

HVAC

A specialized engineering course covering Heating, Ventilation, and Air Conditioning (HVAC) design, psychrometric analysis, heat load estimation, duct sizing, chilled water systems, and HVAC drafting.

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|---------------------------|---------------------------------------------|---------------------------------------|---------------------------------|
| Duration<br>3 to 4 Months | Training Mode<br>Offline Classroom Training | Certification<br>Industry Certificate | Practical Labs<br>100% Hands-on |
|---------------------------|---------------------------------------------|---------------------------------------|---------------------------------|

Tools & Tech: AutoCAD • HAP (Hourly Analysis Program) • McQuay Ductsize • Duct Simulator • Excel HVAC Calculators

Detailed Course Curriculum & Modules

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| <b>MODULE 01   HVAC Fundamentals &amp; Thermodynamics</b> <ul style="list-style-type: none"><li>Basics of Air Conditioning &amp; Refrigeration Cycle</li><li>Psychrometric Chart Analysis &amp; Air Processes</li><li>Indoor Air Quality (IAQ) &amp; ASHRAE Standards</li><li>Comfort Zone &amp; Design Temperatures</li></ul> | <b>MODULE 02   Heat Load Estimation</b> <ul style="list-style-type: none"><li>Heat Gain Calculations for Residential &amp; Commercial</li><li>E-20 Manual Load Estimation Sheets</li><li>Hourly Analysis Program (HAP) Software Setup</li><li>Building Envelope &amp; Solar Heat Load Factors</li></ul>   |
| <b>MODULE 03   Air Distribution &amp; Duct Design</b> <ul style="list-style-type: none"><li>Types of Ducting Systems &amp; Sheet Metal Specs</li><li>Equal Friction &amp; Static Regain Methods</li><li>McQuay &amp; ASHRAE Duct Sizing Tools</li><li>Air Terminals: Diffusers, Grilles &amp; Dampers Selection</li></ul>      | <b>MODULE 04   Chilled Water &amp; VRF/VRV Systems</b> <ul style="list-style-type: none"><li>Air-Cooled &amp; Water-Cooled Chillers</li><li>Air Handling Units (AHU) &amp; Fan Coil Units (FCU)</li><li>Primary &amp; Secondary Chilled Water Pumping</li><li>VRF/VRV Multi-Split System Design</li></ul> |
| <b>MODULE 05   HVAC Drafting &amp; Shop Drawings</b> <ul style="list-style-type: none"><li>AutoCAD HVAC Duct Routing &amp; Layout Drafting</li><li>Chilled Water Pipe Routing &amp; Section Details</li><li>Equipment Layouts &amp; Plant Room Detailing</li><li>BOQ Estimation &amp; Project Drafting</li></ul>               | <b>MODULE 06   Practical HVAC Projects</b> <ul style="list-style-type: none"><li>Commercial Office HVAC Load &amp; Ducting Project</li><li>Hospital Cleanroom &amp; Chilled Water Layout</li><li>Shopping Mall HVAC BOQ &amp; Equipment Selection</li></ul>                                               |

Practical Projects & Industry Capstones

- Industry Capstone Project
- Real World Case Studies

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| ■ Industry Certification<br>Authorized certificate verified globally via online portal. | ■ 100% Placement Support<br>Resume review, mock interviews, and recruiter connections. | ■ Lab Access & Mentorship<br>Dedicated workstation lab hours with expert guidance. |
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