

PetroSkills®

2016 Offshore Training Guide



OGCI®

John M. Campbell

RDC



Offshore

Course Progression Matrix

Our **Offshore Team** provides technical training and consulting for the complete life-cycle of offshore oil and gas systems; from exploration and development to decommissioning. The curriculum includes courses that provide attendees the knowledge to understand and participate in evaluating the major offshore development alternatives: fixed structures, floating systems and subsea systems. Other key elements stressed in all offshore courses include life-cycle costs, constructability, operability and interface management.

Offshore instructors have extensive real world experience managing offshore development projects, well construction and servicing, asset management and producing operations. Their broad knowledge blends the unique technical and operational issues of offshore into an integrated approach to enhance understanding of the full scope of offshore facilities.

The following instructors have been selected and approved by the **PetroSkills Curriculum Network**:

- | | |
|-----------------|------------------|
| MR. DON BEESLEY | DR. GEORGE |
| MR. KRIS DIGRE | RODENBUSCH |
| DR. ANDREA | DR. KENT SAUGIER |
| MANGIACACCHI | |
| DR. PHIL NOTZ | |

Offshore

INTERMEDIATE

FLOW ASSURANCE FOR OFFSHORE PRODUCTION – FAOP (PAGE 2)

FOUNDATION

FUNDAMENTALS OF OFFSHORE SYSTEMS DESIGN & CONSTRUCTION – OS-4 (PAGE 1)

BASIC

OVERVIEW OF SUBSEA SYSTEMS – SS-2 (PAGE 1)

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Overview of Offshore Systems – OS-21

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

2016 Schedule and Tuition / 5 Days

| | | |
|-------------|-----------|--------------|
| HOUSTON, US | 18-22 JUL | US\$4150 |
| LONDON, UK | 9-13 MAY | US\$4780+VAT |

OFFSHORE

Overview of Subsea Systems – SS-2

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 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 recommendations, 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, system design, 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

2016 Schedule and Tuition / 5 Days

| | | |
|-------------|-----------|--------------|
| HOUSTON, US | 13-17 JUN | US\$4150 |
| LONDON, UK | 11-15 APR | US\$4780+VAT |
| SINGAPORE | 15-19 AUG | US\$5460 |

Fundamentals of Offshore Systems Design and Construction – OS-4

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

Individuals with a basic awareness of or experience in offshore engineering and operations. Technical staff, project engineers, engineering discipline leads, engineering specialists, and operating staff find this course accelerates their capability to contribute on offshore field development planning, design, and construction projects and field operations.

YOU WILL LEARN HOW TO

- Identify the key facilities parameters 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 done
- 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 operations • 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

2016 Schedule and Tuition / 10 Days

| | | |
|-------------|--------------|--------------|
| HOUSTON, US | 18-29 APR | US\$7615 |
| | 15-26 AUG | US\$7615 |
| LONDON, UK | 26 SEP-7 OCT | US\$8270+VAT |
| SINGAPORE | 7-18 NOV | US\$7960 |

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 thermalhydraulic 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 operation
- 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 remediation 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 property and phase behavior modeling • Equations of state • Fugacity and equilibrium • Viscosities of oils • Thermal modeling • Multiphase pressure boosting • Slugging: hydrodynamic, terrain induced, and ramp up • Commissioning, start-up, and shutdown operations

2016 Schedule and Tuition / 5 Days

| | | |
|------------------|--------------|---------------|
| ABERDEEN, UK | 22-26 AUG | US\$4770+VAT* |
| HOUSTON, US | 7-11 MAR | US\$4140* |
| KUALA LUMPUR, MY | 21-25 NOV | US\$4935* |
| PERTH, AUSTRALIA | 28 NOV-2 DEC | US\$5000+GST* |

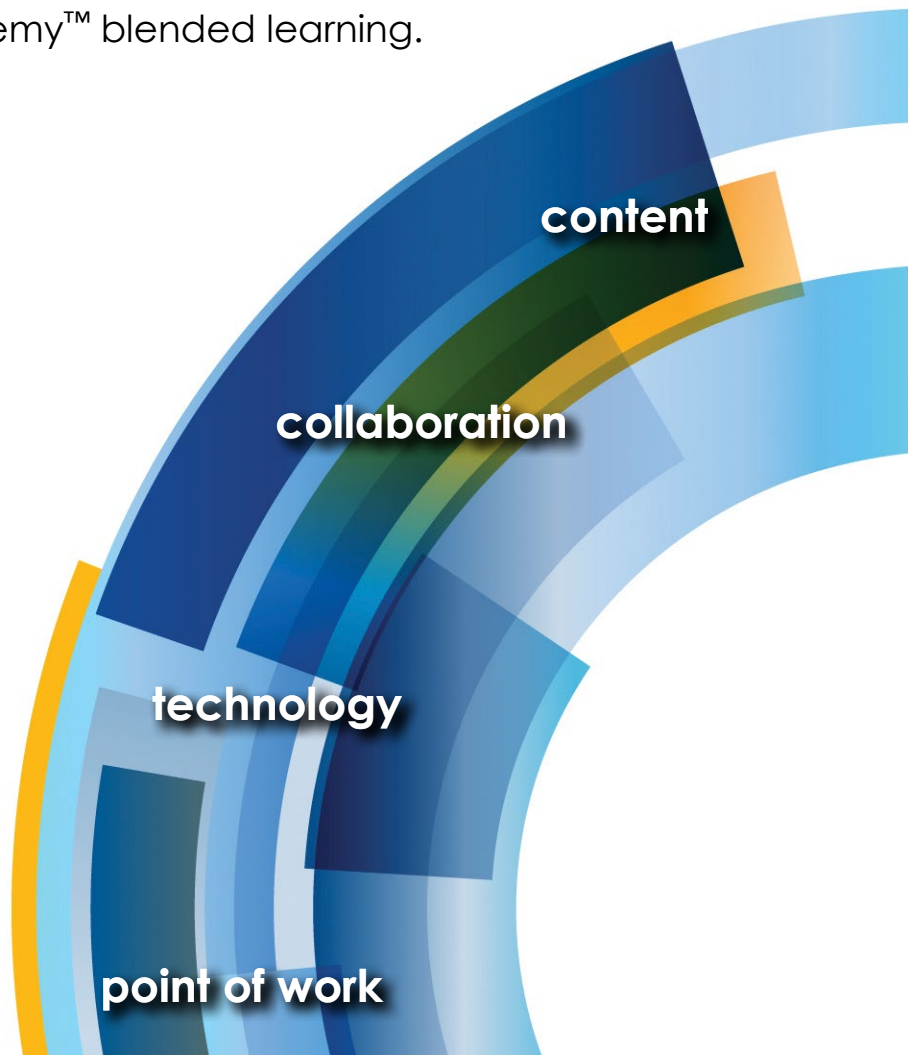
*plus computer charge

PetroAcademy™ Blended Learning

PetroSkills Blended Learning Programs combine industry expertise, content, and technology to develop workforce competency with the added benefit of:

- ✓ **Reduced time to competency**
- ✓ **Eliminated travel expense**
- ✓ **Flexibility—less time away from work**
- ✓ **Learning applied at point of need**

See petroskills.com/blended for more information on PetroAcademy™ blended learning.





TO VIEW OUR COURSES IN OTHER DISCIPLINES, VISIT:

Subsurface

- Introductory/Multi-Discipline
- Geology
- Geophysics
- Petrophysics
- Reservoir Engineering
- Well Construction/Drilling
- Production & Completions Engineering
- Unconventional Resources
- Integrated - Heavy Oil
- Petroleum Data Management

Facilities

- Gas Processing
- Process Facilities
- Water & Corrosion
- Offshore
- Pipeline
- Instrumentation, Controls, & Electrical
- Mechanical
- Reliability Engineering
- Procurement/Supply Chain Management
- Refining

Operations & Maintenance

Health, Safety, Environment

Petroleum Business and Professional Development

- Petroleum Professional Development
- Petroleum Business
- Project Management

SIGN UP FOR PETROSKILLS EMAILS