



# THE CHEMICAL ENGINEERING MAJOR

## Troubleshooting Oil and Gas Processing Facilities

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# Troubleshooting Oil and Gas Processing Facilities

## Course Description:

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This course will cover how to establish and apply a general troubleshooting methodology as well as how to conduct process/equipment specific troubleshooting. Definitions of good/normal performance will be discussed for each process/equipment type covered. Data gathering, validation and utilization procedures will be discussed. Criteria to use when evaluating possible problem solutions will also be covered. Real-world exercises will be utilized throughout the class to reinforce the learning objectives. Both onshore and offshore facilities will be discussed. It is assumed that course participants have a solid understanding of how typical oil and gas production and processing facilities work, including the commonly used processes and equipment involved.

## Who Should Attend?

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Process/Facilities engineers with 5-10 years of experience, facilities engineering team leaders/supervisors, and senior facilities operational personnel.

## Course Objectives:

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- The difference between troubleshooting, optimization, and debottlenecking
- How to recognize trouble when it is occurring
- How to develop a methodical approach to troubleshooting
- To recognize how different components of a facility interact with each other, and the significance of these interactions
- How to gather, validate, and utilize the data needed for troubleshooting
- The criteria to be considered for identifying the best solution when several feasible solutions are available
- Typical causes of problems, and their solutions, for the main types of processes and equipment used in the upstream-midstream oil and gas industry

## Course Outline:

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- Troubleshooting methodology fundamentals and data reconciliation

- Gas - Liquid separators
- Reciprocating compressors
- Amine gas sweetening
- Glycol dehydration units
- 3-phase separators
- Centrifugal pumps
- Oil treating
- Produced water treating systems
- Shell and tube heat exchangers
- Centrifugal compressors
- Molecular sieve dehydration units
- NGL recovery processes