



PCE165

Advanced Gas Processing Applications

Course Introduction:

It typically takes several years for young university graduate engineers to master practical methods used in the process industry to solve problems. Gas condensate Layout/Design and Operations Development Practices is an intensive course for young process engineers to bridge the gap between university education and practical process design and troubleshooting in a short time of five days. After participating in the course, participants will know the most important layout/design practices and will be able to perform the necessary calculations to design and troubleshoot process units.

The course will be interactive involving all participants. The ICTD well experienced instructor illustrates the concepts with examples from his practical experience that he weaves into his lectures appropriately.

Course Objectives:

At the end of the course, participants will be able to perform the following:

- ✓ Vaporizer and steam drum heat balance
- ✓ Design pressure, temperature and flange class for all equipment in Stripper system
- ✓ Size all pipes and nozzles in Stripper feed circuit and list hydraulic cases
- ✓ Pressures at all points between a high and low pressure separator
- ✓ Size the Stripper feed flow meter, and permanent pressure drop
- ✓ Steam consumption in ejector
- ✓ Flashing liquid flow rate through a hole in a vessel
- ✓ Control valve size in the Stripper feed circuit
- ✓ Size and layout of recycle compressor suction drum
- ✓ Feed drum elevation from pump NPSH
- ✓ Feed pump motor size
- ✓ Compressor head, horsepower and outlet temperature
- ✓ Number of Stripper feed-bottoms exchangers
- ✓ Relief loads for the following cases; Fire case, Blocked liquid outlet, Inlet control valve fails open, Steam reboiler tube failure, Fractionator power failure and how the results can be quickly checked for relative accuracy

Who Should Attend?

This course is intended for all managers, section heads, team leaders, supervisors and engineers in the field of chemical, process, operation, production, maintenance, mechanical and layout/design. This course is also suitable for operators and technicians who wants to gain knowledge and involved in operation and design in processing unit.

Course Outline:

Day 1:

- Introduction
- Physical properties of hydrocarbons
- Qualitative phase behavior

Day 2:

- Vapor-liquid equilibrium
- Water-hydrocarbon equilibrium
- Basic thermodynamic concepts

Day 3:

- Separation equipment
- Heat transfer
- Pumps

Day 4:

- Compressors
- Refrigeration
- Fractionation/distillation

Day 5:

- Glycol dehydration
- Adsorption dehydration

Course Certificate:

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

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
- Discussion
- Presentation

Course Fees:

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

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