



## Operations and Development of Surface Production Systems - PO4

### COURSE

#### About the Course

This course trains the participant to effectively develop and operate an upstream surface production system. The instructor uses his long training/coaching experience to support through this course the development of production operations professionals by enhancing their skills in understanding and solving problems within the integrated surface production system. Practical application of surface production practices is emphasized. Interactive discussions are generated along with examples and class exercises.

Initially, participants will work as a team in short hands-on exercises that reinforce the lectures. Later on, participants arranged as a technical team will work on an Integrated Surface Production System (ISPS) team assignment. The result of this ISPS project will be presented during the last day of the program. Note that 75% of this course is hands-on team assignments. This course program will lay a solid foundation of the skills, knowledge, and self-awareness required to develop further into fully competent Production Operations Professionals.

#### Target Audience

Production and technical professionals engaged in upstream operations and development, petroleum engineers, team leaders, production operators, technical assistants, senior technicians and field supervisors, production and development technical professionals, and newly hired field engineers. The course is also designed for all technical operating personnel who want to get a solid foundation in principles, challenges, and solutions for upstream surface production systems.

#### You Will Learn

Participants will learn how to:

- Describe the fluid properties that affect the timely delivery of petroleum fluids
- Describe the working principles and main functions of gathering and central production stations
- Identify each equipment/facility composing the integrated production system and state criteria for efficient operation
- Choose basic upstream surface production equipment design configurations
- Discuss best practice in operating upstream surface facilities efficiently within the operating envelope
- Put together a surface production system and manage a smooth operation for optimum delivery
- Develop and maintain a surface production system for various produced fluid systems
- Maximize team interaction to select and operate a workable surface production system

## Course Content

- Applied principles of oil and gas surface operations
- Characterization of petroleum fluids
- Two-phase oil and gas systems
- Two-phase separation operations and selection procedures
- Oil-gas-water interaction principles and emulsions
- Three-phase separation operations and selection procedures
- Upstream crude oil treating operations and selection procedures
- Crude oil dehydration, desalting, sweetening, and stabilization
- Produced water treating operations and selection procedures
- Transportation of petroleum fluids
- Pumps and pumping systems
- Pressure vessels requirements
- Upstream natural gas treating operations and selection procedures
- Acid gas treating, gas dehydration, and removal of other contaminants
- Compressors and compression systems
- Production delivery assurance and maintenance
- Measurements in oil and gas operations
- Integrated surface production system team project
- Project final presentation

## Product Details

Categories: Upstream

Disciplines: Production and Completions Engineering Unconventional Resources

Levels: Foundation

Product Type: Course

Formats Available: In-Classroom

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