



## Flow Assurance for Offshore Production - FAOP

### COURSE

#### About the Course

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.

*"Interactive - good discussion through problems and explanation of theory for practical solutions."* - Project Engineer, Australia

*"Good visual aids. Questions well answered. Very helpful and informative spreadsheets provided."* - Design Engineer, United Kingdom

#### Target Audience

Engineers, operators, and technical managers who are responsible for offshore completions, production, and development; technical staff needing a foundation in principals, 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

Participants 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

## Product Details

Categories: [Upstream](#)

Disciplines: [Production and Completions Engineering](#) [Offshore & Subsea](#)

Levels: [Intermediate](#)

Product Type: [Course](#)

Formats Available: [In-Classroom](#)

Instructors: [PetroSkills Specialist](#) [Phillip Notz](#)

## In-Classroom Format

14 Oct '24	18 Oct '24	-	Course	In-Classroom (in Kuala Lumpur)	\$5,685.00
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2 Dec '24	6 Dec '24	-	Course	In-Classroom (in Houston)	\$4,810.00
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