



Mechanical/HVAC Fundamentals

Youth Apprenticeship

MECHANICAL/HVAC FUNDAMENTALS

Mechanical/Heating, Ventilation, and Air Conditioning (HVAC) Fundamentals youth apprentices gain skills related to the use of construction safety, drawings and blueprints, materials, tools, and general worksite procedures. Apprentices must adhere to industry safety and security standards.

Length of Apprenticeship: One or two years

OCCUPATIONAL COMPETENCIES

Year 1: Mechanical/HVAC Fundamentals youth apprentices must complete a **total of fifteen** Mechanical/HVAC Fundamentals Competencies and a minimum of **1** Mechanical/HVAC Specialty Competency. Employers can substitute **1** competency with another occupationally appropriate skill. That skill should be added to the competency list for assessment. Year 1 competencies are completed with employer guidance.

Youth Apprentices must also complete the following during Year 1:

- First Aid Certification
- Occupational Safety and Health Administration (OSHA) 10 or 30 Certification

Year 2: Mechanical/HVAC Fundamentals youth apprentices must complete the **fifteen** Mechanical/HVAC Fundamentals Competencies with minimal supervision and a minimum of **1** different Mechanical/HVAC Specialty Competencies than the first year. A specialty competency may be repeated only if the type of construction (residential or commercial) differs from the first year. Employers can substitute **1** competency with another occupationally appropriate skill. That skill should be added to the competency list for assessment. Year 2 competencies are completed with minimal employer guidance.

Select construction type and circle the applicable year:

- Residential completed during Year: One and/or Two
- Commercial completed during Year: One and/or Two

Note that where necessary, skills can be simulated.

Mechanical/HVAC Fundamentals Competencies	Mechanical/HVAC Specialty Competencies
<ol style="list-style-type: none">1. Follow safety procedures2. Read construction drawings and plans3. Interpret symbols and procedures4. Contribute to a job task plan5. Work as a member of a construction team6. Prepare work area for construction7. Select construction materials8. Use hand and light duty tools9. Use power tools and equipment10. Perform materials handling11. Install materials per job specifications12. Perform construction measurements13. Maintain a clean and safe work area14. Clean up job site15. Practice quality craftsmanship	<ol style="list-style-type: none">16. Assist with basic equipment problem identification and diagnosis for heating and cooling systems17. Assist with basic equipment repair for air conditioning systems18. Assist with set up and fabrication of metals19. Assist with the installation of fabricated parts

APPRENTICESHIP BRIDGING OPPORTUNITIES

Some of the related instruction courses can bridge into the following registered apprenticeship:

- Environmental Systems Technician and MECHANICAL/HVAC Installer-Technician
- Sheet Metal Worker-Commercial
- Sheet Metal Worker-Residential

POST-SECONDARY PATHWAY OPPORTUNITIES

There are several post-secondary pathway opportunities in this area. The following is a partial list.

- HVAC-R Technician