

## Distillation Units Z TPU-01

### Duration

Three days 25 Hours

### Who should attend?

Engineers and senior engineers from chemical and industrial plants

### Language

Arabic , English



### Overview

This course is a refresher on basic concepts and calculations related to heat transfer & energy savings through the application of insulation. It describes the various types of thermal insulation materials available for use in industrial process plants. It characterizes thermal insulation types by their physical properties. It provides a basis for selecting the proper insulation type for particular industrial application. It describes proper installation & maintenance techniques to ensure that the thermal insulation will not degrade in service. It provides a number of case studies describing common insulation projects.

### Topics

- Overview of distillation unit equipment & operation
- Distillation fundamentals
  - Ideal Gas Law
  - Vapor Pressure
  - Boiling Point
  - Dalton's and Raoult's law
  - Separation Principles
  - Relationship between composition & temperature
- Distillation Column Control
- Start up Operation
- Normal Operation
- Shut down Operation
- Troubleshooting
- Simulator exercises will include
  - Control Exercises
    - IFeed Flow / Tower Bottom Level & Reflux
    - Drum Level Controls
    - Tower Temperature Control
    - Tower Pressure Control
    - Reflux Flow Control

- Operating Procedures
  - Startup Operations
  - Shutdown Operations
  - Load Changes
  - Change in Product Specification
  - Change in Feed Composition
- Troubleshooting and Emergency Operating Procedures
  - Reflux Pump Trip
  - Reflux Drum Level Transmitter Failure
  - Loss of Feed
  - Loss of Coolant