



Gas Systems and Equipment - Basic

Course Introduction:

This course is designed to provide participants with a comprehensive overview of gas handling, processing, and distribution systems. As global energy demands rise, professionals must be equipped with the knowledge to optimize gas system performance and maintain compliance with safety and regulatory standards.

Throughout the course, participants will explore key topics such as gas properties, measurement techniques, compression, and treatment processes. By examining industry practices and case studies, attendees will gain insights into the design and operation of gas systems and equipment. This course aims to empower participants with the foundational knowledge needed to effectively contribute to gas operations and enhance the reliability and safety of gas systems.

Course Objectives:

By the end of the program, participants will be able to:

- Understand the fundamental properties and characteristics of gases.
- Learn about various types of gas systems and their applications.
- Explore measurement and control techniques for gas systems.
- Analyze compression methods and equipment used in gas processing.
- Familiarize participants with gas treatment processes and safety considerations.

المركز الدولي للتدريب والتطوير
International Centre For Training & Development

Who Should Attend?

This course is intended for Engineers and technicians in the oil and gas industry, Process and operations personnel in gas facilities, Safety and compliance professionals and Project managers involved in gas system projects.

Course Outline:

Day 1: Introduction to Gas Properties and Systems

- Overview of gas properties and behavior
- Types of gases: natural gas, biogas, and industrial gases
- Applications of gas systems across different industries

Day 2: Measurement and Control Techniques

- Introduction to gas measurement principles and devices
- Flow measurement techniques: orifice meters, ultrasonic meters, and more
- Control systems for gas distribution and processing

Day 3: Gas Compression Fundamentals

- Overview of gas compression principles and applications
- Types of compressors: positive displacement vs. dynamic compressors
- Key components of compression systems and their functions

Day 4: Gas Treatment Processes

- Introduction to gas treatment methods: dehydration, sweetening, and more
- Understanding desiccants, amine solutions, and adsorption techniques
- Safety considerations in gas treatment operations

Day 5: Safety and Regulatory Compliance

- Overview of safety standards and regulations in gas systems
- Risk assessment and management in gas operations
- Best practices for maintaining compliance and ensuring safety

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work

Course Fees:

To be advice as per course location. This rate includes participant's manual, Hands-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session