professional with 33 years’ experience in the oil and gas and downstream businesses sectors. At the moment he is based in Suriname, working as Technical Service Manager for a national oil refinery. He worked 30 years with Shell and fulfilled roles as Inspection, Shutdown, and Asset Manager and for 10 years was Training Director for the group Asset Management. He has developed and delivered training all over the world and has broad consultancy experience. Mr. Blum is a Chartered Mechanical Engineer and post graduate in Inspection and Welding. He has worked and lived in several countries including Saudi Arabia, New Zealand and Suriname.
Mr. Robert Bomardi has almost 30 years in the oil and gas industry. His expertise is in the use of process engineering to optimize operating facilities economics via addressing availability, product recovery and bottlenecks issues. As such, Robert has tested, identified, designed, project managed and lead implementation of numerous molecular sieves, NGL recovery, sulfur recovery and debottleneck projects in several countries. He also has had roles in operations, business development and management. Mr. Bomardi co-authored a paper on molecular sieve dehydration that was selected Best Paper Award at the 2008 Gas Plant Operators’ Association annual convention and was published in the Oil and Gas Journal. He has a B.Sc. in Chemical Engineering from the University of Alberta and an MBA from Tulane University.

Mr. John C. Bourdon has more than 29 years’ experience in hydrocarbon processing and specializes in sulfur recovery processes for the petroleum refining industry. Mr. Bourdon has been involved in the development of several sulfur-related technologies and mechanical innovations, has authored several papers and made presentations worldwide. He has experience with several E&G firms including extensive start-up and troubleshooting activities. He consults for both North American and international clients. He is a registered professional engineer and member of the Epsilon Sigma Honor Society. Mr. Bourdon is fluent in English and Spanish. Mr. Bourdon has a BS in Chemical Engineering from the Georgia Institute of Technology and advanced degrees in other fields.

Mr. Mark Bowers is the Head of Training for CRS and is a Chartered Health and Safety practitioner with over 30 years of occupational health, safety and environmental experience. His early career was engaged in the Royal Air Force training in both aircraft engineering and environmental health and safety, where he was engaged in operations worldwide including the Falkland Islands, Northern Ireland, the Balkans and in the Gulf. Mark has operated as a senior health and safety practitioner and trainer within safety critical industries including the railways, power supply industry and petrochemicals. He has also applied his health and safety knowledge and expertise in a diverse blend of industries and business across the United Kingdom as well as internationally. Mark is a registered trainer and examiner for National Examining Board for Occupational Safety and Health (NEBOSH), Institution of Occupational Safety and Health (IOSH) and Chartered Institute of Environmental Health (CIEH). He has set up training and consultancy businesses in the universities sector developing a department teaching safety at University College London (UCL) along with a specialist asbestos skills training business and a behavioral safety consultancy. He is an active member of the East Midlands IOSH Branch and provides a national travel agency with advice in safety for international travelers.

Mr. Robert E. Boyd, CPA, MBA, CGMA is the Founder and President of Boston Street Advisors, Inc. an investment banking and financial advisory firm in Tulsa, Oklahoma. He is also the founder of Boston Street Capital, a private equity investment firm, and a co-founder and Managing Member of Boston Street Capital Partners, LLC, a capital management company. Mr. Boyd has over 30 years of experience in the fields of capital formation, international finance, investment and portfolio management and investment banking. Prior to forming his own firm, he worked in the accounting department for Warren Petroleum Company, a Street Capital, a private equity investment firm, and a co-founder and supervisor of corporate accounting and a senior financial analyst. He has also held positions as Chief Financial Officer - Treasurer and Manager of Treasury in the manufacturing sector and senior financial analyst for a major international energy company. Mr. Boyd’s international experience includes engagements in Europe, Asia, Canada, South America, and the Middle East. Mr. Boyd has been involved in over 30 corporate ventures and has successfully negotiated and concluded transactions including the planning and restructuring of over $500 million of corporate debt for a major multi-national energy concern, and has served as exclusive financial advisor for the financing and sale of several mid-market companies across a variety of industries. He has also played key roles in establishing a sales and distribution office in Germany and has advised major energy and service companies in the areas of shareholder value and performance measurement. Since founding his own firm, Mr. Boyd has advised management and shareholders on capital acquisition, business development, transaction structuring, valuation services and strategic business planning for mid-market companies. He currently serves on the National Advisory Council of the US Small Business Administration and serves on several corporate and civic boards including the Tulsa University Foundation of Finance and the University of Tulsa Student Investors Inc. Mr. Boyd has served as chairman of the Captain’s Committee of the Wharton Club of New York where he founded the Wharton Investor Resources Exchange, a network of capital investors and companies headed by Wharton Alumni and is a past president of the Graduate Business Association of the University of Tulsa. Mr. Boyd is a current member of the American Institute of Certified Public Accountants and is listed in Who’s Who of Global Business Leaders. He has been an adjunct professor of Finance for the University of Tulsa. Mr. Boyd holds a BS in Business Administration from Phillips University with majors in Finance and Accounting and a Master of Business Administration from the University of Tulsa, graduating with honors. He graduated from the Wharton Advanced Management Program of the Wharton School of The University of Pennsylvania and is a Fellow of the Wharton School. Mr. Boyd is a member of Beta Gamma Sigma, the honor society for collegiate business schools and is a Certified Public Accountant in the state of Oklahoma and a Certified Global Management Accountant. He holds a series 65 securities license.

Mr. Ford Brett is recognized worldwide as a leader in the area of Petrochemical Project and Process Management. A registered Professional Engineer and a certified Project Management Professional, Mr. Brett has consulted in over 32 countries on five continents. Formerly, Mr. Brett worked with Amoco Production Company where he specialized in drilling projects in the Bering Sea, North Slope of Alaska, Gulf of Mexico, offshore Trinidad and Wyoming. He has received many honors, including the 2000 Crosby Medalion for Global Competitiveness by the American Society for Competitiveness for its work in ‘global competitiveness through quality in knowledge management, best practices transfer, and operations improvement.’ For his work on improved drilling techniques he was also honored in 1996 with a nomination for the National Medal of Technology, the US Government’s highest technology award. In 2010, he advised the US Department of Interior as one of seven reviewers of the 30 Day Study immediately following the BP Gulf of Mexico Tragedy, and in 2011 he served on the National Academy Committee to advise the US Bureau of Safety and Environmental Enforcement (BSEE), charged with evaluating the Effectiveness of Safety and Environmental Management Systems for Outer Continental Shelf Oil and Gas Operations. Mr. Brett has authored or co-authored over 30 technical publications, and has been granted over 30 US and international patents - including several patents relating to elimination of ‘Drill Bit Whirl’ (which the Oil and Gas Journal listed as one of the 100 most significant developments in the history of the petroleum industry). In 1999 the Society of Petroleum Engineers honored him as a Distinguished Lecturer. He served on the SPE International Board of Directors 2007 to 2010 where he served as Drilling and Completions Technical Director. Mr. Brett holds a BS in mechanical engineering and physics from Duke University as well as an MS in Engineering from Stanford University and an MBA from Columbia University.

Mr. Paul Carmody has more than 34 years of experience in the petroleum industry. During his 32 years with Hess Corporation and its predecessor, Amoco Hess Corporation, Mr. Carmody has been involved in nearly all aspects of oil and gas engineering from the reservoir sand face through the outlet of gas plants. He is a registered Professional Engineer in North Dakota where his experience includes Bakken oil development, production engineering, pipelines, and compressor station installations. West Texas experience includes CO2 EOR flood gas gathering, CO2 pipelines, and gas plant engineering. His gas plant experience includes installation and operation of CO2 compression systems, and lean oil dehydration and gas plant processes where he has supplies process and design engineering services. He has served as a board member of the CO2 Conference in Midland. Mr. Carmody graduated from the University of Connecticut with a degree in Mechanical Engineering.

Mr. Ajey Chandra is a principal in the Houston office of Purvin & Gertz. He joined the firm in 1998 after working for Amoco for 12 years in gas processing and gas transportation. Prior to joining Purvin & Gertz, Ajey was responsible for all of a 2.4 Bfd gas processing facility in the United Kingdom. Since joining Purvin & Gertz, Ajey has worked on a variety of assignments in the areas of market analysis, forecasting, gas processing and transportation costs. He holds a BS degree in Chemical Engineering from Texas A&M University and an MBA from the University of Houston.

Mr. Alexandre Chwetzoff has over 35 years experience in engineering applications most of which was devoted to a major oil company in various management level positions. He has extensive experience in exploration, business development, strategic planning, training development and management of multi-disciplinary conceptual teams. He is fluent in French, English and Russian and is knowledgeable in German. He received a Master of Engineering in Marine and Construction Engineering from Ecole Nationale Superieure des Techniques Avances (ENSTA) in Paris.

Mr. Stewart Clarke is an occupational health and safety practitioner employed with Corporate Risk Systems Limited. He has over 20 years’ experience in training, personnel development and mentoring at all levels within a wide range of organizations. He is a Chartered Member (CMIOHS) of the Institution of Occupational Safety and Health with a background in engineering and teaching. Stewart was formerly a principal tutor at the Centre for Occupational and Environmental Health in the Division of Epidemiology and Health Sciences in the School of Medicine at The University of Manchester. Stewart’s technical expertise includes mentoring and assessing NVO OD&A Diploma candidates (PetroleSkills mentored program HSTG), investigating loss events, and providing instruction on NEBOSH, IOSH and OIEH externally-certified courses.

Mr. Jimmy Clary has 25 years of experience in the Hydrocarbon Processing Industries. During his 17 years with RWD Technologies, he held technical and management positions including Senior Training Analyst, Project Manager and Team Leader. Mr. Clary has lived and worked in Los Angeles, California and Houston, Texas; completing projects in Asia, Africa and North and South America. He is currently based in Houston where he also worked for Petroleum Testing Services and NFR services in Special Core Analysis, Fluid Analysis and Amine reclamation areas. Mr. Clary earned a BA in Mathematics and a BS in Physics from the University of Oklahoma.

Mr. Mick Crabtree has spent the last eight years running industrial workshops throughout the world in the fields of: Process Control and Instrumentation; Data Communications; Fieldbuses; Emergency Shutdown Systems; Project Management; On-Line Analysis; and Technical Writing and Communications. He has trained over 5,000 engineers, technicians and scientists. Mr. Crabtree formerly trained in aircraft instrumentation and guided missiles in the Royal Air Force, having completed courses as a career service aircrew in the Ministry of Defence and he was responsible for ensuring the reliability, maintainability and functional usefulness of specific equipment entering the RAF. He is the former editor and managing editor of Pulse magazine, South Africa’s leading monthly journal dedicated to the general electronic and process control instrumentation industries. He has written and published six technical handbooks on industrial process control. Mr. Crabtree holds a M.Sc. (Research) in Industrial Flow Measurement and an HNC in Electrical Engineering (with distinctions).
MR. JOHN CURRY is a recognized authority on the ASME Boiler and Pressure Vessel Code, pressure vessel design, fabrication and metallurgy. He has been a Senior Editor for the ASME Code for the past 14 years and has been a Research Engineer for the ASME Code for the past 25 years. He has contributed to several key projects including those related to pressure vessel design, fabrication, and inspection. He has over 36 years of experience in the pressure vessel industry and has been recognized as a leader in the field of pressure vessel technology.

MR. KRIS DIGRE has over 30 years of experience working in locations around the world. He has designed or been involved with the design of offshore structures located off the coast of West Africa, Alaska, Indonesia, and the North Sea. He has been involved in the technical specification development and/or installation of all of deepwater Tension Leg Platforms (TLP) and Floating Production Systems (FPS) in the Gulf of Mexico and an FPS offshore Nigeria. Mr. Digre remains active in retirement providing advice to E&P project groups on various Nigeria FPS project designs. Mr. Digre is a graduate (BSCE) of Illinois Institute of Technology and a Licensed Professional Engineer in New Jersey, Louisiana, Texas and California.

DR. ISKANDER DIYASHEV is a Chairmen and Chief Technology Officer for Independent Resource Development Corporation, which is a start-up oil and gas company, based in Moscow with operations in Western Siberia Russia. In his current position, Dr. Diyashev is responsible for the planning of field development, reserves evaluation and addition, planning of exploration activities, as well as engineering and technology. Prior to his current job, Dr. Diyashev served as a Chief Engineer for Sibneft, one of the largest integrated oil companies in Russia with a daily production of 700,000 BOPD. In his career, Dr. Diyashev worked in R&D, consulting, and the service and production sides of the business both in Russia and internationally. Prior to his work with Sibneft, Dr. Diyashev was one of the key Schlumberger specialists to start the horizontal drilling project in Noyabrsk Western Siberia. He holds a PhD in Petroleum Engineering from Texas A&M University, and advanced degrees in Physics and Mathematics from Moscow Institute of Physics and Technology. He has authored almost 30 technical papers. Dr. Diyashev is a member of the Russian Academy of Natural Sciences, and serves on the Board of Directors of the Society of Petroleum Engineers (SPE International), and on the Boards of private service and engineering firms.

MR. WILLIAM (BILL) DOKIANOS has over 35 years’ experience in engineering, production and pipeline. He is a Professional Engineer in the states of Louisiana and New Mexico, and holds a General and Commercial Contractor License in the State of New Mexico. Over the last 7 years he has been teaching for PetroSkills/John M. Campbell. He instructs the FF4 course, ‘Oil Production and Processing Facilities’. He has actively consulted over the past 10 years with ExxonMobil, Shell Exploration and Production, Sandridge Energy, Repsol and Chevron. Mr. Dokianos’ offshore consulting has focused on optimizing production utilizing casing gas systems, vessel and battery design, revising gun barrel design for better separation, production optimization and production troubleshooting (bad oil and or bad water). His offshore experiences include analyzing and solving poor platform uptime at G8 128, G8 65 and other offshore locations. Activities included process control changes due to stacked separator vessels, revising safe charts, operating settings and reconfiguration of pipeline export pumps. He managed a subsea tieback project in which a major flow assurance unit was included. The project included high pressure and intermediate gas compressors and modifying bulk oil process design. He has been responsible for DOT compliance activities and reporting. This compliance responsibility has included development and implantation of federal risk programs and smart pigging. Mr. Dokianos holds a Bachelor of Science in Electrical Engineering from Wayne State University in Detroit, Michigan.

MR. CHRISTOPHER DOUGHERTY spent over 20 years in the British Royal Navy, where his primary job was marine engineering with an equally important secondary role involved with ship safety and firefighting. Since then, his career has been spent learning how to apply his health and safety knowledge and expertise in a variety of industries and businesses, with recent clients including RasGas, Baker Hughes and Chevron. Chris holds a Level 6 Diploma in Occupational Safety and Health, and has worked with PetroSkills since 2008 delivering many of our health and safety courses worldwide. He is a registered trainer for NEBOSH, IOSH (Institution of Occupational Safety and Health) and CIEH (Chartered Institute of Environmental Health). More recently, he has become an active member of the Humberside, UK ‘Business Hive’ group and a volunteer Health and Safety Advisor for the Lincolnshire region of the National Wildlife Trust. Altogether, Chris has over 40 years’ experience working with occupational health and safety.

MR. PHILLIP DUCKETT has a background in construction and engineering. He has held senior management positions in plant and machinery installation businesses. He has over ten years’ experience in health and safety and is a Chartered Member of IOSH. Phillip has HSE experience from working in the oil and gas, pharmaceutical, automotive, food and beverage, military supply, aircraft manufacture and general engineering sectors in Europe, North and South America and North Africa. He prides himself on being helpful and encouraging clients to achieve a high standard of health and safety in their organizations. Phillip supports his eldest son in a lacrosse team and is an active participant in a karate club.

MR. RONALD FREND is a registered engineer, and has almost 40 years of experience, consulting and management experience. He rose to a senior management position in Shell International (Middle East) before opening an engineering consultancy in England. His entire career has been concerned with practical applications of maintenance and engineering. Ron is experienced in a wide variety of maintenance and engineering projects as well as possessing management skills suitable to an engineering consultancy and a large multi-national corporation. Specialized training has also been carried out on the following topics: management techniques, non-destructive testing, oil tanker cargo operations, instrumentation and control, resistance and gas welding, vibration analysis, infrared thermography and passive ultrasonics. Ron has successfully completed Helicopter Underwater Escape Training for offshore facilities. He is a Registered Engineer with an MSc from Huddersfield University in England as well as being a certified Chief Engineer Officer (marine).
MR. RICHARD (RICK) GENTGES has over 32 years experience in the design, construction, and operation of underground natural gas storage facilities. His experience includes assignments in operations, technical support, engineering management, and project management. Most recently (2010-2012) he served as Senior Project Manager for Cook Inlet Natural Gas Storage Alaska, LLC, and was responsible for overall construction of the first commercial underground gas storage facility in Alaska. From 1982-2010 he worked for ANR Pipeline Company where he held various technical and managerial positions involving gas storage assets. His technical experience includes performing and analyzing well tests, reservoir performance analysis, reservoir simulation, and storage facility optimization. During his career he managed construction projects that involved enhancements to existing gas storage facilities and construction of new gas storage facilities. The scope of construction included the drilling and completion of vertical and horizontal wells, upgrades to gathering systems, new compression, and gas processing equipment. Mr. Gentges is a past Chairman of the Underground Gas Storage Committee of the American Gas Association (1994). He also served as Chairman of the Underground Storage Gas Research Committee for the Pipeline Research Council International (1998-2003), and served on the National Petroleum Council Gas Storage Team (2003-2004). Mr. Gentges holds a BSc in Chemical Engineering from the University of Michigan (1981).

MR. DAN GIBSON is a consulting engineer with over 35 years of experience in production, completions, and well integrity issues from oil and gas fields all over the world. After working as a roughneck and roustabout through college, he started his professional life as a facility engineer in Alaska. He has worked his way through the value stream from facilities to completions with jobs in Anchorage, Denver, Houston, Gabon, Congo, Egypt, Scotland, Russia, and Australia. He is currently a consulting engineer, working on completions and well integrity problems for a wide range of independents and majors. He has worked as a Wells Technical Authority for a large international independent with a varied portfolio of offshore oil and gas fields. He was the first Senior Completion Advisor for a super major. As part of this role, he worked with teams on both major technical incidents and in planning and assurance of high profile projects around the world. These experiences have given him a unique viewpoint of how fields are developed; how wells are designed, constructed, and produced; how things can go wrong with a well during construction and production; and how best to mitigate and manage well problems. He has authored and co-authored a number of papers, ranging from polymer flood processing equipment. Mr. Gentges is a past Chairman of the Underground Storage Gas Research Committee for the Pipeline Research Council International (1998-2003), and served on the National Petroleum Council Gas Storage Team (2003-2004). Mr. Gentges holds a BSc in Chemical Engineering from the University of Michigan (1981).

MR. GERALD GUIDROZ started out as a vibration test engineer for the space shuttle main engines. He then moved into the oil and gas industry on the North Slope on the production side of the business. He worked as a rotating equipment engineer for several years as well as getting involved with projects involving well pads, pipelines, waterfront, and gas injection before moving over to the pipeline side of the business. He was able to transfer some of his vibration experience into solving complex piping and equipment problems. Mr. Guidroz worked with the Trans-Alaska pipeline on pipeline and tank corrosion monitoring and repairs and worked as a construction engineer at the Valdez Marine terminal. He then transferred to the refinery side of the business working for multiple clients as an engineering consultant. He has been involved with major refinery upgrades, multiple turnarounds and greenfield projects. He has acted as owners engineer on projects including a new spill response barge for drilling in the arctic. Mr. Guidroz has been involved with all phases of projects from FEI/ Conceptual Design to Detailed Design on through construction. His areas of expertise are in engineering, analysis, inspection, troubleshooting, and analyzing well tests, reservoir performance analysis, reservoir simulation, and stress analysis. Mr. Guidroz has a broad knowledge base from over 28 years of experience in the oil and gas business.

MR. ROGER HADDAD, P.E., F.PM, is a practicing project manager with Occidental Petroleum and has over 25 years of design and project experience in the Oil and Gas and Chemical Industries. He started his career as a structural engineer and progressed from design to construction to project management. He gained his project management skills while working on fast-track projects in North America where he held various positions in project and portfolio management. For the last 10 years, he has been managing large offshore and onshore oil and gas projects in the Middle East. With his extensive experience in design, construction, risk management and project controls, he has been managing large projects and contractors and working with JV partners as well as national oil companies. Roger earned a M.S in Structural Engineering and a B.S in Civil Engineering from the University of Buffalo, New York. He is currently based in Abu Dhabi, United Arab Emirates.

MR. GERARD HAGEMAN is based in The Hague (The Netherlands), where he settled after 33 years in the downstream oil and gas business (including LNG). He started his career with the Gulf Oil refinery in The Netherlands as a process engineer for several years as well as gas processing engineer for Gulf Oil Chemicals in London, after which he joined Shell for 20 years. During his career with Shell, Mr. Hageman has worked in numerous countries including Malaysia, Saudi Arabia, Oman, United Arab Emirates, United Kingdom, Denmark and, of course, The Netherlands. He has been responsible for Process Engineering, Design, Operation, Start-up, Process Safety (Integrity), Interface Management, Change Processes, Competency Assurance and Training. He holds an MS in Chemical Engineering from Twente University in The Netherlands. He is a member of KIVI, i.e. The Royal Dutch Institute of Engineers. Mr. Hageman joined PetroSkills | John M. Campbell in 2012.

MR. JAMES L. HANER is the head of Ultimate Business Resources (UBR) Consulting, specializing in “Building Better Businesses.” UBR is an independent firm offering business consulting and project management services to Fortune 500 companies in the US, Europe, Africa, and China. James has more than 30 years of experience in business and IT. His responsibilities have included establishing a corporate web presence for a Fortune 500 company, creating a successful organization-wide employee development plan, and developing the IT infrastructure for a start-up company in both project management and leadership roles. He completed his PhD work at the University of Idaho and Corillins University. He earned an MA degree in Management/Leadership from the Claremont Graduate School and took classes with Peter F. Drucker, “the father of modern management.” He is a member of the Change Management Group, the Online Project Management Group and the Project Management Institute.

MR. MALCOLM HARRISON graduated in Chemical Engineering in 1981 and completed an MBA in 1995. He has worked mostly in the areas of oil and gas, cryogenics and gas monetization. Mr. Harrison has worked for BP, BOC, Foster Wheeler and BG. He was Director of Process Engineering for Foster Wheeler and, most recently, was BG’s Chief Process Engineer. He has travelled a lot, worked on all the continents except Antarctica, visited more countries and encountered more cultures than he can remember. While his foundations are in process engineering, the MBA sparked an interest in corporate strategy, in changing organizations and building high performing teams.

MR. W. GREG HAZLETT is Vice President of PetroSkills where he designs competency-based training programs, evaluates course materials and instructors, teaches training courses, and consults on technical issues. Prior to joining OBCI, he was Vice President of a consulting firm, where he was in charge of the petroleum and geological engineering consulting group. He specializes in performing reservoir characterization, engineering and simulation studies. Studies include deep-water Gulf of Mexico oil and gas fields, a granite gas reservoir offshore India, and steamfields in California. Dr. Hazlett has also worked for Mobil as a drilling engineer, and for Exxon as a steamfield project manager in Colombia, and as a reservoir and simulation engineer in both research and Kuwait operations. He was a Lecturer at Texas A&M University and an Associate Professor at New Mexico Tech, and has published on petroleum engineering topics, served as SPE coordinator for the Reservoir, Gas Technology, and Fluid Mechanics and Oil Recovery Processes committees, and has testified as an expert witness. Dr. Hazlett has BS, MS and PhD degrees in petroleum engineering from Texas A&M University and is a registered Professional Engineer in Texas.

MR. RON HINN is the EVP for Sales and Member Engagement for PetroSkills. He is a people oriented manager, possessing strong leadership and communication skills. A registered professional engineer, Ron’s 35 year career has spanned numerous roles including staff engineering, engineering supervision, corporate knowledge management and professional staffing and competency development. Ron is active in both the Society of Petroleum Engineers and ABET (Accreditation) activities. He has served on the Board of Directors of both organizations. Ron received a BS from the University of Tulsa in petroleum engineering.

MR. FRANK HOPP has over 35 years of experience in the oil and gas industry with special expertise in production and reservoir engineering in heavy oil and oil sands recovery. He is currently providing thermal consulting services to the heavy oil and oil sands recovery projects. He has also been responsible for Process Engineering, Design, Operation, Start-up, Process Safety (Integrity), Interface Management, Change Processes, Competency Assurance and Training. He holds an MS in Chemical Engineering from Twente University in The Netherlands. He is a member of KIVI, i.e. The Royal Dutch Institute of Engineers. Mr. Hageman joined PetroSkills | John M. Campbell in 2012.

MR. AARON HORN is the founder of Eos Resources, a training company aimed at providing leadership and technical training to multiple industries. He consults to CAP Resources, a company that provides business development services, primarily in the oil and gas industry, to startup technology companies assisting clients with market strategy, mergers and acquisitions, and strategic operational planning. He also provides technical support to the senior management of Hydrozonix, a water treatment service provider in the oil and gas industry. His background includes Operations Engineering experience in both completions and production areas. Aaron served in the military training the rank of Captain after receiving a BS degree in Systems Engineering from the United States Military Academy at West Point.
MR. ROBERT (BOB) HUBBARD is based in Norman, Oklahoma with over 42 years’ experience in oil and gas facilities, worldwide. Mr. Hubbard is currently Dr. Technical Advisor-Facilities and Process Engineering for PetroSkills. He previously served as President of John M. Campbell & Co. until December 2012 when the company was acquired by PetroSkills. In 2009 he retired from the University of Oklahoma where he served as a visiting professor and director a master’s program in Natural Gas Engineering and Management in the Petroleum and Geological Engineering Dept. In 2002 he retired from John M. Campbell & Company where he worked for 23 years providing training and consulting services to several international oil and gas companies. He served in several capacities at JMC including chairman, a position he held when he retired in 2002. He also worked for Texaco from 1972-1980, where he held various engineering and management positions. Mr. Hubbard is a member of SPE and GPA; he has chaired the SPE Facility Engineering Committee and has held several leadership positions in the Oklahoma City SPE Section including the section chairmanship in 2011-2012. He has published several papers in the area of gas processing and facilities design. He was the distinguished author in the August 2009 Journal of Petroleum Technology with an article titled ‘The Role of Gas Processing in the Natural Gas Value Chain’. Mr. Hubbard holds a BS in Chemical Engineering from Kansas State University (1971), and an MBA from Tulane University (1978).

MR. WILLIAM E. HUGHES is a practicing lawyer in Tulsa, Oklahoma, who has handled a wide variety of cases involving oil and gas related matters. He has studied in France and lived in Morocco and received a Fulbright scholarship to teach US and comparative law at the University of Tunis during the 2000-2001 academic year. He teaches courses at the University of Tulsa, including courses in comparative and international law, European Union law, banking law, US Constitutional law, and an introduction to the US law and legal system for non-US lawyers and graduate students. He is a graduate of Harvard Law School.

MR. SELMA (SALLY) A. JABALEY is a Senior Engineering Manager with expertise in management of engineering departments. She specializes in engineering, procurement and construction of oil and gas facilities projects, evaluation and due diligence of oil and gas projects for investment analysis and due diligence, and analysis of large projects in the fields. She is currently the Owner and Principal of Jabaley Consulting LLC, a company that does consultant work for Shell, as well as companies in Africa, the Middle East, and other locations around the globe. She is an SPE Gulf Coast Section, Projects, Facilities, and Construction study group member and past chair, and was awarded their Distinguished Contributions to Projects, Facilities, and Construction award in 2008. She has earned a Bachelor of Civil Engineering from Georgia Institute of Technology. In 2008, Ms. Jabaley was inducted into the Georgia Tech Academy of Distinguished Engineering Alumni, and now serves as an advisory board member for the Georgia Tech Civil and Environmental Engineering department.

DR. RODNEY JACOBS is recognized as a worldwide leader in the field of Instrumentation, Automation and Process Control. He has been involved in instrumentation for the last 35 years, and has presented a great deal of workshops in many countries around the world (with most of them being in countries that have an interest in the oil and gas industries). Apart from in-house and public workshops, he has also presented numerous of internet-based (e-learning) sessions, primarily related to process control and safety. His main area of focus includes PLCs, SCADA, DCS, loop tuning, instrumentation and other areas related to the control of processes. Although his primary focus has always been instrumentation, he does have qualifications in electrical heavy current aspects, and has lectured this at university level. In addition to presenting international seminars, he is also actively involved as a consulting engineer, in his area of expertise. He is a past recipient of the N&Z award, which is one of the highest awards, in the field of instrumentation, in South Africa. Apart from a Doctorate in Electrical Engineering, Light Current, he also has an Honors degree in Psychology, and is internationally certified in training and assessment.

MR. FRANK JARRETT has over 40 years of experience, primarily in the natural gas processing industry. Responsibilities have included project design team leadership, conceptual and detailed process design, extensive use of computer simulation tools, computer program development and testing, process and mechanical flow sheet development, equipment sizing and specification, hazards analysis, facilities checkout, start-up, debottlenecking and teaching. His background covers natural gas liquids recovery, natural gas liquification, nitrogen rejection and recovery of helium from natural gas, acid gas removal, product distillation, dehydration, production optimization, start-up, commissioning and startup of new plants and facilities, and the development, presentation and support of N&Z projects. He is a registered professional engineer in the state of Colorado and has served on the Board of Directors of the Rocky Mountain Chapter of the Gas Processors Association. Mr. Jarrett received a BS in Chemical and Petroleum Refining Engineering from the Colorado School of Mines in 1974.

MR. ALFRED R. JENNINGS, JR. is a well stimulation consultant with Enhanced Well Stimulation, Inc., located in Tyler, Texas. He actively provides well stimulation consulting services throughout the world. Prior to establishing Enhanced Well Stimulation, Inc. he worked for Mobil R&D Corporation/Mobil E&P Services, Inc. where he was involved in various applications of well stimulation throughout Mobil’s worldwide operations. Prior to Mobil, he worked 15 years for Halliburton Services in all aspects of hydraulic fracturing research and field applications. He is a registered Professional Engineer and has authored or co-authored 95 US patents pertaining to applications and techniques for well stimulation. He is widely published and has served on numerous SPE Committees. He received a BS Degree in Chemistry and an MS Degree in Petroleum Engineering from the University of Oklahoma.

MR. ROBIN JENTZ has 38 years of oil and gas processing experience. His work has included most process areas of oil and gas production, including design and testing of low dewpoint glycol dehydration units, analysis of flare and relief systems using dynamic simulation programs, retrofitting gas/liquid separators to increase capacity and eliminate entrainment, and upgrading oil dehydrators. Mr. Jentz has worked for both operating and engineering contracting companies. He is a Registered Professional Engineer in Alaska and Washington. Mr. Jentz received his BS in Chemical Engineering from California State University Long Beach in 1974.

MR. STEPHEN JEWELL is an independent oil and gas consultant and advisor with 30 years experience in the upstream sector. He was previously the Managing Director and co-founder of Xodus Subsurface Ltd, the Wells and Subsurface company within the Xodus Group of technical consultants. He was also Chief Operating Officer and a founding shareholder of Composite Energy Limited, a European Unconventional Gas company, growing the company from seed capital of $500k to an ultimate sale value of over $300million in 5 years. He has over 16 years experience with Amerada Hess starting as petroleum engineer and progressing to Acting General Manager of its North Sea Operations Base. He received a BEng (Honours) degree in Electronic Engineering from the University of Sheffield and speaks Norwegian and French.

MR. SATISH K. KALRA is an independent oil and gas consultant and advisor with 30 years experience in the upstream sector. He has over 35 years of oil and gas industry experience with national and private oil companies. As an Associate Professor of Petroleum Engineering, he taught graduate and undergraduate students at the University of Southwestern Louisiana, Lafayette. He also worked for the University of Texas at Austin. His career includes assignments with ONGC (National Oil Company of India), ARCO Offshore (now BP), BJ Services, Agio Oil and Gas, Schumberger / Holdtich, Miller and Lents and SKAL-TEX Corporation. He is widely published in technical literature and was the Chairman of the National SPE Committee on Monographs. His technical expertise includes the design and supervision of production and well completion operations, formation damage and sand control, reservoir management, technology transfer and contract negotiations. He actively participated in several technology transfer agreements with various Indian, Chinese, and Russian companies. He is fluent in English, Russian and several Indian languages. Recently he was nominated as a member of the Russian Academy of Natural Sciences US Section. He received an MS and PhD in petroleum engineering from the Gubkin Oil Institute, Moscow, Russia and a degree in law from Gujarat University, India.

DR. MOHAN G. KELKAR is a professor of petroleum engineering at the University of Tulsa in Tulsa, Oklahoma. His main research interests include reservoir characterization, production optimization, and risk analysis. His work involves several research projects, which are partially funded by various national and international oil companies, the US Department of Energy, and Oklahoma Center for Advancement of Science and Technology. He has taught various short courses for many oil companies in Canada, Indonesia, Singapore, Nigeria, Kuwait, Abu Dhabi, Scotland, India, Denmark and across the United States. He has been a consultant to many oil companies, as well as to the United Nations. He has received a BS in Chemical Engineering from the University of Bombay, an MS in Petroleum Engineering and a PhD in Chemical Engineering from the University of Pittsburgh, and a J.D. from the University of Tulsa.

MR. BILL KEMP has over 35 years of oil and gas industry experience in engineering, operations, product development, commercialization, business development, sales, and marketing. He is currently Senior Sales Consultant for PetroSkills. He joined in July 2013. Bill is responsible for strategic member/client interaction in workforce development, consulting and software in the upstream, midstream and downstream segments. Previously, Bill was manager, sales and marketing, for the Oilfield Technology Group of Monevare International (Houston). Bill joined Hexion in late 2004. At Hexion, Bill was responsible for new technology commercialization as well as managing strategic relationships with customers and industry organizations. He began his career with Halliburton in 1977 as an engineer-in-training. He has had numerous field engineering, sales, product marketing and business development roles at Halliburton, BJ Services, Schlumberger / Holditch, Miller and Lents and SKAL-TEX Corporation, a member of APPEGA and holds a BS in Chemical Engineering from the University of Saskatchewan. He currently resides by the lake in Wakefield, Saskatchewan.

MR. DALE KRAUS has over 35 years of progressive responsibility from staff to management positions within the Upstream Oil and Gas Industry. Mr. Kraus has obtained a sound basis in Facility/Processing Engineering with an emphasis on Plant and Field Operations in Oil and Gas Processing through over 15 years of hands-on experience with national and private oil companies. He also has been a project manager for stimulation in the late 1990s, he led the introduction of various innovative acidizing and fracturing technologies. He left Halliburton in 2000 to start a consulting company specializing in oilfield market research and new technology commercialization. Bill has been active in SPE and served numerous roles at both the local and national level. Bill has a BSFE from the University of Texas at Austin, a MS from the University of Tulsa, an MEng from the University of Oklahoma, an MBA from the Wharton School of the University of Pennsylvania, and a JD from the University of Texas at Austin.

MR. JAMES LANGER is a registered professional chemical engineer in Texas and California. He graduated with a BS in Chemical Engineering from UCLA and has an MBA from Pepperdine. Jim has been working for Hess as a Senior Process Engineering Advisor for the past 7 years. He is retired from Shell having worked 28 years as a Senior Staff Process Engineer, and Principal Technical Expert for Shell / Shell Global Solutions. He is also a member of the D&O Kraus Consulting Corp., a member of APPEGA and holds a BS in Chemical Engineering from the University of Saskatchewan. He currently resides by the lake in Wakaw, Saskatchewan.

MR. CHRISS LENNON is a director of Stone Falcon Corporate and Legal Consulting Ltd. The company specializes in the provision of consultancy, professional training and academic teaching within the area of Project Management. Chris works internationally and targets the Special Projects consultant application within the Project Management domain. He has a wide and varied experience across a number of market segments, ranging from the oil and gas industry to retail and distribution. He has instructed MSc Level courses in Project Management both at The Robert Gordon University and the University of Aberdeen. He has experience instructing in the fields of Supply Chain Management, Operations Management, Strategic Management, Business Innovation, Creativity, Negotiation and Alternate Dispute Resolution. Chris has written and delivered MSc Level material on oil and gas programmes in Mergers and Acquisitions. He holds an MBA and a LLB from the University of Aberdeen, the Chartered Institute of Arbitrators Diploma in International Commercial Arbitration (DipAC Arb) and the Freedom of the City of London. He is a Life Fellow of the Worshipful Company of Arbitrators, a Fellow of the Chartered Institute of Arbitrators, a Member of the Association of International Petroleum Negotiators and is a licensed PRINCE 2 practitioner.
Mr. Larry Lents has over 33 years’ experience in the petroleum industry working for Amoco and BP. Starting as a working geologist in the Texas Gulf Coast and West Texas regions, he later expanded into the international arena working in Gabon and Congo after which he became Amoco’s Regional Geologist for Africa and the Middle East. He was Amoco’s Country Manager in Ghana in the late 1980’s, Consulting Geologist in New Orleans, and then Chief Geologist for Amoco’s Worldwide Exploration Group. Larry later transferred to Denver to build a new exploration team supporting Amoco’s North American gas strategy and later returned to the international arena working in Angola. After Angola, Larry became the Technical Learning and Development Manager for the BP E&P group globally. He began work on the Training and Education strategy which was a part of BP’s commitment to gain entry into Libya. He worked in Tripoli, Libya with a dual focus on BP’s Training & Education commitment to the National Oil Corporation of Libya as well as the internal focus on training and development within BP. After retiring from BP in late 2009, Mr. Lents took on a leadership role in developing the PetroSkills Accelerated Development Programs across all of the E&P disciplines, having seen this as a need in the Oil and Gas Industry. He has an MS degree from the University of Georgia and a BS degree from the University of Michigan both in Geology.

Mr. Robert (Bob) G. Lippincott is an Employee Development Consultant with extensive oil and gas exploration and production experience including technical training and Petroleum Engineering. He is well versed and knowledgeable on petrophysical tools and petroleum technology. Bob is an experienced course director and lecturer for Petrophysical and Petroleum Engineering training. Prior to retirement he was Learning Leader for Geoscience and Petroleum Engineering at Shell’s Houston learning center. Previous jobs included global Petrophysical learning director at Rijswijk, NL and Principal Petrophysical Engineer for a Deepwater Development Project. He also served in various technical management positions during his career prior to retiring from Shell in 2010. Bob is skilled at delivering technical training across cultural and geographic groups. He has a BS/ME from Mississippi School, Lyon, France in 1973 and a Degree from IFP in 1979 (French Petroleum Science Education and an MS in Botany from the University of Oklahoma, with pre-doctoral studies in Plant Ecology at the University of California.

Mr. Pete Luan has over 25 years of international upstream project management experience. He has also consulted for the past 10 years helping energy companies improve their management of capital projects. He has an extensive track record of helping E&P companies improve their capital project performance. He has been particularly successful with those clients who are based with large capital projects and require a step-change in organizational capabilities. Pete is a facilitator and advisor to top management, many of whom continue to seek his advice even after the development of their project organizations has been completed. He has worked with numerous strategy, project execution plan development, risk management, Lessons Learned, stakeholder alignment, etc. Pete worked for Amoco Production Co. managing major capital projects in Azerbaijan, the Middle East, and Latin America. He holds BS and Masters degrees in Mechanical Engineering with higher honors from Riso University and has completed management training at Harvard Business School. He is PMP certified.

Mr. Ken Lunsford is the Project Management Discipline Manager for PetroSkills. He has more than 38 years experience in engineering and management of oil, gas, chemicals and plastics development. During his 32 years with ConocoPhillips, he led development teams on projects in the United States, Norway, Qatar, and United Arab Emirates. His diverse engineering and project management background includes sour gas plants, oil, gas and petrochemical pipelines, engineered plastics processes and materials handling, batch sulphur chemical processes, liquefied natural gas projects and pilot plants. Additionally, he was corporate project controls manager for Phillips Petroleum with responsibility for developing business processes and training for asset development, value improving practices, project controls, contracting strategy, risk management, reviews and assists and joint venture non-operated project assurance. He received his BS and MS degrees in Mechanical Engineering from the University of Missouri-Columbia. He is a registered professional engineer in the State of Texas.

Mr. Juan C. Malave is an accomplished senior level project professional in major capital projects development, specializing in EPC management, contracts, procurement, and business development with more than thirty (30) years of experience in the oil, gas, and petrochemical industry. His expertise includes developing strategic direction, planning, risk management and project management for large capital projects (in excess of $100MM). He has developed processes for estimating, procurement and construction processes, project management contracts, management and administration, startup and commissioning functions. He also has experience in leading international teams with diverse cultural backgrounds working in different contracting environments. Mr. Malave has a BS in physical metallurgy from the Material Science and Engineering Dept. of Washington State University.
MR. MANICKAVASAKAN (MANICKAM) S. NADAR is a consultant Principal Engineer with 27 years of experience in the upstream oil and gas industry and 6 years in petrochemical process operations. With a strong background in Production Technology, Well Operations, Well Completions & Workovers, Artificial Lift, Asset Modeling and Optimization, he has specialized in artificial lift technologies, well and system designs, analysis, trouble-shooting, reliability improvement and production enhancement. He has made significant contributions in the artificial lift selection, design, operation, surveillance and optimization of large volume gas lifted ESP wells for many operators. Mr. Nadar has worked for major international operating companies and handled various responsibilities in production engineering operations and artificial lift systems, onshore and offshore. In the service sector, he has delivered many challenging well and network modeling and optimization projects that helped clients achieve substantial increase in production, operation efficiency and cost savings. Recently he has helped companies to implement real-time surveillance and optimization systems that allows operators use collaborative work environments for achieving their KPIs. A university topper and gold medalist, Mr. Nadar holds a BSc degree in Chemistry from Maturity University, India and a degree in Chemical Engineering from Institution of Engineers (India). With several SPE papers and text book publications to his credit, he has conducted many workshops, training seminars and short courses for SPE and other organizations.

MR. JOHN BOB (BOB) NICHOL is President of the recently founded Petrobust Consulting Limited, located in Sherwood Park, Alberta, Canada. He provides Petroleum Engineering consulting services to the Government of Alberta, Department of Energy and is a sessional lecturer in Petroleum Engineering at the University of Alberta at Edmonton. He has over 30 years experience in a broad spectrum of Petroleum Engineering roles including field operations, reservoir engineering and engineering research. Bob received a BSc degree in Electrical Engineering and an MEng degree in Mineral Engineering both from the University of Alberta.

MR. TIM NIEMAN is President of Decision Applications, Inc., a San Francisco area based decision analytics consulting firm. His firm performs decision and risk analysis for various organizations facing complex decision problems. His recent oil and gas consulting work includes risk analysis of pipeline routing, risk analysis for deepwater flow assurance; portfolio analysis for budgeting E&P R&D portfolios; and development of methods for assessing new basin entry opportunities. Other recent work includes development of remediation and reuse strategies for impaired properties, including former refineries and pipelines; numerous projects for the Yucca Mountain proposed nuclear waste repository; work on mountain top coal mining, unconventional oil and gas drilling, basin-wide water management and climate change issues; and cancer causation modeling for national health organizations. Mr. Nieman was formerly Senior Decision Analyst for Geomatrix Consultants, an Oakland based geological and environmental consulting firm. Prior to that, he was Director of Operations for Lumina Decision Systems, a decision analysis consulting and software firm. And prior to that, he spent 14 years with Exxon as a geophysicist, economist, and risk and portfolio analyst. He has a BS in geology and an MS in geophysics from Michigan State University, and an MBA from Rice University.

MR. ANDREW NEWBOURGH is a Chartered Member of the Institution of Occupational Safety and Health (CMIOSH), the International Institute of Risk and Safety Managers (MIIRSM) and the Institution of Fire Engineers (MIFireE). He is a pragmatic occupational health and safety practitioner, auditor and fire safety technician, utilizing line management experience gained from a career in public and private sector organizations including the police, local government, education, food, general and leisure retailing, healthcare and residential care, agricultural processing, facilities management and food manufacturing. Andrew is a specialist occupational safety and health instructor with over 20 years’ experience with Corporate Risk Systems Limited. He holds a Masters’ Degree in Occupational Safety and Health from the Swann Centre, Leicester University (MSc. 2004).

MR. JOHN MORGAN is based in Denver, Colorado, and Chairman Emeritus of PetroSkills with over 40 years’ experience in the design, startup and troubleshooting of oil and gas facilities. He has published extensively on sour gas treating, sulfur recovery, CO2 treating, materials of construction, LNG training, and cryogenic gas processing. He consults for both North American and international clients in the gas processing industry. He performs training in LNG facilities, oil and gas production facilities, and gas plants around the world. Mr. Morgan served as an SPE Distinguished Lecturer in 2005/06, 2008/09 and 2014/15. He is very active in the industry including the Program Advisory Committee of the Lausanne Reid Gas Conditioning Conference, Brimstone Sulfur and ammonium International Committee of GPA/GPSA, and has served as Adjunct Professor of Petroleum Engineering at Colorado School of Mines. For more than 30 years he was a member of the Editorial Review Board of the Gas Processors Supplier’s Association. Mr. Morgan has many years of experience training non-native English speakers. He holds a B.Sc. (Hons) in Chemical Engineering from London University; and an M.E. in Chemical & Refinery Engineering from Colorado School of Mines, USA.

MR. MAHMOOD MOSHFEQHIAN is a Senior Technical Advisor and Senior Instructor for PetroSkills. He is the author of most Tips of the Month and develops technical software for PetroSkills. He has 40 years’ teaching experience in universities as well as for oil and gas industries. Dr. Moshfeqhian joined John M. Campbell & Co. in 1990 as a part-time consultant and then as full-time instructor/consultant in 2005. Dr. Moshfeqhian was Professor of Chemical Engineering at Shiraz University. Dr. Moshfeqhian is a senior member of AIChE and has published more than 125 technical papers on thermodynamic properties and process engineering. Dr. Moshfeqhian has presented invited papers at international conferences. He is a member of the Editorial Board for the International Journal of Oil, Gas, and Coal Technology. He holds a BS (74), an MS (75) and a PhD (78) in Chemical Engineering, all from Oklahoma State University.

MR. RONNIE NORVELL was Director of Instructional Design and Quality at PetroSkills 2009-2012. Prior to joining PetroSkills, Ronnie and Lighthands Process Engineering Consultant. During 2003-2008, Ronnie, Mr. Norvell held a Ph. D. Degree in Occupational Safety and Health from the Scarman Centre, UK. He has over 30 years broad career growth in the upstream oil and gas business including engineering assignments in drilling, well completions and production as well as operations supervisory, management and executive positions. He has also worked in employee selection, training and development for technical, administrative and operations personnel and is experienced in building highly successful organizations from the ground up. Jeff received a BS in Petroleum Engineering from Louisiana State University.

MR. YUV MEHRA, an inventor (31 US Patents) and a licensed professional engineer (California and Texas), has over 40 years of practical, hands-on process engineering experience related to the processing of hydrocarbons from the standpoints of major owner/operating, as well as E&O companies. He retired from Saudi Aramco in December 2011 as Gas and Light-ends Process Engineering Consultant. Prior to joining Aramco, Mr. Mehra was Saudi Aramco’s General Supervisor for the Upstream Process Engineering Division. He is an Alumnus of the Saudi Aramco Leadership Forum. He focuses on identifying value-oriented opportunities, effectively communicating and following through assignments to conclusion. He has demonstrated his vast process engineering knowledge of the entire hydrocarbon value chain through process optimization, front-end engineering, project evaluations, troubleshooting, development of engineering standards, expert witnessing, assessment and commercialization of intellectual property, and offering topical courses. He chaired the development of Section 14 - Refrigeration for the GPSA Engineering Data Book. Mr. Mehra holds a BE from IIT Roorkee and an MS from UCLA, both in Chemical Engineering.

MR. JOHN M. MCKINZIE is a petroleum consultant from Sugar Land, Texas. His prior industry experience includes 21 years with Texaco, Inc. and Gelly Oil Company in numerous areas of production and construction engineering. Specific specialties include gas control, water shutoff, drag reduction techniques for fluid flow, and well stimulation by acidizing and fracturing. He also worked in the area of surface well logging, and was one of the co-developers of GQM (Qualitative Gas Measurement) and QFT (Qualitative Fluorescence Technique). Prior to joining Getty, he was employed by GTE Labs in Waltham, Massachusetts, where he worked primarily in the areas of catalyst development research and developing photo-catalytic techniques. He was the Chairman of the Completion Engineering Association in 1991-1992, after being Vice Chairman in 1989-1990. He was a member of the research team that received the Special Meritorious Award for Engineering Innovation from Petroleum Engineer International (1996). He has also served as a member of another team that received the Hearst Newspapers Energy Award for Technology in 1998. He has twice received Texaco’s Corporate Technology Innovation Award and holds numerous patents in several of the above areas. He held a post-doctoral appointment in Chemistry at Brown University, and subsequently taught engineering several more years at Brown. He received a BS degree in Chemistry and Mathematics from Central Oklahoma University, and a PhD in Physical Chemistry from Arizona State University.

MR. JEFFREY S. McMULLAN has over 30 years of broad career growth in the upstream oil and gas business including engineering assignments in drilling, well completions and production as well as operations supervisory, management and executive positions. He has also worked in employee selection, training and development for technical, administrative and operations personnel and is experienced in building highly successful organizations from the ground up. Jeff received a BS in Petroleum Engineering from Louisiana State University.

Our Instructors
Mr. Dennis Perry has been working in the automation, electrical and instrumentation design business for many years. His work experience includes working in the aerospace industry as an analog circuit designer, working in the electronics manufacturing business as a production engineering manager, and working for a major oil and gas company as a division automation supervisor and later as a staff engineer in the central, Upstream Technology group. He has also worked for an instrument manufacturer as service manager and for an engineering construction company as an instrument/electrical engineer. Mr. Perry has published a paper on Multiphase measurement fall 1996 SPE, co-authored a paper for ASME/ETCE 2000 on view of well test accuracy, presented at the Acadiana Flow measurement workshop, and co-authored a paper on heavy oil multiphase measurement with Inteplw of Venezuela. Mr. Perry graduated from Louisiana Tech with a BS degree in Electrical Engineering.

Mr. Jason Pingenot has over 21 years of experience in planning, design, engineering, management, and commissioning for a wide range of natural gas installations including wellhead controls, gathering systems, compressor stations, processing plants, metering facilities, and truck loading stations for projects around the globe. In the course of his career he has served the industry as a drafting instructor, engineering consultant, and led an E&G technical team at Encana Oil & Gas (USA) to execute capital projects and develop technical and safety standards. Recently, Mr. Pingenot was the Vice President of Engineering and E&G Manager at GWD Design & Engineering based in Denver, Colorado, with a field services office in North Dakota. STV Energy Services has since acquired GWD Design & Engineering. Mr. Pingenot continues to perform a similar function as ICAPE Engineering Chief and Senior Associate. Mr. Pingenot is a registered professional engineer in the states of Colorado, New Mexico, Utah, North Dakota, Wyoming and Texas. He has a high level of operational skills including advanced use of AutoCAD and related software for the generation of design documents, understanding of NEC, IEC, API, NFPA, ASA, IEEE and OSHA codes, guidelines and practices pertaining to common natural gas facility equipment and installations, advanced use of Excel and creation of time saving tools, use and development of functional specifications for Access databases to improve productivity, and various specialized software for completion of engineering tasks. He has a bachelor’s degree in Electrical Engineering from the University of Colorado.

Mr. William (Bill) E. Powell is an oil and gas professional with over 30 years of experience in field operations, technical sales, marketing, and management with autonomous operations and profit and loss responsibility. Prior to entering the oil and gas industry with Schlumberger he served as a commissioned officer in the U.S. Marine Corps. Bill holds BS and MS degrees in Physics. He is a member of the Society of Petroleum Engineers, American Association of Petroleum Geologists, Society of Exploration Geophysicists, and European Association of Geoscientists and Engineers. Over the course of his career, Bill has taught short courses and seminars on a variety of technical topics. Bill served as Vice President Marketing for S.A. Holditch & Associates Inc, a well-known petroleum consultancy where he played a key role in building the brand equity that was the basis of their successful acquisition and integration into Schlumberger. His most recent assignment with Schlumberger was as North America Business Development Manager for Data & Consulting Services where he maintained close relationships with numerous major and independent oil and gas companies. Bill currently performs the role of PetroSkills Integrated Disciplines Manager for Unconventional Resources.

Mr. Jay Rajani worked in Amsterdam, The Hague and London for Royal Dutch Shell Group for 30 years. He started his career in Shell Research Laboratories in Amsterdam where he was involved in the development of refinery burners/furnaces. He later moved to Separation Technology. He worked on the development of conventional as well as membrane based gas-liquid and liquid-liquid separators. From 1987 to 2005, he worked in the Gas/Liquids Treating and Sulphur Processes department as Principal Technologist, providing technical and operational excellence to all gas plants and LPG plants that were operated or advised by Royal Dutch Shell. His last position (2005 to 2010) was as a Lead Process Consultant with Qatargas 3&4 LNG Project (first with EPC contractor in Japan and then in Ras Laffan in Qatar). The last three years of the project involvement was in the construction, commissioning and start-up of the 7.8 mtpy LNG trains. From 2011 to 2014 Jay worked with SBM Offshore in the Netherlands on the development of gas treating modules for FPSO and FLNG. Jay is now an independent consultant and an instructor with PetroSkills/John M. Campbell. He holds BS and PhD degrees from the University of London and a Diploma in Management Studies from the University of Coventry.
MR. ALAN ROYER has more than 31 years' experience in the oil and gas industry working in the upstream and midstream sectors. For the past 31 years Mr. Royer has held operational, technical and management positions. During his first 13 years, he worked as an operator for Chevron Canada Resources in their gas processing facilities, and oil/gas gathering systems, located in Northern Alberta. In mid 1990 Mr. Royer left Chevron to attend the University of Alberta where he earned a BSc degree in Petroleum Engineering. Following university, his career took him to the international area where he spent over 12 years in the Middle East. Initially he worked in Yemen with Canadian Novek Ltd. where he was responsible for the engineering design of various facilities, including all commissioning and start-up activities. He spent his last 8 years in the Middle East working in Qatar where he held a number of operational and engineering roles supporting the construction and start-up of the LNG Mega Trains, which have a combined production capacity of 77 million tonnes per annum. Mr. Royer is currently an employee of Petroskills based in Calgary, Alberta, Canada where he has been with Exxon; 8 years as Senior Vice President with Royer is a registered Professional Engineer in the Province of Alberta, along with being an active member of the Project Management Institute since 2005. O&M

MR. RICHARD H. SCHROEDER is founder and President of RHS Management, specialized in technical and management consulting for the petroleum and petrochemical industries in engineering, international operations, management and teaching experience in all phases of exploration, production, research and corporate development. He specializes in reservoir management, production optimization, drilling, operations, completions and workovers and personnel development, communications and multi-discipline team building. His professional experience includes: 9 years in engineering, reservoir and production management; 8 years as Senior Vice President with May Petroleum, an independent drilling fund company; 8 years as President of Rosewood Resources, a privately-owned integrated oil company; and 7 years as President/Chairman/Consultant of Harken Energy Corp., an international exploration company. He has authored articles and manuals on various phases of petroleum engineering and personnel management. He is a member of API, SPE, IPNA, and TIPRO, is a Tau Beta Pi Fellow, and has various outstanding lecturer awards. He received a BS in Engineering Science and an MS in Petroleum Engineering from the University of Texas at Austin. P&SC

MR. JOHN SCHUYLER, CAM, CCE, CMA, CMC, CPIM, PMP and PE, is a decision analyst, evaluation engineer, and investor. He founded his consulting practice, Decision Precision, in 1988. He has over 37 years of experience in analysis, consulting, training and management, primarily in the energy industry. His focus has been in feasibility analysis, appraisals, corporate planning, and evaluation software. He has presented over 290 courses in 34 countries since 1989. He was vice president and petroleum engineer with Security Pacific National Bank, planning and evaluation analyst at Cities Service Oil Co., manager of business systems for Cities Service’s Petrochemicals Division, and senior management consultant with a national accounting firm. He is a member of eight professional organizations and is an author and speaker on modern analysis practices. He is the revision author of Decision Analysis for Petroleum Exploration, 2nd Ed., author of Risk and Decision Analysis in Projects, 2nd Ed., and has written over 40 articles, papers and handbook chapters. He received BS and MS degrees in mineral-engineering physics from the Colorado School of Mines and an MBA from the University of Colorado. His website is www.maxvalue.com. PB

MR. JOHN C. SCRUTON-WILSON is a founding faculty member of the BF Financial University responsible for developing and delivering finance and economic evaluation training throughout the BF organization. His leadership in negotiation was displayed by developing a consensus position with ExxonMobil and ConocoPhillips in agreements for the BG Group Pipeline as well as shipping $2 billion of Federal Loan guarantees and tax benefits for the pipeline. He is experienced in project finance having completed agreements with the International Finance Corporation to finance a chemical plant expansion in Brazil and with Citibank to provide loans for gasoline retailers. He has established himself as a leader in the oil and gas industry by holding various management/leadership positions during his career. He has an MA in Theology from Fuller Theological Seminary, an MS in Agricultural Economics (major in Marketing) from Cornell University and an MBA in Finance and International Studies from the University of Chicago. PB

MR. GEORGE SLATER is an instructor/consultant with over 45 years experience as an engineer and professor. In addition to creating software systems used worldwide to integrate engineering and geological data, he has worked in various management positions as a reservoir engineer, and taught at Pennsylvania State University. He has authored a number of papers on Reservoir Simulation and engineering problems, and is a 46-year member of the Society of Professional Engineers of AIME. He received a BA in Arts & Letters with MS and PhD degrees in Petroleum and Natural Gas Engineering from The Pennsylvania State University. INT

MRS. KINDRA SNOW-MCGREGOR is the Technical Director for the Oil and Gas Technical Division of PetroSkills | John M. Campbell. She has MS and BS degrees in Chemical Engineering and Petroleum Refining from the Colorado School of Mines, and 18 years of experience in the oil and gas industry. She has been with the company for over 7 years, and has served in a number of positions including manager of consulting, senior staff engineer, and discipline manager for the Oil and Gas Processing Discipline. Her most recent accomplishment was serving as one of the primary editors on the 9th edition of ‘Gas Conditioning and Processing’, which are the reference volumes for our flaghip course G-4. Her particular areas of expertise include gas conditioning (amine and dehydration), NGL extraction (NGL recovery from gas), NGL fractionation and storage, process optimization, sulfur handling, and process safety. Prior to joining John M Campbell & Company in 2008, she served as technical manager, process manager, and held lead process engineering roles in the oil and gas engineering, procurement and construction business. She has served as the technical lead on several significant projects in the industry for clients such as BP, ExxonMobil, ConocoPhillips, Occidental, QatarGas and XTO. She has been actively involved in industry groups for many years, such as the Gas Processors Association, and the Rocky Mountain Gas Processors Association. Currently she is on the GSPA Engineering Data Book Editorial Review Board, and prior to this role, served on the GPA Technical Research Committee, Sub-Group 2, for over 11 years. She has published seven technical papers at international conferences, served as project coordinator for GPA research report Z21, and is a co-inventor on two technology patents in the gas processing industry. O&M

MR. KYLE TRAVIS is a Petroleum Engineer with 32 years of diversified experience in the oil and gas industry. He has a proven track record of effectively building oil and gas companies from infancy to significance. His experience includes managing oil and gas companies from the initial formulation of a business plan and establishment of goals through the execution of such. He has built and supervised a staff of experienced oil and gas professionals, evaluated drilling prospects, acquired producing properties, managed the operations of drilling and the production of oil and gas properties. He is experienced in all phases of petroleum engineering including economics, drilling, log analysis, completion, production and reservoir. He has a BS degree in Petroleum Engineering from the University of Oklahoma. P&SC

MR. MARCUS (MARC) A. SUMMERS has over 30 years of oilfield experience and over 15 years of hands on training experience. He founded and ran PetEX International, Inc., and is currently Discipline Manager of Well Construction/Drilling and a Sr. Instructor with Petroskills. In 1980, he began working as a drilling engineer for Amoco for 15 years in various locations around the world. His background includes operations, technical support, and drilling research functions. Since 1986 he has written a number of papers presented at SPE/ADC conferences and several articles published in various industry publications. Dr. Summers has 34 years of oilfield experience with Shell. Assignments have been in front end development, process design, project engineering, operations technical support, and operations management primarily in the areas of sour gas and in situ heavy oil recovery. Mr. Sourisseau has worked throughout Alberta, in Abu Dhabi, and the Netherlands. He has authored a number of technical papers for international conferences, provided training for Shell in numerous countries, and has taught Gas Processing at the University of Calgary. He earned BS and MS degrees in Chemical Engineering from the Universities of Saskatchewan (70) and Minnesota (78) in Petroleum Engineering. He is a registered professional engineer in Alberta. PF

MR. DAVID TENHOOR has been consulting and teaching APICS (The Association for Operations Management) CPIM certification courses since 2005. He has taught in many different industries from chemical processing to discrete manufacturing. Companies include BASF, National Oilwell Varco, Halliburton, ExxonMobil Chemical and Cameron. David brings a well-rounded package of industry experience to Petroskills/UMC. He has held positions in Inventory Control, Manufacturing Management, Strategic Sourcing and Transportation/Distribution Management. He also has experience in finance and Product Development. David received his undergraduate degree in Geology from Hope College in Holland, Michigan and an MBA in Supply Chain Management from Michigan State University. He is a member of the Houston Chapter of APICS and served two terms on the Board of Directors as Treasurer. RE

MR. BUCK TITWORTH has over 40 years experience with major international operating and service companies in worldwide oil and gas production/process engineering, project execution, and business planning. Specific experience includes upstream projects (Middle East - Abu Dhabi, Egypt, Kuwait); oil & gas pipeline and production facilities projects (South America, the Far East, FSU, Austral-Asia); FPSO/mobile system development projects (Canada, Asia-Pacific, West Africa); refining projects (USA and eastern Europe); and global business/strategic planning for the engineering and construction industry. Assignments have included establishing joint ventures and/or new offices in Vietnam, Pakistan, Nigeria, Australia, Canada, and Holland. Mr. Titworth has a BS in Chemical Engineering from the University of Houston, and is a registered professional engineer in four states. O&M

MR. KENNETH (KEN) SOURISSEAU has 34 years of experience with Shell. Assignments have been in front end development, process design, project engineering, operations technical support, and operations management primarily in the areas of sour gas and in situ heavy oil recovery. Mr. Sourisseau has worked throughout Alberta, in Abu Dhabi, and the Netherlands. He has authored a number of technical papers for international conferences, provided training for Shell in numerous countries, and has taught Gas Processing at the University of Calgary. He earned BS and MS degrees in Chemical Engineering from the Universities of Saskatchewan (70) and Minnesota (78) in Petroleum Engineering. He is a registered professional engineer in Alberta. PB

MR. RICHARD H. SCHROEDER is founder and President of RHS Management, specialized in technical and management consulting for the petroleum and petrochemical industries in engineering, international operations, management and teaching experience in all phases of exploration, production, research and corporate development. He specializes in reservoir management, production optimization, drilling, operations, completions and workovers and personnel development, communications and multi-discipline team building. His professional experience includes: 9 years in engineering, reservoir and production management; 8 years as Senior Vice President with May Petroleum, an independent drilling fund company; 8 years as President of Rosewood Resources, a privately-owned integrated oil company; and 7 years as President/Chairman/Consultant of Harken Energy Corp., an international exploration company. He has authored articles and manuals on various phases of petroleum engineering and personnel management. He is a member of API, SPE, IPNA, and TIPRO, is a Tau Beta Pi Fellow, and has various outstanding lecturer awards. He received a BS in Engineering Science and an MS in Petroleum Engineering from the University of Texas at Austin. P&SC

MR. JOHN SCHUYLER, CAM, CCE, CMA, CMC, CPIM, PMP and PE, is a decision analyst, evaluation engineer, and investor. He founded his consulting practice, Decision Precision, in 1988. He has over 37 years of experience in analysis, consulting, training and management, primarily in the energy industry. His focus has been in feasibility analysis, appraisals, corporate planning, and evaluation software. He has presented over 290 courses in 34 countries since 1989. He was vice president and petroleum engineer with Security Pacific National Bank, planning and evaluation analyst at Cities Service Oil Co., manager of business systems for Cities Service’s Petrochemicals Division, and senior management consultant with a national accounting firm. He is a member of eight professional organizations and is an author and speaker on modern analysis practices. He is the revision author of Decision Analysis for Petroleum Exploration, 2nd Ed., author of Risk and Decision Analysis in Projects, 2nd Ed., and has written over 40 articles, papers and handbook chapters. He received BS and MS degrees in mineral-engineering physics from the Colorado School of Mines and an MBA from the University of Colorado. His website is www.maxvalue.com. PB
MR. RONNIE TUCKER is a seasoned Irish business executive and financial and economic consultant with extensive practical experience. He has worked as a corporate business process reengineering Project Director in Helsinki, as a CFO/COO in New York, as a Director of Corporate Risk Management in Brussels and as a Financial Analyst in Silicon Valley. He has been a board member in Belgium, France, Ireland, Italy, Netherlands, UK and USA and has sat on a number of board audit, finance and governance sub-committees. Since 2012 he is a Divisional Director with Instituto de Consultores, a recently trained member of the AICM, the financial managers in finance, economics and accounting for multinationals, governments and management institutes. He also taught management at the National University of Ireland and has spoken on governance for the Institute of Chartered Accountants in Ireland. Ronnie has a particular interest in the petroleum industry. He in 2012 taught MPs and civil servants from the Ministries of Finance and Natural Resources in Kurdistan, Iraq on production sharing contracts. He also recently trained government officials from Myanmar in energy project economics and finance. His long client list includes ExxonMobil and Schlumberger. He is a member of the petroleum business faculty at PetroSkills. He conducted cost-benefit appraisals of infrastructure projects for the Office of the Prime Minister of Malta. This also involved knowledge transfer to the Prime Minister's staff. Ronnie brings to bear his work in many industries including pharmaceuticals, logistics, retail, forest products, hospitality, and ports. He has worked extensively in the Middle East including in Algeria, Dubai, Egypt, Iraq, Morocco, Oman, Syria, and Tunisia. For petroleum industry clients he has also worked all over the world. Ronnie has a Bachelor's degree in business and economics from Trinity College, Dublin (1976) and an MBA from Stanford University (1986).

MR. DANNY VAN SCHIE is a chemical engineer with 20 years of experience within the oil and gas sector and the chemical industry. He is a Chartered Engineer and a Fellow of the Institute of Chemical Engineers. His areas of expertise include high level conceptual design with a view to engage EPC type contractor who will take the concept further into FEED and ultimately EPC. Additional areas include FEED and Detailed Design engineering within major contractors, construction support, commissioning and operation of a plant. He has worked on varied projects ranging from green field to debottlenecking and expansion of existing plants.

MR. HUGO VARGAS has more than 33 years of active experience in oil fields. He provided professional technical training to engineers and supervisors as a Senior Technical Instructor for 5 years. He worked in office and field positions with both a major Service Oil Co. and also with a Major Oil Co. His experience includes execution, supervision and management with well testing, down hole tools, data acquisition, completions, cementing, fracturing, stimulations and workover in general. He has coordinated testing operations at well sites with authority over all service companies at rig and rig-less environments, both land and offshore including deep water. While coordinating completion and testing phases, he became familiar with Electric wire line, Coil Tubing and Stick line operations. He has a high level of understanding of workover operations, costs and technical issues, with emphasis in testing. He has authored applications in Visual Basic for hydraulic calculations, risk assessment, financials and for training purposes. He is NWCF certified and received a BS in Chemistry and is fluent in English, Spanish and Portuguese and communicates in French.

MR. PAUL VERRILL has over 25 years’ experience working in the chemicals, petrochemicals, hydrocarbon processing and power sectors with the last 15 years predominantly in gas processing and gas and liquid pipelines. He has held a number of technical and senior management positions including Mechanical and Piping Designer, Machinery Engineer, Project Manager, Commissioning and Maintenance Manager and other Senior Plant and Business Management roles. He has worked for a number of international operating and engineering companies including ICI, Rolls Royce and Enron Engineering & Construction, working on projects around the world. His experience includes piping and mechanical equipment design, rotating equipment engineering, project management, gas processing project development including FEED study management and operations and project definition and management. For the previous 5 years Mr. Verrill has been working in the senior management team of an 800mmscfd gas processing facility which has been developing the onshore assets for a new UK gas field. In 2011 Mr. Verrill started working with JM Campbell as an Instructor in addition to providing project development and asset management services through his own consultancy company. Mr. Verrill is based in Yorkshire, England and graduated with a B.Eng degree in Mechanical Engineering from Newcastle University in the UK and he is a Chartered Member of the Institute of Mechanical Engineers.

MS. NAOMI WARR has 15 years’ environmental management experience. Starting her career in a research laboratory, she moved into infrastructure where she held various environmental management roles in major construction groups dealing with roads construction, utilities, M&E, building, rail, gas, sewage treatment, waste and quarrying. In 2005 Naomi, stepped into consulting and training; at the same time expanding her work into other business sectors such as manufacturing, distribution and food. As well as advisory and auditing assignments, she also implemented environmental management systems (EMS) for several businesses. In her spare time, Naomi competes in endurance triathlons and helps with the construction and development of her family home - of course, incorporating environmental and sustainable technologies where practicable.

MR. COLIN WATSON has over 35 years of broad experience in petrochemicals, primarily in Engineering support and Process Safety Management. His experience includes assignments in technical support, operations, turnarounds, project execution and HSE and engineering management. From 2006 he has worked as an independent Engineering & Process Safety Consultant working with Oil & Gas clients. He has worked primarily with BP to design, develop and facilitate their global Process Safety training and awareness programs both for engineering and operations teams. In a varied 28 year career in BP he latterly worked to develop strategic structures and governance systems to manage Process Safety and Integrity Management for the BP Grangemouth Complex and the European BP Chemicals Sites. His Operations experience providing technical support and engineering management extends across a variety of petrochemical and refining processes. He holds a BSc in Engineering Science (Mechanical) from Edinburgh University (1978) and is a Chartered Engineer with the Institute of Mechanical Engineers.

MR. STUART WATSON is the Facilities Engineering Technical Director for PetroSkills. He has over 18 years of experience in oil and gas processing. His experience has taken him to facilities around the world in regions including Australia, Africa, the Middle East and the US. Mr. Watson graduated with honors in 1996 from Curtin University, Perth, Australia, with a BS in Mechanical Engineering. After graduating he worked in Perth, Australia supporting Woodside’s offshore facilities. In January 2000, Stuart accepted a position with Pearl Development Company of Colorado where he worked over the next eight years at many of the gas production and processing facilities in the western US. His work included expansions for Unocal Alaska, facilities engineering at the El Paso Field Service’s 650MMscfd Chaco Plant and various other projects in Colorado and Wyoming. In 2008, he oversaw and commissioned a 92MMscfd amine sweetening and cryogenic LNG train for the Government of Ras Al Khaimah (UAE). Thereafter, he started his own engineering consultancy supporting both mechanical and process disciplines. In 2009 he started instructing part time for John M. Campbell and Co. in mechanical engineering and operator training. Currently, Mr. Watson supports PetroSkills in a full time role to ensure technical and quality assurance in ICE, Pipeline, Mechanical and Offshore engineering.

MR. DAVID WHITELEGG graduated with a BSc (Hons) in Environment Management from Cranfield University in the UK. He is a Chartered Environmentalist (CEnv) with the Society for the Environment, a Chartered Waste Manager with Chartered Institute for Waste Management (CIWM), and a full member (MIEMA) of IEMA (Institute of Environmental Management and Assessment). He is also a Graduate Member (GradIOSH) of IOSH. David is a member of the Professional Standards Committee at IEMA. He comes from a background in landfill and waste sites’ operations management, and is an experienced environmental and OHS&S instructor with considerable international experience.

MR. PETER WILLIAMS has over 35 years of industrial experience, most of which were in oil and gas processing. His experience includes plant process engineering, operations supervision, project development and business case definition, project technical support, plant engineering management, and internal consulting, primarily with Saudi Aramco. Canadian experience includes plant engineering in phosphorous production, heavy water, and bitumen upgrading, and project engineering. He also has experience with benchmarking, implementation of a safety management system, and the application of Lean Six Sigma methods to engineering management. He has Masters’ degrees in Chemical Engineering and in Economics, is a Professional Engineer in Alberta and is a certified Six Sigma Black Belt.

MR. RONN WILLIAMSON is a CPM and CFPBM, and has been consulting and instructing in the field of supply chain management for more than 20 years. During this time, he has delivered significant value to more than 50 cross-industry organizations. He has provided education programs internationally to hundreds of people in purchasing, logistics and materials management. In 2005, he joined the PetroSkills team to develop the PetroSkills discipline competency map for strategic supply chain management and led the supply chain discipline network for several years. Ronn gained his supply chain management expertise during 20 years of operational and management roles for a major equipment OEM company. For five years, he had executive responsibility for purchasing and transportation at Thermo King Corporation, a subsidiary of Westinghouse Electric and a billion-dollar global business. Ronn received a BME in engineering, a BS in physics from St John’s University, and an MBA from the University of Minnesota. Mr. Williamson has been a member and past chapter president, of the American Production and Inventory Control Society (APICS), is a member of and frequent presenter for the Institute for Supply Management (ISM), and is a member of the International Association for Commercial Contract Management (IACCM). He is also certified at the Fellow Level by APICS and has a lifetime certification from ISM.

MR. WES WRIGHT has 32 years’ experience in oil and gas producing facilities. Mr. Wright began teaching with PetroSkills in 2004 where he has been delivering courses in CO2 Surface Facilities, Oil and Gas Processing and Operator Training world-wide. Previously, Mr. Wright was the lead on-site engineer at the Weyburn CO2 Miscible flood where he was closely involved in the development, design, construction, start-up and operations. Through the 1980’s, Mr. Wright performed contract research at the University of Calgary in Enhanced Oil Recovery and was a consultant on a wide range of sweet and sour oil and gas projects throughout Western Canada. Mr. Wright graduated in 1983 with a BSc in Engineering from the University of Calgary. He is a Professional Engineer in Alberta, Canada and is a member of the SPE. He has been published in the ASME-OMAE, CSCE, IAHHR, and in Carbon Sequestration and Related Technologies (Wiley, 2011).

MR. CLYDE YOUNG has over 30 years of diverse experience in operations and maintenance of production and processing facilities. This includes significant experience in operations and development of management systems for gas processing and water/wastewater treatment facilities. This includes operating procedure development, training program development, compliance auditing, vulnerability assessment, emergency planning and mechanical integrity program development. Mr. Young provides many of our clients with PHA services, compliance audits and Hazards Reviews. Mr. Young has presented at the Mary K. O’Connor Process Safety Symposium and written several papers that have been published in various industry publications. Mr. Young holds a BS in Social Sciences from the University of Wyoming- Laramie Wyoming.
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CERTIFICATES, PROFESSIONAL DEVELOPMENT HOURS (PDH), AND CONTINUING EDUCATION UNITS (CEU)

A Certificate of Completion is awarded to each participant who satisfactorily completes the course and will be awarded by the instructor(s) on the final day. PetroSkills course hours can be used to satisfy PDHs for licensed engineers in most US states. In many instances, course hours can be used for international CEU credit also. Every course certificate tells the number of CEUs earned and also can be used to submit to your licensing board or accrediting body for approval.

TERMS AND CONDITIONS

REGISTRATION AND PAYMENT

In a worldwide teaching operation, sufficient lead time is needed for course logistics. For this reason, PetroSkills would appreciate receiving registrations at least one month before the course. However, we accept paid registrations for a viable session through the day before the course begins. Registrations can be made online at petroskills.com or by contacting customerservice@petroskills.com for a Registration Form.

Registrations are confirmed upon receipt of payment. In the meantime, an Acknowledgment of Reservations will be issued via email. Once payment is received, an email will be issued confirming the registrant’s seat in the course. Please note we do not arrange hotel accommodations for participants. When possible, we reserve a block of rooms at the suggested hotel(s). Participants should contact the suggested hotel directly for room rates and availability at least three weeks before the course begins. Remember to mention that you are attending a PetroSkills course to receive a discounted rate. If applicable, please note if a course venue changes for whatever reason, the participant or their representative will be contacted via email.

PetroSkills reserves the right, without payment, of consideration to videotape, film, photograph, and/or record course sessions and course participants in any media type and to alter or edit these images for use in its publications, including website entries.

PetroSkills complies with all U.S., European, and other international laws relating to trade and economic sanctions. PetroSkills reserves the right to refuse or cancel an enrollment if PetroSkills, in its sole discretion, determines that providing course materials or allowing an enrollee to attend could constitute a violation of law.

PetroSkills may use participant contact information (mail, email, telephone, or fax) for the following limited purposes: (i) to provide updated class information and other information related to professional development in the petroleum industry, (ii) to request help in evaluating PetroSkills courses and materials, and (iii) to provide information concerning future course offerings.

The use of any recording device (audio or video) by participants during a PetroSkills course is strictly prohibited. The unauthorized use of a recording device during a PetroSkills course presentation shall be grounds to remove the participant and confiscate or destroy the related recording. No portion of any PetroSkills course may be recorded digitally, on film, video tape, audio tape or other recording device, or be reproduced photographically or by any sight or sound device without the explicit written permission of PetroSkills. All PetroSkills course presentations are the sole property of PetroSkills. We are the exclusive owner of the copyright of all course materials.

TUITION FEES

Tuition fees are due and payable in US dollars upon receiving the corresponding invoice. Again, a registration will not be confirmed until payment has been received.

Tuition fees do not include living costs, but do include tuition, purchase price of course materials, daily refreshments, and a $100.00(USD) non-refundable registration fee, per five days of training or less. Tuition must be paid prior to the first day of the course. If payment has not been made prior to the course start date, the registrant or their representative should contact the appropriate Customer Service Department to make payment arrangements.

Note: Where applicable due to government regulations, Goods and Services Tax (GST) or Value Added Tax (VAT) will be added to the total tuition fees. Pricing subject to change. See website for current pricing and availability.

TRANSFERS, SUBSTITUTIONS, CANCELLATIONS, AND REFUNDS

Transfers may be accepted if received 30 days or more before the course begins. There is not a transfer fee, but tuition will be due based on the registered course. PetroSkills may allow a registrant to transfer to a subsequent course after the 30-day cut off period providing the tuition fees have been paid and the requested course is open for enrollment. If a transfer is made and the subsequent course is not attended, no money will be refunded. Only one transfer per initial registration is allowed.

Substitutions may be made at any time without penalty. If it is necessary to cancel an enrollment, full paid tuition, less the non-refundable registration fee of $100.00(USD) per five days of training or less, will be refunded providing the cancellation is received in our office 30 days or more prior to the course start date. If tuition is not paid at the time of the cancellation, the $100.00(USD) registration fee per five days of training or less is due, providing the 30-day notice was received. For cancellations received less than 30 days prior to the course, the full tuition fee is due. Please contact the appropriate Customer Service Department if you wish to cancel or transfer your enrollment. Enrollments are not automatically cancelled if tuition payment is not received by the start of the course.

Transfers and cancellations will not be honored and tuition is forfeited and non-transferable for courses that have reached maximum participation regardless of the amount of notice given.

We reserve the right to cancel any course session at any time. This decision is usually made approximately two weeks before the course begins. If we cancel a course, enrollees will be given the opportunity to transfer to another course or receive a full refund, provided the enrollment was not transferred into the cancelled course late. Keep our cancellation policy in mind when making travel arrangements (airline tickets, hotel reservations, etc.), as we cannot be responsible for any fees charged for canceling or changing your travel arrangements. We reserve the right to substitute course instructors as necessary.
DO YOU HAVE TEAM TRAINING NEEDS? WE CAN HELP!

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Save time, money, and travel hassles by bringing our course to your site, or any location that suits you.

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For more information, or to reserve training for your team, go to petroskills.com/inhouse