



## Gas Production Engineering - GPO

### COURSE

#### About the Course

Learn the latest methods for calculating gas well performance from reservoir to sales. Reservoir performance covers the fundamentals of reservoir gas flow and details the best methods for testing wells, according to the time and money available. Reserve calculations and diagnostic testing from production data are covered. The importance of flow regime and non-Darcy flow on test design and interpretation is emphasized for new wells and for the possibility of improving the performance of older wells. Also discussed are performances of tight formations, horizontal wells, fractured wells, and methods for estimating gas reserves. Participants will learn to calculate and determine the effect of each system component on total well performance, which permits optimum sizing of tubing, flowlines, separators, and compressors. Problem-solving sessions allow participants to evaluate field problems. Participants receive complimentary software at the end of the course.

*"The practicality of the course was great. Great examples and step by step procedures."* - Production Engineer, United States

*"Best PetroSkills course I've taken. Accessible theoretical concepts behind some every day production engineering aspects."* - Production Engineer, United States

#### Target Audience

Production, reservoir and facilities engineers, and others involved in gas production, transportation, and storage including field supervisors.

#### You Will Learn

Participants will learn how to:

- Apply proven techniques to field problems which increase profitability
- Calculate gas well performance from the reservoir to the sales line
- Optimize gas well production
- Relate reservoir and well performance to time
- Predict when a well will die due to liquid loading

#### Course Content

- Gas properties: real gas behavior equations of state, impurities, mixtures, phase behavior dew point, retrograde behavior, flash calculations; classifying gas reservoirs
- Reservoir performance: gas well testing flow after flow, isochronal, stabilized inflow performance; turbulence and skin effects; perforation effects; tight well analysis; horizontal wells; hydraulically fractured wells
- Reserve calculations: P/Z plots, energy plots, water influx, abnormal pressure effects; diagnostic testing based on production data
- Flow in pipes and restrictions: pressure loss tubing, flowlines, chokes, safety valves; effects of liquids-liquid loading, liquid removal methods, multiphase flow correlations; erosional velocity
- Compression: types of compressors; compressor selection reciprocating and centrifugal; effects of variables; capacity and horsepower
- Total system analysis: tubing and flowline size effects; perforating effects; relating deliverability to time; evaluating compressor installations; analyzing injection wells
- Flow measuring: orifice metering design, accuracy, troubleshooting; other metering methods
- Condensate reservoirs: reservoir types - wet gas, retrograde; reserve estimates, laboratory simulation; gas cycling
- Field operations problems: interpreting P/Z plots; hydrate formation

## Product Details

Categories: [Upstream](#)

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

Levels: [Intermediate](#)

Product Type: [Course](#)

Formats Available: [In-Classroom](#) [Virtual](#)

Instructors: [PetroSkills Specialist](#) [Mohan Kelkar](#) [John Nichol](#)

## In-Classroom Format

3 Jun '24	7 Jun '24	-	Course	In-Classroom (in Houston)	\$4,835.00
-----------	-----------	---	--------	---------------------------	------------

---

4 Nov '24	8 Nov '24	-	Course	In-Classroom (in Calgary)	\$4,695.00
-----------	-----------	---	--------	---------------------------	------------

---

## Virtual Format

30 Sep '24	11 Oct '24	-	Course	Virtual ( Houston UTC)	\$4,195.00
------------	------------	---	--------	------------------------	------------

---