

Introduction to Process Engineering

Introduction

- Overview of an Engineering Organization
- Role of a Process Engineer
- Project Documentation

Basic Engineering Package:

- Overview of Basic Engineering Package.
- Basic design requirements based on the types of plants / projects.
- Introduction to PFD, P&ID and PDS, Equipment list, line list Equipment data sheets
- Development of PFD, PFD specification,
- Development of P&ID,
- International Codes & Standards
- Fundamentals of Material Balance
- Fundamentals of Energy Balance
- Process Block Diagram

Process Equipments Detail Design & Sizing:

- Heat Exchangers
- Pumps
- Pressure Vessel
- Separation Column
- Control Valve
- Reactor Technology

Process Simulation:

- Butane, LPC Column simulation
- Light Naphtha, CO₂ Absorber
- Stripper Design
- Pipe Hydraulics & Line Sizing
- Flow rate, velocity, pipe sizing calculations
- Reynolds number- laminar/turbulent flow
- Darcy weisbach & Hazen William equations
- pressure drop calculations, NPSH calculations
- Equipments Used in Process Plants

Process equipment

- Reactors
- Towers
- Exchangers
- Furnaces
- Vessels
- Columns

Mechanical equipment

- Pumps
- Compressors
- Storage tanks

Duration: The duration of this workshop will be two consecutive days, with eight hour session each day in a total of sixteen hours properly divided into theory and hands on sessions.