



## Production Operations 1 - PO1

### COURSE

#### About the Course

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 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.

[This course is also available virtually via PetroAcademy.](#)

*"This is the best PE course that I have ever attended."* - Participant, Kuwait

#### Target Audience

Petroleum engineers, production operations staff, reservoir engineers, facilities staff, drilling and completion engineers, geologists, field supervisors and managers, field technicians, service company engineers and managers, and especially engineers starting a work assignment in production engineering and operations or other engineers seeking a well-rounded foundation in production engineering.

#### You Will Learn

Participants will learn how to:

- Recognize geological models to identify conventional and unconventional (shale oil and gas and heavy oil) hydrocarbon accumulations
- Understand key principles and parameters of well inflow and outflow
- Build accurate nodal analysis models for tubing size selection and problem well review
- Design and select well completion tubing, packer, and other downhole equipment tools
- Plan advanced well completion types such as multilateral, extended length, and intelligent wells
- Design both conventional and unconventional multi stage fractured horizontal wells
- Apply successful primary casing cementing and remedial repair techniques
- Select equipment and apply practices for perforating operations
- Plan well intervention jobs using wireline, snubbing, and coiled tubing methods

- Manage corrosion, erosion, soluble and insoluble scales, and produced water handling challenges
- Apply well completion and workover fluid specifications for solids control and filtration
- Employ the five main types of artificial lift systems
- Identify formation damage and apply remedial procedures
- Design and execute successful carbonate and sandstone reservoir acidizing programs
- Understand the causes of sand production and how to select sand control options
- Understand the proper use of oilfield surfactants and related production chemistry
- Identify and successfully manage organic paraffin and asphaltene deposits
- Choose cased hole production logging tools and interpret logging results
- Understand modern conventional fracture stimulation practices
- Understand multistage, horizontal well shale gas and shale oil massive frac job design and operations
- Review heavy oil development and extraction including mining operations and current modern thermal processes

## Course Content

- Importance of the geological model
- Reservoir engineering fundamentals in production operations
- Understanding inflow and outflow and applied system analysis
- Well testing methods applicable to production operations
- Well completion design and related equipment
- Primary and remedial cementing operations
- Perforating design and applications
- Completion and workover well fluids
- Well intervention: wireline, hydraulic workover units, and coiled tubing
- Production logging
- Artificial lift completions: rod pump, gas lift, ESP, PCP, plunger lift, and others
- Problem well analysis
- Formation damage
- Acidizing
- Corrosion control
- Scale deposition, removal, and prevention
- Surfactants
- Paraffin and asphaltenes
- Sand control
- Hydraulic fracturing
- Unconventional resources: shale gas and oil, heavy oil and bitumen

## Product Details

Categories: [Upstream](#)

Disciplines: [Production and Completions Engineering](#) [Unconventional Resources](#)

Levels: [Foundation](#)

Product Type: [Course](#)

Formats Available: [In-Classroom](#)

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**In-Classroom Format**

13 May '24	24 May '24	-	Course	In-Classroom (in London)	\$9,875.00
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21 Oct '24	1 Nov '24	-	Course	In-Classroom (in Houston)	\$8,520.00
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