

HEATING / VENTILATION / AIR CONDITIONING

# HVAC CAREER PATHWAY

**General Maintenance & Repair Workers • Installation, Maintenance & Repair Workers • Heating, Air Conditioning & Refrigeration Mechanics & Installers • Electricians • Plumbers, Pipefitters & Steamfitters • Electrical & Electronics Installers & Repairers, Transportation Equipment • Electrical Power-Line Installers & Repairers**

| | CAREER TECHNICAL COURSE NAME & SUBJECT CODE | RECOMMENDED ACADEMICS |
|---|---|---|
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | Mechanical, Electrical & Plumbing Systems<br>Residential Electrical Systems<br>Heating & Cooling Systems | |
| 12 | HVAC Refrigeration<br>Construction Capstone | |

## INDUSTRY CREDENTIAL OPPORTUNITIES

- North American Technician Excellence - HVAC Support Technician - **12 Points**
- Environmental Protection Agency (EPA) Refrigerant Recovery Universal - **12 Points**
- CPR First Aid - **1 Point**
- OSHA - 10-Hour Training* - **1 Point**
  (College Credit - CTS001 - 1 Credit Hour)
- Lean Six Sigma Yellow Belt - **3 Points**
- Lean Six Sigma Green Belt - **6 Points**
- Leadership Excellence - Student - **3 Points**
- Ohio Driver's License - **1 Point**

## POSTSECONDARY OPPORTUNITIES

*Indicates statewide articulated credit. Please reference course descriptions for semester hours and agreement number on the postsecondary articulated credits. Additional college credit may be available through bi-lateral agreements. Please see a school counselor for details on available bi-lateral agreements.

| BHCC ADULT EDUCATION | HOURS |
|---|---|
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## POTENTIAL PLACEMENT & INCOME –

**May 2025 State Occupational Employment and Wage Estimates for Ohio*

| | |
|---|---|
| Installation, Maintenance & Repair Workers | **$50,670** |
| General Maintenance & Repair Workers | **$54,760** |
| Heating, Air Conditioning & Refrigeration Mechanics & Installers | **$66,000** |
| Electricians | **$68,840** |
| Plumbers, Pipefitters & Steamfitters | **$69,700** |
| Electrical & Electronics Installers & Repairers Transportation Equipment | **$72,790** |
| Electrical Power-Line Installers & Repairers | **$88,330** |

BUCKEYE HILLS CAREER CENTER

***v20261109***

# HEATING VENTILATION AIR CONDITIONING PATHWAY

SUBJECT CODE **178002**

**11th GRADE**

## MECHANICAL, ELECTRICAL & PLUMBING SYSTEMS

Students learn physical principles and fundamental skills across mechanical systems in construction. Students will select materials, assemble, and test basic electrical circuits. Students will select materials and assemble simple copper and plastic plumbing applications for both supply and drains. They will perform simple maintenance of electric motors, electric fixtures, and plumbing fixtures. Students will be able to select and install basic ductwork components and learn the operation and maintenance of heating and cooling equipment.

SUBJECT CODE **178008**

**11th GRADE**

## RESIDENTIAL ELECTRICAL SYSTEMS

This course will emphasize electrical theory, materials, equipment and general methods used in residential construction. Students will navigate the National Electrical Code, learn worksite safety and understand licensing and permitting requirements. They will interpret plans and job specifications and calculate loads and service requirements. Students will install, test and repair receptacle outlet, lighting and small appliance circuits. They will understand circuit protection concepts and install a subpanel. Specialty circuit installation will be addressed.

SUBJECT CODE **178012**

**11th GRADE**

## HEATING & COOLING SYSTEMS

Students will apply principles of heating and cooling to the installation, troubleshooting, and maintenance of residential and commercial Heating, Ventilation, and air conditioning/Refrigeration(HVAC/R) Systems.

SUBJECT CODE **178013**

**12th GRADE**

## HVAC REFRIGERATION

Students will install, troubleshoot, and service residential and commercial refrigeration systems. Students will learn the laws of thermodynamics, pressure and temperature relationships, the refrigeration cycle, and refrigerant management. Students will address hydronic systems, chilled water systems, package units, and cooling towers.

SUBJECT CODE **178029**

**12th GRADE**

## CONSTRUCTION CAPSTONE

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in Construction programs in a more comprehensive and authentic way. Capstones often include project/problem-based learning opportunities that occur both in and away from school. Under supervision of the school and through community ]partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

Buckeye Hills Career Center | 351 Buckeye Hills Road | Rio Grande, OH 45674 | 740.245.5334 | buckeyehills.net

Career-technical education does not discriminate on the basis of race, color, national origin, sex, disability, or age for participation in any program or activity. Lack of English language proficiency will not be a barrier to admission and participation in career-technical education programs or courses.