



PIPING DESIGN & DETAILED ENGINEERING

Process Plant Design Program

Program Duration: 90 Hrs.

Communication Language: English

Highlights



STRUCTURED

Thoughtfully designed curriculum helps you to emerge confident & comfortable.



INDUSTRY-RELEVANT

Industry-tested curriculum to make you job ready



HANDS-ON

Projects and assignments to actually implement concepts

EXPERIENCE

A structured, flexible & guided learning program!!!

CONTACT US:



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Course Category: Process & General Industry

Certification: Intermediate

Course: Piping Design & Detailed Engineering



SYNOPSIS

Key Learning Module

- Material
- Layout
- Codes & Standards
- AutoCAD - SLM

Program Highlights

Duration: 90 Hrs.

Software: AutoCAD - SLM

Delivery Mode: Live & Interactive

BENEFITS

Personalized

Topics, peers & pace of learning are optimized for your needs

Flexible Session Time

Decide your ideal class timing together with your classmates

Needs Time for Unplanned Activities

Pause your course and restart a month later with the next batch!

TEXVYN TECHNOLOGIES

Texvyn's Institute of Continuous Learning [ICL] is the newest venture of Texvyn Technologies which aims to be a global talent-solutions company offering integrated practical knowledge to meet the growing demand for quality talent. Our focus is to create development solutions that offer a career launch pad for students, working professionals and a ready pool of employable talent for enterprises in the Oil & Gas, Power, Water Treatment, Chemical, Petro-chemical and Manufacturing sectors.

ICL introduces professional engineering courses which have been developed to equip graduates and practicing engineers with an in-depth understanding of the fundamentals of manufacturing & process plant systems and an excellent competency in the use of state-of-the-art approaches to deal with the major operational and design issues of the modern industries. The course provides up-to-date technical knowledge and skills required for achieving the best management, design, control and operation of efficient engineering plant systems. The course is suitable for diploma & engineering students who wish to embark on successful careers as engineering professionals. Learn with us and wherever you are in the world, we'll help you achieve the qualifications that will set you apart.

PROGRAM OVERVIEW

Piping Engineering is an emerging engineering science, although it has been there for years. A piping system is crucial to any process plant; hence it needs to be designed with precision and care. The efficiency of a plant highly depends on its ability to transport fluid through the pipes to various equipment that function collectively.

Texvyn's piping design course is a professional development program developed as a joint initiative of industry and academia. This course instantly filled an existing gap between the requirement of industry's design and engineering sector and what conventional curriculum of established engineering disciplines of chemical engineering, mechanical engineering etc. offered.

Program Agenda

M01	Fundamental of Piping Design Engineering
01	Introduction to Process Plants
02	Difference between Code and Standards
03	Scope of Piping in Projects
04	Plant Piping Systems and Transportation Pipelines
05	Definition & Application of Pipe
06	Difference between Pipes and Tubes
07	ASTM Specifications of Pipes
08	Pipe Designators 1: NPS , IPS , NB, Pipe Wall Thickness, Schedule, Rating etc.
09	Pipe Designators 2: Pipe Weights, Lengths, Grades, Ends, Joining Methods etc.
10	Piping Materials and Selection
M02	Fittings & Flanges ASME Standards, Selection, Application & Drawing Symbols
01	Types of Fittings – Butt Weld, Screwed & Socket Weld
02	Elbow, Pipe Bends, Branch Connections, Reducers, Stub Ends & its types
03	Fabricated Branch Connections & Branch Reinforcements Details
04	O-let Fittings, Coupling Pipe Fittings & its types
05	Definition of Flange
06	Flange -Types of Flange, Pressure & Temperature Ratings
07	Flange Facings – Flat Face, Raised Face, RTJ, & Male - Female, Tongue & Groove
08	Flange Face Finish types & Application
09	Flange considerations by a Piping Engineer as per Code
10	Gaskets – Types, Thickness, Selection Requirements
11	Flange Selection Exercise

M03	Valves – ASME/API Standards, Symbols, Selection & Application
01	Piping Valves - An Introduction, Valve Functions & Pressure - Temperature Ratings
02	Difference in Valve and flange Ratings, Valve Tag numbers, Locations & End Connections
03	Type of Valve, Valve Symbols & its Selection
04	Control Valve Manifold: Types, Function, Layout types & Representation
05	Control Valve Manifold: Requirements on Flow Diagrams and Layouts
06	Valve Operator/Actuator
07	Valve Data Sheet Preparation and Understanding
08	Valve Trim & Layout Consideration
M04	Codes & Standards
01	Introduction to ASME Pressure Piping Design Codes
02	ASME Standards for Common Piping Elements
03	API Codes
04	Other Codes & Standards
M05	Piping Special Elements
01	Strainers & Filters
02	Bellows/Expansion Joints, Rupture Disc & Spectacle Blind
03	Blanks, Spacers & Steam Traps
04	Flame Arrestor & Vortex Breaker
M06	Equipment's in Process Plant
01	Process Equipment's: Reactor, Tower, Exchanger, Furnace, Vessel, Column etc.
02	Mechanical Equipment's: Pumps, Compressors, Storage Tanks etc.
03	Equipment Foundations and Supports
04	Equipment Data Sheets & Equipment Sketches

05	Equipment Nozzle Specifications
06	Equipment Layout & Detail Drawing
M07	Piping Engineering Flow Diagram and its Concept
01	Uses of Flow Diagrams, Process & Utility Flow Diagrams
02	Piping Symbols, Line Symbols, Valve Symbols, Piping Isometrics
03	General Arrangement Drawings– Sections/Elevations/ Detail Drawings
04	Plot Plan & its Procedure
M08	Piping & Instrumentation Drawings [Process Design]
01	Flow Rate, Velocity & Pipe Sizing Calculations
02	Reynolds Number & Darcy Weisbach & Hazen William equations
03	Laminar / Turbulent Flow
04	Pressure Drop Calculations & NPSH Calculations & Losses in Pipe Fittings
05	Piping & Instrumentation Diagram – P & ID [Reading & Understanding]
06	P&ID Legends
07	Line Numbering
08	Piping Tracing (Jacket Piping ,Steam/Electric Tracing)
09	Line Designation Table/ Line list creation from P & ID
10	Instrument Types & Symbols – Flow, Temp, Pressure & Level
11	Instrument Hook-up Drawing
12	Preparation of Various Process Deliverables
M09	Piping Material Specification (PMS)/ Piping class
01	PMS and its Requirements, PMS Applications & its use by Various Departments
02	Piping Specifications Material Selection P-T ratings Valve Data Branch table
03	Piping Abbreviation Details.

M10	Designing & Engineering of Piping Diagram
01	Plant Co-ordinate Systems
02	Site Plans, Unit Plot Plan
03	Equipment Location Drawing
04	Foundation Location Drawing
05	Pipe Rack Spacing
06	Drawing Pipe in the Rack
07	Pipe Insulation Shoes & Pipe Guides
08	Plant Utilities
09	Utility Stations
10	Sewer and Under Ground Piping System
M11	ASME Engineering
01	Pipe Wall Thickness Calculations
02	Operating & Design Pressure
03	Operating & Design Temperature
04	Max Allowable Operating Pressure
M12	Piping Isometrics
01	Isometric Requirements
02	Drafting Piping Isometrics
03	Isometric Dimensions, Notes & Callouts
04	Isometric Offsets
05	Print Reading Exercises
06	Exercises on Creation of Isometrics form Piping Plans and Sections
07	Inputs (Drawings/Documents) for Piping Isometric Drawings

M13	Pipe Supports
01	Classification of Supports : Primary & Secondary Support
02	Rest, Anchor & Standard Support
03	Special Pipe Supports (SPS): Anchors, Pipe Guides, Limit Stops & Pipe Shoe
04	Shoe Guides / Hold Down Guides
05	Pipe Rack Spacing
06	Dummy Leg / Trunion
07	Field Support / Base Support
08	Rigid Hangers – Rod & Clevis, Trapeze
09	Hanger Rods & Spring Rods
10	Pick-up Supports
11	Flexible/Spring supports – Variable & Constant
12	Control Valve Manifold Supports
13	Pipe Rack Design – Types, Height & Width Calculations, Pipe Arrangements
M14	Piping Spools
01	Piping Spools : Definition
02	Types of Spool Drawings
03	Guidelines to Prepare Spool Drawings
04	Print Reading Exercises
05	Exercises on Creation of Piping Spool from Piping Isometrics
06	MTO (Material Take Off): Types & its Applications
M15	Project Work / Assignments
01	Mid Term - Assignments
02	Post Training Project Work



ACCELERATE YOUR CAREER GROWTH & UPSKILL YOURSELF

Tried & tested curriculum, trusted by thousands of students

PROGRAM FORMAT

This program will be delivered in an interactive, practical, E-learning video format along with real life examples. Theory will be supported and illustrated through a combination of real-world examples. The USP of our courses is that these are developed by experts working on real life projects and hence the course content reflects the practical aspects and challenges faced by the professionals to kick start their career.

AUDIENCE PROFILE

This course is designed for fresher & experienced engineers from mechanical / chemical background and willing to work as Piping Design Engineer.

Qualification Eligibility for Piping Design Engineering

- B.TECH / BE in Mechanical or Chemical Engineering
[Students pursuing Final Year BE are also eligible]
- Diploma in Mechanical or Chemical Engineering
- Master in Mechanical or Chemical Engineering

PROGRAM OUTCOME

- Scope of Piping Engineering.
- Codes and Standards.
- Piping Elements & Specialties.
- Mechanical Design Fundamentals.
- Pipe Hydraulics & Sizing.
- Piping Drawing Basics.
- Development of Plot Plan & Equipment Layout.
- Process Piping Layout.
- Utility Piping Layout.
- Flexibility Analysis.
- Selection of Supports & Expansion Joints.

Registration Process & Career Services

ENROLLMENT

Program Registration

Candidate can register for the program by using a link below -

<https://forms.office.com/r/mnRRCw1Fzw>

Payment Terms

- 100% payment to be made before commencement of course.
- Payment link will be shared post registration vide email & Whatsapp.

Document

- Passport Size Photo [1 No.]
- Photo ID Proof.
- Qualification Proof.
- Resume Copy

Refund / Admission Cancellation

- Online courses are completely non-refundable & non-transferrable under any circumstances.
- For further details get in touch with our support team on +91-8779674727

PROGRAM CERTIFICATION

Students will be awarded with certification on completion of course along with the given assignments. It has affiliation & recognition from National Career Services [Ministry of Labour & Employment].

CAREER SERVICES

Assured Interviews

Assured Interviews upon submission of projects and assignments. Get an opportunity to interviewed by leading engineering companies.

Profile Building

Get assistance in creating a world-class resume from our career services team and learn how to grab the attention of the hiring manager at the profile shortlisting stage.

Job Lens

Job Lens by Texvyn is the digital job board platform to publish the latest job openings & growth opportunities for engineers in India & Abroad.

Link: <https://t.me/joblens>

Texvyn - EVOLVE

A Community for Core Engineering Professionals to share ideas and seek help. Also get the latest information on Texvyn Events!

Link: <https://t.me/texvynevolve>

Texvyn Advantage

We offer an unique range of services which allows every student to get an effective learning program with An advantage of technology centric platform to enhance their career & employability skills. Some of our key highlights are as mentioned below -

01 Affiliation

An Autonomous Institute registered with National Career Service [Govt. of India - Ministry of Labour & Employment].

02 Technology

In-depth learning on all latest industry leading tools in order to get an edge over throat cutting competition.

03 Support Services

Our dedicated team can address queries via calls, emails, and chats to provide the best-in-class support to our students.

04 Discussion Forum

This is where the industry expert engages with ICL students & initiate the discussion on various topics trending across industries in India & abroad.

TEXVYN SUPPORT CENTER

201-Raunak Arcade, Opposite THC Hospital, Gokhale Road, Naupada, Thane 400602

