



Pre-Apprenticeship Course Course Content Outline

Module 1 – Introduction to the Trades

- Demand for workers
- Average salaries (based on Bureau of Labor Statistics web data)
- Career ladder
- What plumbing and HVAC technicians do
- Work environment
- Educational requirements for entering the trades
- Licenses and certifications
- Essential skills (business skills, customer service skills, mechanical skills, physical strength, troubleshooting skills, time management skills)
- Job outlook
- History of the trades

Module 2 – Soft Skills

- Appearance
- Communication skills
- Teamwork skills
- Time management skills
- Problem-solving/troubleshooting skills
- Negotiation skills
- Work ethic
- Employer expectations

Module 3 – Basic Math for Plumbing and HVAC

- Integers
- Labeling
- Fractions
- Mixed numbers
- Decimals
- Changing feet and inches to decimals
- Scale rulers

Module 4 – Tools

- Hand tools used in plumbing and HVAC
- Common power tools

Module 5 – Safety

- Hand and power tool safety
- General jobsite safety
- Fire prevention
- Personal protective equipment (PPE)
- Material handling
- Excavation safety
- Electrical safety
- Lockout/tagout
- Ladder safety
- Scaffolding safety
- Motor vehicles and heavy equipment safety

Module 6 – Introduction to Construction Drawings (Plumbing)

- Scale rulers
- CAD drawing
- Product (mechanical) drawings
- Construction (architectural) plans
- Plumbing symbols
- Drawing projections

Module 6 – Introduction to Construction Drawings (HVAC)

- Scale rulers
- CAD drawing
- Electrical symbols
- Schematic diagrams
- Pictorial diagrams
- Point-to-point diagrams