Institute Information

Vishwakarma Institute of Technology, Pune

A highly commendable private institutes, occupies a place of pride amongst the premier technical institutes of the western region of india .Established in year 1983, financed and run by the "Bansilal Ramnath Agrawal Charitable Trust,Pune.It is affiliated to Savitribai Phule Pune

The Institute was selected under Technical Education Quality Improvement Program of ministry of Human Resource Development and World Bank. Institute is accredited by

NAAC: A++ Grade & NBA and certified by ISO 9001:2018.

VIT holds the rank 5th in India amongst private colleges and Rank 18th in India amongst all government + private colleges India. (TOI survey)

For More Details About Course Please Contact:

Course Coordinator

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Course Objectives

The objectives of this course are to give hands-on training to the students on basic piping engineering theory and popular software like SP3D and CAESAR &AutoCAD and give industrial exposure to them

Silent Features of This Course

1. Pioneering Institute for Piping Engineering Course since 18 years in VIT.
2. Faculty involved is from industry having 8-15 and even upto 40 years experience.
3. Placements assistance for deserving Candidates, on the basis of performance .
4. Hands on training on popular software like SP3D, CAESAR and AutoCAD.
5. Course is designed considering current industry applications and facilitates practice on demo and Process applications.

Individual Project with exam — **Study Material**

Batches

Regular Batch
Duration : 4 Months
Days in a Week : Thursday to Sunday
Time : 10.00 am to 5.00 pm
Intake : 40 students.

Weekend Batch
Duration : 8 Months .
Days in a Week : Saturday to Sunday
Time : 10.00 am to 5.00 pm
Intake : 40 students.

Course Eligibility

Course Fee : 75000/-
B.E/B.TECH/Engg Diploma :
Mechanical/Chemical/Production/Industrial
Final Year Appearing Students
Working Professionals In Relevant Field .

Registration

Registration should be done in the prescribed format and with the confirmation amount in the stipulated time .The admission form properly filled in, along with necessary documents and the DD Drawn in favour of "Vishwakarma Institute of Technology - Exam Account "payable at Pune may be sent to :

Professional Course in Piping Engineering

Offered By

Bansilal Ramnath Agarwal Chairtable Trust's

Vishwakarma Institute of Technology, Pune

Venue

➢ Center of Engineering Excellence (CEE)
Department of Chemical Engineering
Room No. 4106

Vishwakarma Institute of Technology
666, Upper Indira Nagar, Bibwewadi,
Pune, Maharashtra, INDIA-411037.
Email:piping@vit.edu

CONTENTS

Piping Basics & Revision

- Introduction of piping engineering – role of piping engineers in EPC & various Industries.
- Introduction to Process Plant engineering, Piping in Process Plant.
- Classifications of Pipes – Process pipe, Line Pipe, Structural Pipe – Manufacturing methods.
- Piping engineers interaction with various departments.
- Engineering flow diagrams – BFD, PFD, PUD, etc.
- Piping Instrumentation diagram.
- Piping codes and standards (ASME,IS,ANSI,DIN,BS).
- Pipe fittings.
- Pipe class components.
- Statutory Regulations in piping.
- Pipeline Sizing.
- Pumps and Compressors (All Types Included).
- Process Instrumentation from Piping.
- Perspective.

Piping Materials

- Piping Material and selection procedure.
- Valve selection and specification (fluids and hydraulic).
- Pipe Supports and span calculations.
- Pipe fittings Selection procedure.
- Piping Design Codes.
  - ASME B 31.3
  - ASME B 31.1
  - ASME B 31.4
  - ASME B 31.8

Reinforcement Pad Calculation

- Reinforcement Pad & Requirements.
- R.Pad Calculations Formula As per ASME B 31.3
- Stress and strain Diagram.
- Calculations for Various Cases.

Pipe Stress Analysis

- Material Specifications and Commonly used CS & SS materials for Piping components.
- Fundamentals of SOM relevant to Pipe stress analysis.
- Preliminary Load calculations based on pressure and pipe /fluid weights.
- Primary and Secondary Loads.Concept of principal stresses.
- Combined pipe stress analysis including weight analysis,Thermal analysis,Flexibility analysis.
- Introduction to wind and seismic analysis.
- Expansion Joints & Expansion bellows including simple loop calculations·(Detailed hands On Calculations).

Piping System Design & Layout

- Equipment Layout.
- Plot Plan Design & Requirement as per OISD.
- Dyke Wall/Tank from layout.
- Piping G.A.
- Isometric Drawings.
- Bill of Material, Costing.
- Column Piping /Tower Piping Layout.
- Condenser / Exchanger Piping Layout.
- Tank Piping & Pump Piping.
- Plot plan /Plant Layout/Legends P& ID/Equipment Layout/Piping Plan &Elevation.
- General Arrangement of Pipe Racks.
- Piping Plot Plan Calculations.

HVAC Piping

- Basics of HVAC.
- Components used in HVAC.
- Cooling Load Calculations.
- Duct Sizing.
- Ventilation Design.

Soft Skill

- Resume Writing
- Group Discussion
- Interview
- Apitude Test

Piping Insulation & Piping Painting

- Types of Insulation.
- Insulation Material.
- Requirement of Painting and Insulation piping.
- Painting requirement & Applications.

Softwares We Teach

Auto CAD 2D & 3D

- Basic Commands.
- P&ID Diagram.
- Equipment layout.
- Piping Plan and General Arrangement Drawings.
- Piping Layout.

➢ CAESAR – II 5.1

(New Full Fledge Commercial Licensed Version)

- Basic Inputting.
- Modeling of Piping & Equipment.
- Wind, Snow and Seismic Factors.
- Supports and their Considerations in CAESAR.
- Different Load cases.
- Qualifying the System for Stresses.
- Reading Output.
- Standard Thumb Rule for Analysis.
- Report generation & Documentation.
- Final Document for IFC.
- Small Projects and Exercises.

➢ Smart Plant - 3D

(New Full Fledged Commercial Licensed Version)

- Grids.
- Structure.
- Equipment.
- Piping Drawing.
- P&Id layout.
- Piping Reports.

Boiler Experimental Setup Study

One Day Industrial Training On Piping Engineering at RCF, Chembur (with certificate)