

# Carroll County Career & Technology Center



The HVAC Program includes instruction in air conditioning, refrigeration, heating, and sheet metal. The air conditioning and refrigeration component includes instruction in sizing, layout, installation, and maintenance of oil, gas, electric, and heat pump forced air heating systems. Also, the students study residential type air conditioning and light commercial refrigeration. Repair of old systems is also covered. The students are instructed on work layouts, reading blueprints and drawings. The sheet metal component includes instruction on cutting and assembling ductwork.

## Major Units of Study

Basic commercial refrigeration  
Basic electricity  
Blueprint reading  
Compressors  
Electric motors  
Electronic air-cleaning  
Energy management systems  
Equipment installation  
Heat Pumps  
Layout, & installation  
Refrigerant Recovery  
Sheet metal layout and design

## Related Careers

Licensed Air -Conditioning Refrigeration Specialist  
Licensed Air-Conditioning Specialist  
Licensed Plumber  
Oil Burner Mechanic  
Pipe Fitter  
Plumbing Inspector  
Sheet Metal Worker  
Steam Fitter

## Post-Secondary

- Apprentice Programs
- Articulated with the Associated Builders & Contractors, Inc. apprenticeship program
- Articulated with the Community College of Baltimore County
- Colleges
- Military Services
- On-the-job Training
- Technical Schools



## Certifications

- Refrigerant Recovery

Visit the Carroll County Career and Technology Center website:  
<http://www.carrollk12.org/ctc/>

## COMPLETER: *Heating, Ventilation, Air Conditioning* CREDITS: 6

- Guideline for Course Selections
- Refer to Graduation Requirements in the Program of Studies for specific course requirements in each content area

Grade →	9	10	11	12
Exact scheduling depends on student's plan and school's master schedule.	English 9 (1)	English 10 (1)	English 11 (1)	English 12 (1)
	US Government (1)	US History (1)	World History (1)	
	Conceptual Physics (1)	Chemistry (1)	Biology (1)	
	Algebra I / Data Analysis (1)	Intermediate Algebra / Data Analysis (1)	Geometry (1)	Algebra II / Data Analysis (1)
	PE (.5) / Health (.5)		PE (.5) / Financial Literacy (.5)	
	Fine Arts (1)	Foundations of Technology (1)		
	World Language (1)	World Language (1)		
<b>Completer Program Requirements</b>			HVAC I (3)	HVAC II (3)
<b>Career Specific Electives</b> (may be taken any year offered after prerequisites have been satisfied)	Advanced Design Applications (1), Technological Design (1), Math Elective beyond Alg. II/DA (.5-1), Business Communications & Keyboarding (1), Public Speaking (.5), Technological Issues & Impacts (1), Work-Based Learning Experience (.5-1)			
8 credits possible per year				
<b>Value Added:</b> <b>From:</b> <b>Program:</b>	6 Articulated Credits Community College of Baltimore County, Catonsville Construction Technology	6 Articulated Credits University of Northwestern Ohio Commercial HVAC & Refrigeration		Up to 1 year toward Apprenticeship Associate Builders and Contractors
<b>End of Program Test:</b> <b>Industry:</b> <b>Taken:</b>	NCCT Academic Core v2 National Center for Construction Education and Research (NCCER) At the end of HVAC I		NCCT Academic HVAC National Center for Construction Education and Research (NCCER) At the end of HVAC II	

### ADA STATEMENT

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