



Oil, Gas and Chemical

Artificial Lift Technology

Course Introduction

This course is designed to introduce an overview of various artificial lift solutions and related production optimization concepts. After introducing the need for an artificial lift system, training will focus on each of the following lift methods: Gas lift, Reciprocating Rod Lift, Progressive Cavity Pumping (PCP), Hydraulic Pumping (HP), Electrical Submersible Pumping (ESP), Plunger and Capillary System. For each lift type, the course covers main components, application envelope, relative strengths and weaknesses.

The course will close with a discussion session wherein trainees would discuss their challenges and plans for lift systems with a view to understand applicability of the concepts learned during the training.

Target Audience

- Process design
- Unit Operator
- Environmental
- Process safety engineer
- Gasoline blender engineer
- Lab supervisor
- Supply chain engineer
- Distillates analyst
- Models engineer
- Chemical Operator
- Chemical Plant Operator
- Chemical Process Technician
- Control Room Supervisor
- Gas Plant Process Operator
- Gas Production Operator
- Gas Terminal Operations and Storage
- Gathering Pipeline engineer
- Oil Terminal / Storage engineer

- Pipeline Maintenance / Equipment / Compliance / Repair
- Pipeline Testing / Technician / Supervisor / Safety
- Plant Equipment Operator
- Plant Operations Technician
- Plant Shutdown
- Plant Supervisor
- Power Distribution
- Power Plant Manager
- Process Supervisor
- Refinery Operations Technician / Manager
- Terminal Operator / Manager
- Utilities Operator

Learning Objectives

- Understand the fundamentals & production performance of various artificial lift methodologies.
- Increase awareness and knowledge of artificial lift methodologies and factors affecting optimal designs and operations, including fluid properties and multiphase flow regimes.
- An overview of lift techniques, technologies, and equipment also covers alternate deployment scenarios and multisensory applications for surveillance and optimization.
- Possess the basic skills required to select and size artificial lift systems
- Be able to select suitable artificial lift system, plan its operation, monitor and analyze its performance
- Learn strategies and best practices for field production optimization

Course Outline

- **01 Day One**

1 Module (1): Oil Field Production System, including:

- 1.1 Oil origin and Geology
- 1.2 Well drilling and well completion types
- 1.3 Surface production facilities
- 1.4 Reservoir recovery methodologies
 - 1.4.1 Natural depletion (production) system
 - 1.4.2 Artificial lift production systems

2 Module (2): Gas Lift (GL), including:

- 2.1 Introduction
- 2.2 Continue and Intermittent Gas Lift
- 2.3 Main Gas Lift Equipment Parts
- 2.4 IPR and Designing Gas Lift
- 2.5 Optimization and Allocation of Gas for Gas lift
- 2.6 Production System With Artificial List by Gas Lift
- 2.7 Gas Lift Trouble shooting

• 02 Day Two

1 Module (3): Sucker Rod Pump (SRP), including:

- 1.1 Introduction
- 1.2 Intake Pump Curve
- 1.3 Production Optimization
- 1.4 Design Sucker Rod Pump API RP11L
- 1.5 Component Main Tool
- 1.6 Factors affecting the movement of rod
- 1.7 SRP Trouble Shooting
- 1.8 Q&A and exercises

• **03 Day Three**

1 Module (4): Progressive Cavity Pump (PCP), including:

- 1.1 Introduction
- 1.2 Description of Equipment
- 1.3 Elastomer
- 1.4 Design
- 1.5 PCP trouble shooting
- 1.6 Q&A and exercises

2 Module (5): Electric Submersible Pump (ESP), including:

- 2.1 Introduction
- 2.2 Basics of ESP calculations
- 2.3 ESP Construction
- 2.4 Pump Selection
- 2.5 Applications in the Field
- 2.6 ESP Trouble Shooting
- 2.7 Q&A and exercises

• **04 Day Four**

1 Module (6): Hydraulic Pump (HP), including:

- 1.1 Surface Equipment
- 1.2 Types of Pump Units
- 1.3 Pump Sizing
- 1.4 Pump selection
- 1.5 Hydraulic Pumps Trouble Shooting
- 1.6 Q&A and exercises

• **05 Day Five**

1 Module (6): Jet Pump (JP), including:

- 1.1 Introduction
- 1.2 Gas issue
- 1.3 Nozzle & Throat sizing
- 1.4 Jet pump calculations
- 1.5 Pump performance graph
- 1.6 Jet pump trouble shooting
- 1.7 Q&A and exercises

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
April 7, 2025	April 11, 2025	5 days	4250.00 \$	UAE - Dubai
July 7, 2025	July 11, 2025	5 days	5950.00 \$	switzerland - Geneva
Oct. 27, 2025	Oct. 31, 2025	5 days	4250.00 \$	UAE - Dubai
Feb. 3, 2025	Feb. 7, 2025	5 days	4250.00 \$	UAE - Abu Dhabi
Dec. 30, 2024	Jan. 3, 2025	5 days	4250.00 \$	UAE - Abu Dhabi
Nov. 16, 2025	Nov. 20, 2025	5 days	4250.00 \$	Oman - Muscat