

## About the Course

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. The course intended to complement the G-4 Gas Conditioning and Processing course, focused on the gas handling side of the upstream oil and gas facilities area.

"I took a lot from the course and will hopefully become a more well-rounded facilities engineer as a consequence. I can already feel that things are more contextualized." - Structural Engineer, Qatar

"This is the most comprehensive and practical facilities engineering course I have seen in my career (over 30 years). A must-attend course for facilities engineers at all levels of experience." - Regional Operations Manager, United States

## Target Audience

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
- Transportation of crude oil
- Produced water treatment
- Water injection systems
- Solution gas handling