



HVAC System Design and Code Compliance

This course provides in-depth instruction on HVAC system design principles, focusing on code compliance, load calculations, and the latest updates to HVAC design standards. This course is tailored for professionals in the HVAC field looking to enhance their understanding of design methodologies and the technical requirements for HVAC installations.

Participants will gain insight into the latest residential HVAC code requirements, including Manual J, Manual D, and Manual S, as well as how to apply these standards to ensure energy-efficient and code-compliant HVAC systems. The course covers a wide range of topics including:

- **HVAC Design Methodologies:** Understanding and applying the principles of load calculations and proper equipment sizing using Manual J for heat loss and gain calculations.
- **Code Compliance:** Analyzing IRC and ACCA standards, with a focus on M1401.3 and its impact on HVAC load calculations and equipment sizing.
- **Recent Code Changes:** A review of new code amendments, such as updates to refrigerant piping and mechanical ventilation rates, and how they affect system design.
- **Advanced Design Tools and Techniques:** Using software tools for load estimation and system design, and understanding the importance of accurate data input to avoid common pitfalls.
- **Practical HVAC Design Considerations:** Practical advice on managing system design, such as duct sizing, equipment selection, and avoiding issues with mechanical plan approval processes.

- **System Performance & Troubleshooting:** An overview of HVAC system performance, including heat transfer methods, dual fuel systems, heat pump operations, and proper system sizing for residential homes.
- **Current Industry Issues:** Updates on new refrigerants, exhaust fan requirements, dryer venting regulations, and more.

Through lectures, real-world examples, and discussions on current HVAC trends, this course will equip professionals with the knowledge and tools necessary to excel in HVAC system design and remain compliant with the latest regulations.