



Process Vessels, Mechanical Design & Specification

Training Program



Introduction:

This course reviews the design of mechanical components for process vessels in oil and gas facilities. The emphasis is on codes and standards sizing calculations and materials selection vessel specification the sizing, design, and support of nozzles and internals fabrication, including welding and inspection, and operations. Design problems are an integral part of this course.

This program is mainly designed for mechanical engineers. The need for this training program has considerably increased due to the advancement in technology by the prospective and existing equipment design and manufacturing professionals. This course will initiate engineers to prepare and develop equipment data sheet, design them as per relevant codes, prepare fabrication details and specifications, estimation and quality assurance during fabrication and assembly.

Who Should Attend?

Mechanical engineers and design engineers who are involved in the design of pressure vessels and appurtenances utilized in oil and gas facilities

Course Objectives:

At the end of this seminar participants will have:

- How to apply pressure vessel codes and standards for mechanical components of process vessels
- About sizing, selecting materials, and specifying process vessels based on requirements from process design data
- About supporting internal appurtenances as part of the design and specification procedure
- About integrating mechanical considerations in overall system design and operation
- About integrating the key elements of fabrication, welding and inspection of process vessels

Course Outline:

- General Concepts of Equipment Design
- Concepts of Basic and Mechanical Design of Process Equipment
- Introduction to Codes, Standards and Recommended Practices
- Introduction to Economic Balance and Safety Factors
- Pressure Vessel Codes and Standards
- Types of Vessels and Design
- Separators
- Towers
- Slug catchers
- Heat exchangers
- Vessel and Key Components Design
- Pressure vessel Design
- Process Equipment & Pressure Vessel Technology
- Material Technology related to Pressure Vessel Design

Engineering ASME Codes and Its Relation to Mechanical Design of Pressure Vessels

- Nozzle Supports and Internals Design
- Corrosion Considerations
- Materials Selection and Specification
- Fabrication
- Welding and NDT Inspection
- Transportation and Erection
- Interface to Piping Systems
- Operations and Maintenance Considerations