



Certified Process Design Professional / Expert Training



VELOSI TRAINING
INSTITUTE L.L.C.

Introduction

Velosi Training Institute LLC is a new venture of Velosi Asset Integrity Limited, which offers a comprehensive range of specialized courses in Certified Technical Training, Exam Preparatory, HSE, Training in Oil and Gas Field, ISO, NEBOSH, IOSH, Food Safety Courses, Administrative & Business related trainings, Corporate and Postgraduate Qualifications.

Our most valuable asset at Velosi, as a globally recognized training provider, is our experienced trainers, who are experts in their fields and can tailor the curriculum to our clients' specific needs in order to sharpen their knowledge, prepare them for the next phase of their careers, and implement best industry safety practices.

Course Overview

Velosi is conducting online training for Certified Process Design Professional/Expert (CPDP/CPDE). This certification is structured in two levels, which will test the fundamentals of Process Design Engineering.

Designing process plants is a complex and demanding process. The design of plant layout is one of the most important tasks before plant construction. A good plant layout cannot only reduce capital cost, but can also help to improve the safety of the plant and reduce its environmental impact. Additionally, fast and easy access to the parts of the plant and the equipment is essential for effective operation and maintenance, which means higher plant availability and longer time between failures.

Learning Objectives:

- Familiarize participants with all aspects of process plant major equipment and piping systems.
- Provide the participants with the skills and knowledge of current trends in process layout and process design calculations.
- Know the application of principles learnt in process engineering courses such as Mass and Heat Transfer, Fluid Mechanics, Selection and Sizing of Process Equipment for a given process.

Who should attend?

This course is appropriate for a wide range of professionals but not limited to.

- Process Design Engineer
- Safety Professionals
- Operations & Maintenance Engineer
- Asset Integrity Engineer
- Plant Engineers
- Project Managers

Benefits

Learning is an investment that pays off in the long run. It allows a person to expand their career prospects, improve their professional skills, and become more competent.

- Career Development
- Increased Job Opportunities
- Technical Expertise
- Worldwide Recognition



Course Outline

Day 1

- Development of Process Data
- Process Design Tasks & Sequence
- Data Compilation and Presentation
 - Process Flow Diagram
 - Equipment Data Sheets
 - Accuracy and Significance
- Process Calculations Methods
 - Empirical Procedure
 - Rigorous Procedure
- Process Design Simulation Techniques
 - Commercial Packages
 - Equipment Software
 - Process Data Packages

Day 2

- Equipment Sizing, Selection and Design
Process Equipment Categories:
 - Proprietary Type Equipment
 - Non-Proprietary Equipment
 - Required vs. Calculated Data
- Pumps:
 - Categories & Types –
Reciprocating & Centrifugal
 - Performance Characteristics –
Curves, System/CV
 - Key Design Parameters –
Capacity Factors, Properties,
Head, NPSH, Efficiency,
Horsepower
 - Calculation Method/Typical
Format and Examples
 - Pump Selection Guidelines

Day 3

- Compressors:
 - Categories and Types –
Reciprocating & Centrifugal
 - Compression Process –
Adiabatic, Isothermal &
Polytropic
 - Characteristics & Terminologies
– Clearance, Surge, Stonewall,
Speed, Turndown, etc.
- Key Design Parameters – Capacity,
Properties, Compression Ratio, Head
and Temperature Rise
- Efficiencies, Multi-staging
- Compressor Control Methods
- Calculation Method/Typical Format and
Examples
- Selection Guidelines – Technical and
Economic Factors

Day 4:

- Heat Exchangers
 - Types – Shell-and-Tube, Double-Pipe, Plate, Other
 - Shell-and-Tube Construction – TEMA Classification
 - Heat Transfer Relation – Heat Transfer Coefficients, Mean Temperature Difference, Correction Factors, etc.
 - Key Design Considerations – Fluid Routing, Pressure, Temperature, Viscosity, Fouling
 - Fouling Factors, Variables and Prevention
 - Process Applications – No Phase Change & Phase Change
 - Reboilers – Types, Feed System, Calculation Method
 - Calculation Methods – Detailed and Short-Cut with Example
 - Rating Existing Exchangers with Example
 - Selection Guidelines

Day 5

- Process Vessels
 - Types and Functions – Separation, Accumulation, Settling
 - Design Considerations – Sizing, Vapor Velocity, Liquid Residence,
 - Entrainment, Internals Connections
 - Vessel Calculation Method and Examples
- Mechanical & Safety Aspects
 - Codes, Standards and Specifications
 - Materials of Construction – Overview
 - Safety in Design – Equipment Spacing

Training Details

Trainer Qualifications	Mr. Sayed Ammar has over 13 years of experience in lecturing and competency assessment covering HSE, Operation, Process engineering and Project management. He holds a Bachelor's Degree in Petroleum and Petrochemicals Engineering, MSc. in Gas Processing and LPG recovery and PHD in Petroleum Economics and Oil Prices. He has professional work experience in design, operation and troubleshooting familiarity of gas processing facilities.
Mode of Training	Training will be conducted via Microsoft teams online. Meeting invites will be shared on the day before the first day of training.
Course Material	<ul style="list-style-type: none">• Presentation Slides• Training Recordings• Study References
Number of Participants per Class	Minimum of 10 students per batch Course Duration is 25 hrs. Including examination & clarifications. The training schedule is flexible and will be either in the mornings on the weekends and evenings on weekdays as per Velosi's Approved Training Schedule.
Registration / Payment Method	The interested participants should register his/her name and other necessary details through Velosi's online registration form or email confirmation to the designated contact person. Payment must be settled in full after the registration process. Payment can be made online through the payment link provided by Velosi or through bank transfer.
Certification Issuance Policy	The training certificate (Digital Copy) will be awarded to participants who completed the training and passed the exam with 80% or higher score.

Discount Scheme

Participants can avail discount of either an early bird or group discount whichever is higher with additional discount when signing up for 2 or more courses.

Early Bird Discount:

- 10% Discount if you register 2 weeks in advance.
- 5% Discount if you register 1 week in advance.

Group Discount (same company only)

- 15% Discount for groups of 5 or more.
- 10% Discount for groups of 3-4.

Bundle Discount

- Sign up for 2 courses and get an extra 10% off.
- Sign up for 3 courses and get an extra 15% off.

Why Choose Us

- In-Depth Comprehensive Explanation of all Sections.
- Continuous Assessment with Section-wise Practice Tests.
- Study Material in the form of PPT, Group Discussions, etc. written in very easily understandable manner.
- Technical clarifications at all levels during/after training.
- Providing Real Exam Questions & Answers.
- Offers reasonable price and seasonal discounts.
- Give flexibility in training schedule.
- Ability to learn at your own time with access to live recordings.
- Incorporate Case Studies from Real-World Situations.
- Trainees are eligible to earn Continuing Professional Development (CPD) credits.



Other Courses We Offer:

- **Velosi Certified Programs**

- Certified Fire Protection Professional
- Certified PHA HAZOP Leader
- Certified Process Design Professional/Expert
- Certified Reliability Professional
- Certified SIL Professional/Expert
- Certified Asset Integrity Professional/Expert
- Certified Tableau Data Analyst
- Certified Environment Impact Assessment Professional

- **Oil & Gas Field Training**

- Asset Integrity Management
- Pipeline Integrity Management
- Wellhead Integrity Management
- Structural Integrity Management
- Safety Integrity Level (SIL)
- Process Engineering - AutoCAD Training Course

- **Health, Safety & Environment (HSE) Training**

- **ISO Training**

- **NEBOSH Training (Certificates, Awards & Diplomas)**

- **Exam Preparation Training**

- BCSP Associate Safety Professional (ASP)/ Certified Safety Professional (CSP)
- NFPA Certified Fire Protection Specialist (CFPS)
- EXIDA Certified Functional Safety Professional/Expert (CFSP/CFSE)
- ABIH Certified Industrial Hygienist (CIH)
- SMRP Certified Maintenance and Reliability Professional (CMRP)
- PMI Project Management Professional
- API Training (510, 571, 579, 580, 581, 653 & RP 2SIM)
- Sig Sigma Green Belt
- ASNT NDT Level III

- **Food Safety Training**

- Basic Food Hygiene Training (level 2)
- Intermediate Food Hygiene Training (Level 3)
- Advance Food Hygiene Training (Level 4)
- HACCP Awareness Training (Level 2)
- Intermediate HACCP Training (Level 3)
- Advance HACCP Training (Level 4)

- **IOSH Training (Managing, Leading & Working Safely)**

- **High-field (HABC) Accredited Training**

- **Administrative & Management Skills Training**

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