Training Course on Natural Gas Processing and Conditioning

Professional Development Training Course Outline

Category	Oil and Gas	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Natural gas continues to play a pivotal role in meeting the global energy demand due to its relatively low environmental impact and vast reserves. As the industry evolves, professionals must stay current with innovative technologies, sustainable practices, and advanced operational techniques in natural gas processing and conditioning. Training Course on Natural Gas Processing & Conditioning delivers essential knowledge in gas treatment, hydrocarbon recovery, acid gas removal, dehydration, and NGL recovery. It is designed to build technical excellence, operational efficiency, and environmental compliance using real-world applications and case studies.

This industry-driven training program offers a deep dive into gas processing systems, cryogenic recovery, sulfur recovery units, and process optimization strategies. Whether you are looking to enhance your knowledge of gas sweetening technologies or understand the intricacies of natural gas liquids (NGLs) extraction, this course blends theory with practice using data-driven case analysis, advanced simulation tools, and trending engineering approaches.

Programme Curriculum

Training Course on Natural Gas Processing & Conditioning

Introduction

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Course Objectives

1. Understand the fundamentals of natural gas processing and conditioning technologies.
2. Explore acid gas removal techniques and CO? & H?S treatment.
3. Learn best practices in gas dehydration systems and TEG regeneration.
4. Analyze NGL recovery processes using cryogenic techniques.
5. Master gas compression systems and compressor performance evaluation.
6. Evaluate sulfur recovery units (SRUs) and tail gas treating units (TGTUs).
7. Understand the economic and environmental impacts of gas conditioning.
8. Apply simulation tools for process optimization and design.
9. Interpret PFDs and P&IDs for natural gas processing facilities.
10. Identify corrosion control strategies in gas plants.
11. Implement safety standards and HAZOP analysis in operations.
12. Gain insights into LNG pre-treatment and liquefaction.
13. Study case-based decision-making in real-world plant scenarios.

Target Audiences

1. Process Engineers
2. Petroleum Engineers
3. Gas Plant Operators
4. Facility Engineers
5. Chemical Engineers
6. Project Managers in Oil & Gas
7. Safety & HSE Officers
8. Energy and Utility Consultants

Course Duration: 5 days

Course Modules

Module 1: Introduction to Natural Gas Processing

- Overview of gas processing chain
- Composition of raw natural gas
- Importance of gas conditioning
- Industry standards and regulations
- Basic process flow diagrams (PFDs)
- **Case Study:** Gas processing facility start-up challenges

Module 2: Acid Gas Removal Technologies

- Principles of gas sweetening
- Amine gas treating systems
- Membrane separation techniques
- Factors influencing process selection
- CO? and H?S removal efficiency
- **Case Study:** Optimization of an amine gas treating unit

Module 3: Dehydration and TEG Regeneration

- Water content in natural gas
- Glycol dehydration process
- Troubleshooting TEG systems
- Sizing TEG contactors and regenerators
- Environmental considerations
- **Case Study:** Dehydration unit fouling and performance recovery

Module 4: NGL Recovery and Cryogenic Processing

- Importance of NGLs
- Turbo-expander-based recovery
- Fractionation of NGL components
- Process configurations and design
- Equipment and material selection
- **Case Study:** Cryogenic recovery design comparison

Module 5: Compression Systems in Gas Plants

- Compression principles
- Reciprocating vs centrifugal compressors
- Key performance indicators (KPIs)
- Lubrication, sealing, and vibration analysis
- Safety interlocks and alarms
- **Case Study:** Compressor trip and root cause analysis

Module 6: Sulfur Recovery and Tail Gas Treatment

- Claus process overview
- SRU and TGTU integration
- Handling sulfur compounds
- Catalysts and thermal reactors
- Emission controls and reliability
- **Case Study:** Upgrading SRU to meet new emission norms

Module 7: LNG Pre-Treatment & Liquefaction

- LNG production flow
- Acid gas and water removal
- Mercury and heavy hydrocarbon removal
- Molecular sieve dehydration
- Liquefaction process overview
- **Case Study:** Pre-treatment bottlenecks in LNG train

Module 8: Process Optimization & Safety

- Process simulation using Aspen HYSYS
- HAZOP and risk analysis
- Energy efficiency strategies
- Monitoring and control systems
- Emergency response planning
- **Case Study:** Cost-benefit analysis of plant revamp

Training Methodology

- Interactive lectures with visual aids and animations
- Hands-on simulation exercises (Aspen HYSYS)

- Real-world case study analysis
- Group activities and knowledge sharing
- Post-module quizzes and certification assessment

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com