

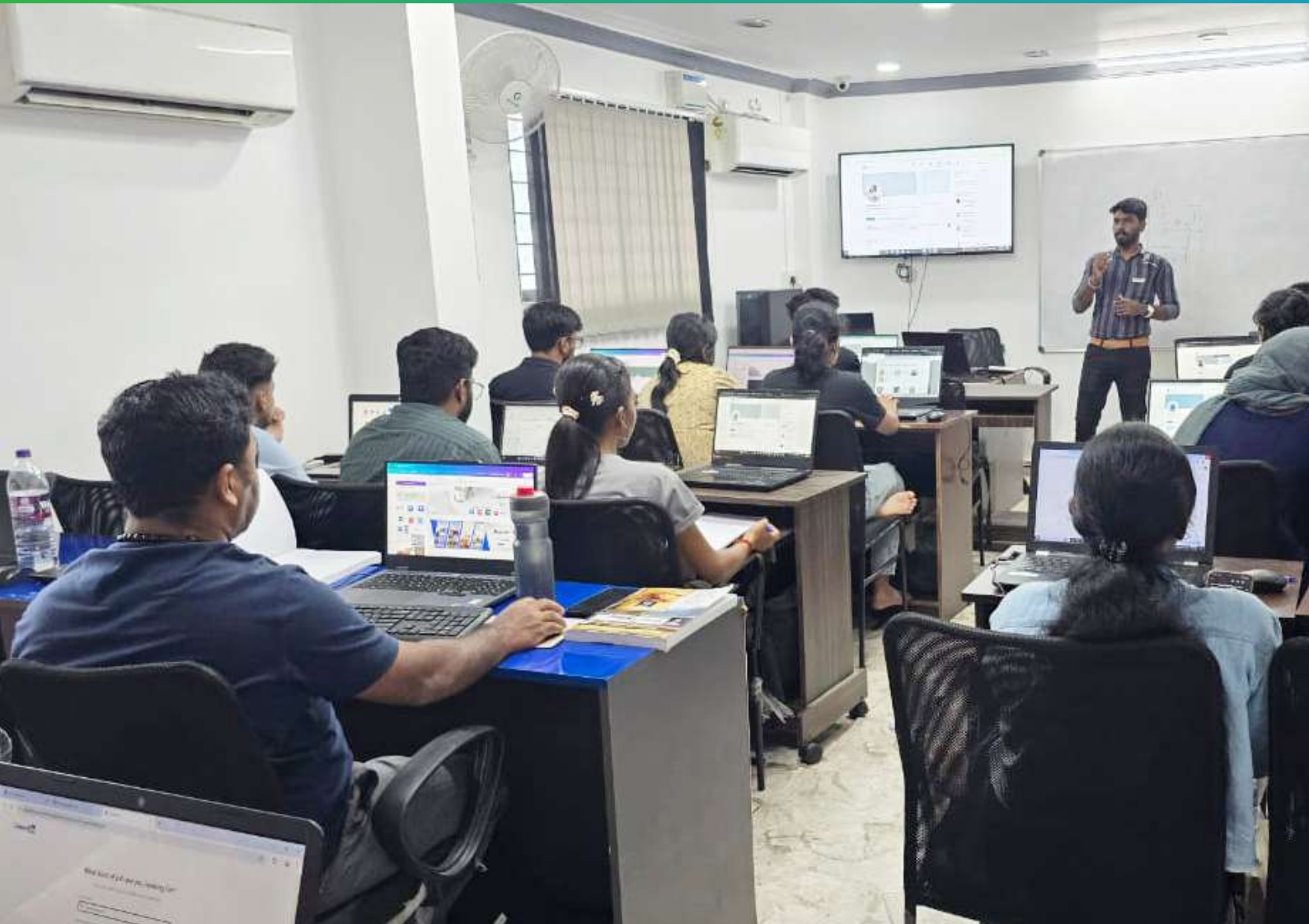
**EXCLUSIVE
MEP
TRAINING
INSTITUTE**



MAVEN
CENTRE OF EXCELLENCE
Igniting Minds, Inspiring Growth.

www.mavencoe.com

Transforming
ENGINEERS
Into Industry-Ready Professionals



ACE INDIATM

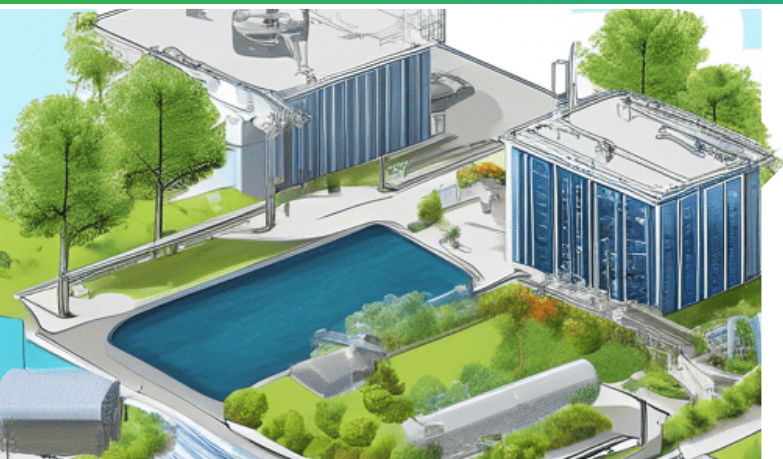
Training & Services PVT LTD.

An ISO 9001 : 2015 Certified Concern

Affiliated to All India Technical Education Society

www.theaceindia.com

The Growing Relevance Of MEP Engineering



Building Cities from the Inside Out

Every building works because of MEP. Water flows, lights switch on, air circulates, and systems protect lives. As cities expand and old buildings are upgraded, MEP engineers help make healthy and effective systems.

A Career with Multiple Directions & Long-Term Growth

MEP does not lock engineers into a single path. One can grow from design or site roles into project leadership, specialist consulting, cost engineering, sales, or business management. As buildings, cities, and systems scale up, MEP careers expand in responsibility, influence, and opportunity.



Simple to Enter — Deep Enough to Master

MEP welcomes hands-on problem solvers, visual planners, and detail-driven professionals, alongside technical analysers. Whether you visualise systems, execute on site, analyse numbers, coordinate, or dive into advanced design, MEP lets you grow.

Environment-Conscious, Future-Ready Systems

Modern buildings are judged by how efficiently they run. MEP engineers help design and execute systems that waste less energy and water while staying reliable. Today's choices affect a building's performance for decades.



Market Value (Current)

Global MEP / building services market:
₹120–160 lakh crore
(≈ USD 1.5–2 trillion)

Future Scope

Expected to cross **₹200 lakh crore+** over the next 15–20 years, driven by urbanization, infrastructure renewal and energy efficient buildings. MEP supports tens of millions of jobs globally, with strong long-term demand.



Vision

Our vision is to pave a path as an industry-leading career and knowledge Centre of Excellence that transforms lives by cultivating highly skilled engineers, and fostering a strong, collaborative alumni community for continuous knowledge sharing.



Mission

There is a significant skill and knowledge gap in the MEP industry. We aim to bridge this gap by empowering the next generation of engineers with strong fundamentals and practical, job-ready skills.

What sets us apart



Expert Faculty

Training delivered by our faculty who are experienced MEP engineers and academicians, who undergo continuous professional upskilling.



Industry-Driven Learning

Strong foundation in engineering fundamentals and practical skills, taught through real projects from India and the Middle East and relevant site visits.



Customized Programs

Tailor-made corporate and group training with structured classrooms and individual attention.



Proven Framework

Well-established course structure and lifelong support backed by the Ace India Franchise.



Strong Alumni Network

Rich co-ordinated MEP alumni community for ongoing knowledge and opportunity sharing.



Career Support

Robust industry connections with reputed clientele, guaranteed interviews, career guidance, and workplace-readiness training in communication and resume building.



100 Days to a Great Career

Comprehensive MEP Engineering program in 100 days. Focused training that bridges engineering fundamentals with practical site and design exposure.

HVAC Systems Syllabus

- Applications of HVAC&R–Heating Ventilation, Airconditioning & Refrigeration Systems
- Mechanical Engineering fundamentals refresher- Thermodynamics, Heat transfer, Units and Conversions, Fluid flow, pumps. One ton of refrigeration, British thermal units
- Psychrometric analysis
- Vapour Compression Refrigeration Cycle
- Compressors, Condensers, Evaporators, Expansion Valves
- Classification of Air conditioning systems –Unitary/Centralized –
- Ductable splits, Packaged AC, DOAS
- Heat recovery wheels, run around heat pipe
- Chillers – Air cooled and Water cooled
- Chilled Water system
- VRF System
- Heat Load Calculations
- Carrier E20 form & Carrier Hourly Analysis Program
- Air loops- CAV, VAV
- Water loops- Variable rate, constant rate
- Selecting the optimal HVAC system
- Duct design and calculations- Pipe design and calculations
- Fans selection and pumps selection
- BMS System Basics
- AutoCad design and drafting of HVAC system
- Quantity Survey, BOQ, Tender docs



IMPORTANT HVAC FORMULAE

1. Sensible Heat Formula

$$Q_s = 1.08 \times \text{CFM} \times \Delta T$$

(ΔT = Temperature difference in °F)

2. Latent Heat Formula

$$Q_l = 0.68 \times \text{CFM} \times \Delta W$$

(ΔW = Change in humidity ratio)

3. Total Heat (Enthalpy Method)

$$Q_t = 4.5 \times \text{CFM} \times \Delta h$$

(Δh = Change in enthalpy in BTU/lb)

4. Air Changes per Hour (ACH)

$$\text{ACH} = \frac{\text{CFM} \times 60}{\text{Room Volume}}$$

5. Fan Power (kW)

$$\text{Power} = \text{CFM} \times \text{Pressure} \times 0.0001117$$

6. COP (Coefficient of Performance)

$$\text{COP} = \frac{\text{Cooling Output (kW)}}{\text{Power Input (kW)}}$$

7. Specific Volume of Air

$$v = \frac{1}{p}$$

(v = Specific volume, p = Air density in lb/ft³)

8. Velocity of Airflow

$$V = \frac{Q}{A}$$

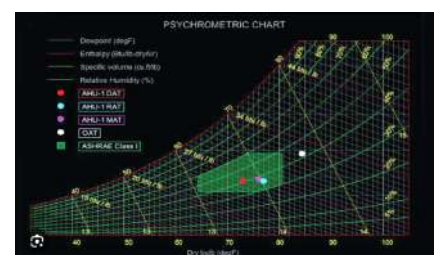
(V = Velocity in ft/min, Q = Flow rate in CFM, A = Area in ft²)

10. Psychrometric Relationship

$$h = 0.24 \times T + W$$

$$(1061 + 0.444 \times T)$$

h = Enthalpy in BTU/lb
 T = Dry bulb temp in °F



Codes and Standards

ISHRAE, ASHRAE, SMACNA, NBC, IGBC, UAE Codes etc

Project

Design training on real projects.

Duration

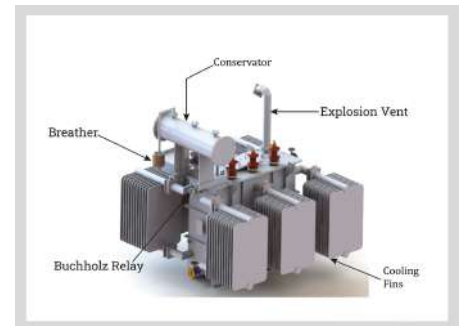
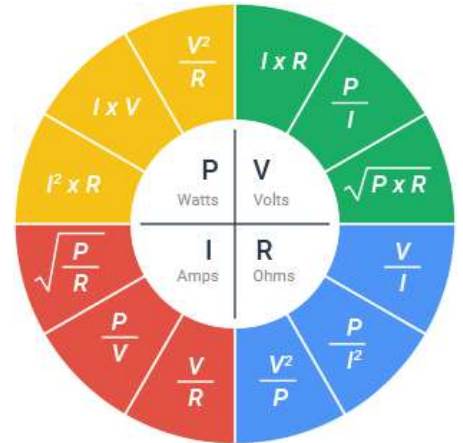
1 month 2 weeks, half day sessions

Software

Carrier Psychrometric Chart, Carrier Hourly Analysis Program, McQuay duct sizer, Pipe sizer, ASHRAE Duct fitting database, AutoCAD

Electrical Systems Syllabus

- Fundamentals of Electrical Engineering refresher- Ohms law, Power generation and distribution, AC & DC current, Wattage, Work, power & energy, Synchronous Motors, Power factor, 3 phase AC
- Electrical codes & regulations
- Applications and selection of Switches, relays, breakers
- Selection of wires and cables
- Selection of busbar
- Selection of transformers, generators
- Power distribution systems in buildings
- Auto Mains Failure Panel
- Ring Main Unit
- Lighting and power circuits
- Demand calculations
- Load distribution schedule and load balancing calculations
- Voltage drop and fault level calculation
- Panel Board types and layout
- Earthing systems selection and sizing
- Lightning protection selection and sizing
- Diesel generator selection and sizing
- Lux level calculation, Lighting system design
- ELV Systems- CCTV, Fire Detection and Alarm system
- Autocad design and drafting of Electrical system
- Quantity survey, BOQ, Tender docs



Codes and Standards IEC, IEEE, IS, NEC, UAE Codes etc.

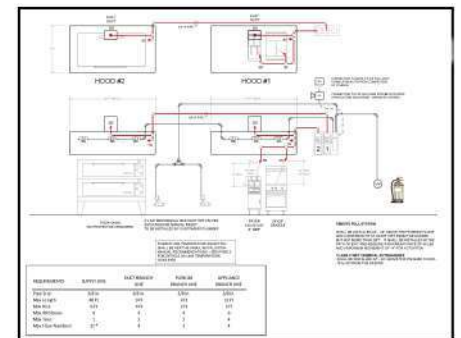
Project Design training on real projects.

Duration 1 month 2 weeks, half day sessions

Software DIALux, E-TAP, AutoCAD

Fire Fighting Systems Syllabus

- Mechanical Engineering fundamentals refresher- Properties of water, Units and Conversions, work-energy-power, Fluid flow, Pumps, Pump laws..
- Fire and Life Safety Systems
- Active and Passive Systems
- Fire Detection & Alarm System
- Life Safety systems- Stairwell pressurization systems, Smoke ventilation, Temporary refuge shelter
- Types of Fires and Fire Extinguishers
- Hazard Classification of Occupancies
- Storage classifications
- Fire systems Codes & regulations
- Water based fire suppression systems
- Design of Sprinkler systems
- Pipe schedule method, Density/Area method
- Room design method
- Special design approaches
- Hydraulic Analysis
- AutoCad design and drafting of Fire suppression systems
- Quantity survey, BOQ, tender docs



Codes and Standards NFPA, NBC, ISO, UAE FLS Codes etc

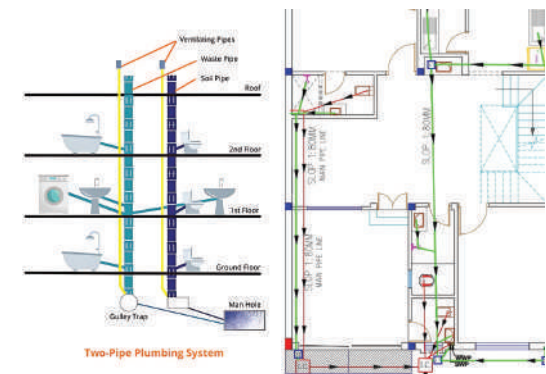
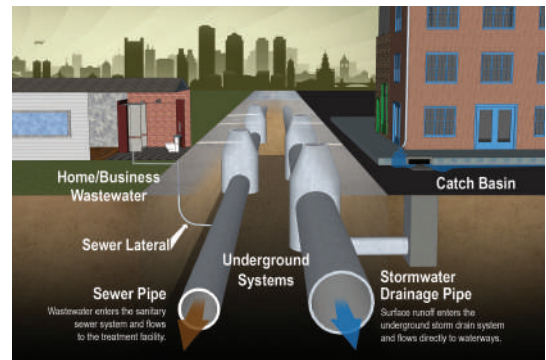
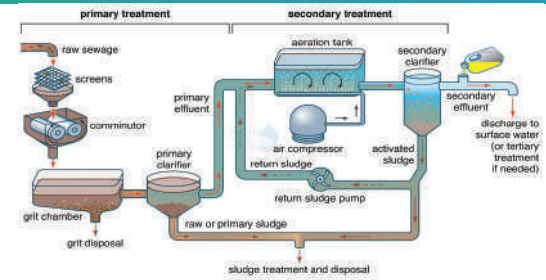
Project Design training on real projects.

Duration 3 weeks, half day sessions

Software AutoCAD

Public Health Engineering (Plumbing) Systems Syllabus

- Mechanical Engineering fundamentals refresher- Properties of water, Units and Conversions, Work-energy-power, Fluid flow, Pumps, Pump laws..
- Piping systems- Cold and Hot water Supply Systems
- Pipe fittings, pipe joining methods, Valves
- Water purification
- Plumbing fixtures- Kitchen sink, basins, Water closet, bidets, Bath tubs, Shower heads
- Water heaters selection
- Water distribution systems selection and sizing
- Water demand calculation using Hunter Curves
- Pipe sizing Methods – Velocity limitation method, Pressure drop charts
- Sizing of water supply system for high-rise buildings
- Sewage Systems design
- Estimation of fixture units
- Storm water management system
- Sewage treatment plants- selection
- Quantity Survey, BOQ, Tender doc
- Autocad design and drafting of Plumbing system



Codes and Standards IPC, UPC, NBC, CPHEEO, ASME, UAE Codes etc

Project Design training on real projects.

Duration 3 weeks, half day sessions

Software McQuay, AutoCAD

Our Alumni



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About ACE India

Founded in 2007, Ace India has rapidly grown into the go-to MEP training provider since 2015. Ace India has launched thousands of successful MEP careers in India and abroad. Building on this legacy, we proudly present our MEP course, driven by years of industry-aligned training excellence.



About Maven Group

Founded in 2018 and headquartered in Qatar, Maven Group is a leading HVAC equipment solutions provider with a strong presence in India, Bahrain, and the UAE—bringing real-world industry expertise into the program.

Call us at

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Let's find out which path suits you best



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