Charisma Education Pvt Ltd

Correspondence Course on Process Equipment & Pressure Vessel Technology

80 Hours Duration, Year 2023

Engineers need to refresh their knowledge of Process Equipment and Pressure Vessel Technology, codes of design, inspection and fabrication. Such programs provide this opportunity to learn as they work and improve their performance. Young trainee engineers will get immense help in updates to their knowledge.

Need for the course on Process Equipment & Pressure Vessel Technology course has been demanded by the aspiring and eager process equipment professionals. We have been actively involved in training engineers related to Piping, Process Equipment since last 25 years. This course will initiate engineers to prepare and develop equipment data sheet, sizing of process equipment, design them as per relevant codes, prepare fabrication details and specifications, estimation and quality assurance during fabrication and assembly.
This course will target the following needs of the prospective process equipment engineers:
* Documentation related to Process Equipment Technology, in form of courseware.
* Interaction with professionals on regular basis using internet technology.
* Case Analysis / Problem Solving Methodology
* Free Flow of Information to the Engineers with the help of email newsletter and video conferencing.

Coverage

Process Equipment & Pressure Vessel Technology

Introduction about process Industries
List of Equipment used in Industries, their introduction, applications
Indian process plants, fabricators, engineering companies, consultants
Basic Engineering Knowledge on Engineering materials, Strength of materials
Introduction of Standards and other codes related to Pressure Vessels & Process Equipment, (ASME Sec.VIII Div.1, Latest issue, Sec II, Sec IX; IS 2825, TEMA, API 650 etc.)
Design and Analysis of Pressure Vessels & Components
Design & Analysis of Heat Exchangers
Design & Analysis of Storage Tanks
Selection of materials for process equipment
Fabrication of process equipment; plate forming, cutting, welding
Exposure to Pressure Vessel Design Software,
Local Stress Analysis at Nozzle Vessel Junctions
Problem Solving Sessions

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Process Equipment Inspection & Testing

Quality control and assurance for raw materials, components and fabrication stages
Pressure Testing/ Special Testing for Pressure Vessels, process equipment & systems
Non- Destructive Examination of equipment

There are **4 modules** of the course. The contents are listed at the end of this brochure.

Methodology

Technical Course Materials shall be regularly distributed to the participants.
Problem Solving sessions will be held at intervals.
Case Studies shall be discussed and participants shall be asked to submit their solutions. This will allow us to rate the progress of the participants and provide suggestions for improvements.
Regular tests will be conducted and results shall be immediately discussed so that participants are able to gauge their progress, and adopt corrective means to improve on their weak areas of understanding.
Every participant must have an email ID for effective interaction.

Who should undertake this course?

This program is useful for fresh & experienced engineers or engineers desiring to shift to process equipment and pressure vessel engineering disciplines. Till date, engineers from ENGINEERS INDIA, GAIL, GRASIM, GSFC, IFFCO, IPCL, KIRLOSKAR, TechnipKTI, L&T LTD, PRAJ, PARAMOUNT, STERLING GELATIN

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, SULZER , SGS INDIA, TRANSPEK, TATA STEEL, THAPAR CENTRE IRD, VA TECH WABAG , OMAN REFINERY, QATAR PETROCHEM, NIGERDOCK, PUNJLLOYD, TOYOINDIA and many other individuals have benefited from our regular courses. The course is continuously revised for the updated technology.

Starting Date: This will be planned as per need of registered candidates, Year 2023
Duration: 80 Hours of self- study and interaction with the mentor/ expert faculty.
Recent Batch: Starting Year 2023 (Can be scheduled as per request of registered candidate & convenience of faculties)

Fees of Indian Participants:

Fees: Rs 48,000 per participant.
Registration:
Kindly send-in your application for the registration to the course by submitting a letter with the bio-data of the participant along with the registration fee in the form of Cheque/ Bank Transfer on any bank of Vadodara and in favour of **Charisma Education Pvt. Ltd**.

Contact:

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Index of Course Contents:

Module 1

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Module 2

2.1 General Specification for Pressure Vessels
2.2 Engineering Design Guidelines for Pressure Vessels
2.3 Design Concepts
2.4 Review of Codes for Pressure Vessels: Allowable Stresses
2.5 Pressure Vessel Design as per ASME Code
2.6 Pressure Vessel Design – External Pressure
2.7 Vessel Design – Rectangular Section
2.8 Design of Flange
2.9 Supports and Mountings for Horizontal Vessels (PD: 5500)
2.10 Analysis for Skirted Support of Vertical Vessel
2.11 Nozzle Stresses from Outside Loads and Moments
2.12 Specification for Expansion Joints
2.13 Process Vessels With Top Mounted Agitator Systems: Design Procedure & Guidelines
2.14 Guidelines to Design Vessels with software like COMPRESS

Module 3

3.01 Application, Classification & Selection of Heat Exchanger
3.02 Heat Exchanger Geometry
3.03 Thermal Design of Shell & Tube Heat Exchanger
3.04 ASME UHX-Rules for Shell and Tube Heat Exchanger
3.05 ASME UHX-U-Tube Design Procedure
3.06 ASME Fixed Tube-Sheet Design
3.07 ASME Tube-sheet Design for Floating Tube Heat Exchanger
3.08 Welded Steel Tank Design to Standard API 650
3.09 Storage Tank Design as per IS803 and API650
3.10 Tank Inspection as per API 653
3.11 Tank Inspection for Suitability for Service as per API653
3.12 ETank Orientation Presentation
3.12.1 ETank2000 FV Self-supported Tank Report

Module 4

4.01 Welding Design
4.02 Procedure Specification for Metal Arc Welding of Carbon Steel
4.03 Procedure Specification for Metal Arc Welding of Low Alloy Steel
4.04 Welding, Fabrication and Inspection of Stainless Steel Vessels
4.05 Quality Control in Fabrication of Pressure Vessels
4.06 Liquid Penetrant Testing
4.07 Principles of Industrial Radiography
4.08 Magnetic particle Inspection
4.09 Principles of Ultrasonic Testing
4.10 Nondestructive Testing Methods (Summary)
4.11 Inspection of Fabricated Equipment (Pressure Vessels, Heat Exchangers)
4.12 Application of Fracture Mechanics in Pressure Vessel