



Gas Conditioning and Processing - G-4

COURSE

About the Course

The Campbell Gas Course has been the standard of the industry for more than 52 years. Tens of thousands of engineers have attended our G-4 program, considered by many to be the most practical and comprehensive course in the oil and gas industry. The Campbell Gas Course textbooks, Volumes 1 and 2, are routinely updated to reflect evolving technologies in this broad industry. Both hand-methods and computer-aided analysis are used to examine sensitivities of technical decisions. To enhance the learning process, about 30 problems will be assigned, reviewed, and discussed throughout the course. Problems will be solved individually and in teams.

[See details and schedule for the virtual, instructor-led sessions](#)

"Starting a technical based career, and this course was a great opportunity to refresh on engineering topics, which I'm hopeful will translate into climbing the learning curve more quickly." - Process Engineer, United States

"I want to thank you for the fantastic course. I learned an amazing amount over the two weeks and notice in my daily work that I understand a lot more about the processes than I did before. Thanks for the entertaining and very enjoyable course." - Snr Reliability & Integrity Engineer, Australia

"This was a brilliant course and [instructor] was fantastic throughout." - Participant, United Kingdom

Target Audience

Production and processing personnel involved with natural gas and associated liquids, to acquaint or reacquaint themselves with gas conditioning and processing unit operations. This course is for facilities engineers, process engineers, senior operations personnel, field supervisors, and engineers who select, design, install, evaluate, or operate gas processing plants and related facilities. A broad approach is taken with the topics.

You Will Learn

- Application of gas engineering and technology in facilities and gas plants
- Important specifications for gas, NGL, and condensate
- About the selection and evaluation of processes used to dehydrate natural gas, meet hydrocarbon dewpoint specifications, and extract NGLs

- How to apply physical/thermodynamic property correlations and principles to the operation, design, and evaluation of gas processing facilities
- Practical equipment sizing methods for major process equipment
- To evaluate technical validity of discussions related to gas processing
- To recognize and develop solutions for operating problem examples and control issues in gas processing facilities

Course Content

- Gas processing systems
- Physical properties of hydrocarbons
- Terminology and nomenclature
- Qualitative phase behavior
- Vapor-liquid equilibrium
- Water-hydrocarbon phase behavior, hydrates, etc.
- Basic thermodynamics and application of energy balances
- Process control and instrumentation
- Relief and flare systems
- Fluid hydraulics; two-phase flow
- Separation equipment
- Heat transfer equipment
- Pumps
- Compressors and drivers
- Refrigeration in gas conditioning and NGL extraction facilities
- Fractionation
- Glycol dehydration; TEG
- Adsorption dehydration and hydrocarbon removal
- Gas treating and sulfur recovery
- Overview and summary

VIRTUAL SCHEDULE

Week 1	Virtual Instructor-led Class	Virtual Class Hours (Approx.)	Online Learning Modules (Approximate hours)
Day 1	Orientation, Introduction, Gas Processing Overview	2.5	Gas Processing Overview 1.75 hours
Day 2	Process Engineering	4.0	Gas Processing Fundamentals 2.25 hours

	Fundamentals Workshop - Standard Conversions, Application of Gas Density		Hydrocarbon Phase Behavior 3.40 hours
Day 3	Process Engineering Fundamentals Workshop - Qualitative and Quantitative Phase Behavior	4.0	Water-Hydrocarbon Phase Behavior 2.00 hours + <i>0.25 hours optional content</i>
Day 4	Hydrate Inhibition Workshop	4.0	Fluid Flow 2.75 hours + <i>0.75 hours optional content</i>
Day 5	Multiphase Flow Workshop	4.0	Basic Thermodynamics and Applications of Energy Balances 1.75 hours
Week 1 Total	Virtual Classes: 22.5 hrs		Online Learning: 14 hrs + 1 hr optional

Week 2	Virtual Instructor-led Class	Virtual Class Hours (Approx.)	Online Learning Modules* (Approximate hours)
Day 1	Thermodynamic Workshop	4.0	Heat Transfer Equipment 2.25 hours
Day 2	Heat Transfer Equipment Workshop	4.0	Separation Equipment 1.5 hours
Day 3	Separation Workshop and Process Control Lecture	4.0	Relief and Flare Systems <i>1.5 hours optional content</i>
Day 4	Pump Workshop	4.0	Rotating Equipment: Pumps and Compressors 4.50 hours
Day 5	Compressor Workshop	4.0	Mechanical Refrigeration 2.00 hours
Week 2 Total	Virtual Classes: 20 hrs		Online Learning: 10 hrs + 1.5 hrs optional

Week 3	Virtual Instructor-led Class	Virtual Class Hours (Approx.)	Online Learning Modules* (Approximate hours)
Day 1	Mechanical Refrigeration Workshop	4.0	
Day 2	NGL Extraction and Fractionation Workshop Supplemental Topic Lecture (Relief and Flare or LNG)	4.0	NGL Extractionion 1.25 hours Fractionation 1.75 hours
Day 3	TEG Dehydration Workshop	4.0	TEG Dehydration 1.50 hours + <i>0.50 hours optional content</i>
Day 4	Molecular Sieve Workshop Supplemental Lecture (LNG Part II or Acid Gas Removal)	4.0	Molecular Sieve Dehydration 1.50 hours <i>Acid Gas Removal 2.75 hours optional content</i>
Day 5	Process Control Workshop Course Close Out	4.0	
Week 3 Total	Virtual Classes: 20 hrs		Online Learning: 6 hrs + 3.25 hr optional

Product Details

Categories: [Midstream](#)

Disciplines: [Gas Processing](#)

Levels: [Foundation](#)

Product Type: [Course](#)

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

Instructors: [Peter Williams](#) [Frank Ashford](#) [Robert Bombardieri](#) [John C. Bourdon](#) [Gerard Hageman](#)
[Malcolm Harrison](#) [Dale Kraus](#) [James Langer](#) [Harvey Malino](#) [John Morgan](#) [Mahmood](#)

Moshfeghian Jay Rajani Kindra Snow-McGregor Kenneth Sourisseau PetroSkills Specialist

In-Classroom Format

'22 Jun 6 - '22 Jun 17 | Course | In-Classroom (in Denver) \$9,120.00

'22 Jun 13 - '22 Jun 24 | Course | In-Classroom (in London) \$9,990.00

'22 Jul 25 - '22 Aug 5 | Course | In-Classroom (in Houston) \$9,115.00

'22 Sep 26 - '22 Oct 7 | Course | In-Classroom (in Aberdeen) \$9,990.00

'22 Oct 9 - '22 Oct 20 | Course | In-Classroom (in Muscat) \$9,990.00

'22 Oct 17 - '22 Oct 28 | Course | In-Classroom (in Stavanger) \$9,990.00

'22 Nov 14 - '22 Nov 25 | Course | In-Classroom (in Perth) \$9,995.00

'22 Nov 28 - '22 Dec 9 | Course | In-Classroom (in Kuala Lumpur) \$9,990.00

'22 Dec 5 - '22 Dec 16 | Course | In-Classroom (in Houston) \$9,115.00

Virtual Format

'22 Sep 12 - '22 Sep 30 | Course | Virtual (Houston UTC) \$8,990.00

'22 Oct 31 - '22 Nov 18 | Course | Virtual (London UTC) \$8,990.00
