

**COLLEGE:** Elgin Community College-Tech Prep PCCS  
**HIGH SCHOOL(S):** District U-46-- Bartlett HS, Elgin HS, Larkin HS  
 South Elgin HS, Streamwood HS

**CLUSTER:** Architecture & Construction  
**PATHWAY:** Construction  
**PROGRAM:** Heating, Ventilation, Air Conditioning & Refrigeration



SECONDARY	GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	Physical Education	HIGH SCHOOL ACADEMIC & CAREER/TECHNICAL ELECTIVES		
	9	Regular or honors English	Regular or honors Algebra 1 or higher math	Regular or honors Biology		PE/Health	Foreign Language		
	10	Regular or honors English	Regular or honors Geometry or higher math	Regular or honors Chemistry		PE / Drivers Ed.	Foreign Language		TE614GE 1/2: Metals Technology (AC: HAC 109)
	11	Regular, honors, or AP English	Regular or honors Algebra 2 or higher math	Regular or honors Physics or AP Science	Standard or Honors U.S. History or American Studies or AP U.S. History	PE			
	12	Regular, honors, or AP English, including a writing course	Regular Pre-calculus/Trig, honors Pre-calc, or AP math			PE			

Entering college freshmen must show English, reading, and mathematics competency. College Ready English, reading, and mathematics competency levels at Elgin Community College: Enrolling students must show ACT English subtest score of 20, a reading subtest score of 22, and a mathematics subtest score of 23, or they must receive an appropriate test score on ECC's placement tests.

POSTSECONDARY	ECC Required and Elective Heating, Ventilation, Air Conditioning & Refrigeration AAS Degree Courses						Things to Consider	
	Year 1 1st Semester	HAC 101: Air Conditioning & Refrigeration I and HAC 103: Basic Heating Gas/Oil	HAC 115: Blueprint Reading for Heating & Air Conditioning	HAC 114: Basic Electricity and HVACR Controls	HAC 119: Refrigerant Recovery Certification	IMT 107: Technical Math I (or MTH 107)	<i>This Program of Study document provides general college and career course suggestions. Students should work with high school counselors and college staff to make course selections.</i>	<b>Occupations Related to This Program of Study</b> HVAC Installer HVAC Mechanic HVAC Specialist HVAC Service Technician HVAC Technician Air Conditioning Technician Chiller Assembly Condensing Unit/Heat Exchanger Assembly Test Board Technician Sheet Metal
	Year 1 2nd Semester	HAC102: Air Conditioning & Refrigeration II	HAC 205: Commercial Air Conditioning	HAC 109: Basic Sheet Metal	HAC 110: Heat Pumps & Electrical Heat	HAC 104: HVACR Controls and WEL 101: Welding I		
	Year 1 Summer					WEL 101: Welding I		
	Year 2 1st Semester	HAC 106: Adv. Heating Hydronics/Steam	HAC 111: Commercial Sheet Metal	HAC 208: Load Calculations & Duct System Design	Required Social/Behavioral Science course	Required Communications course		
	Year 2 2nd Semester	HAC 207: Commercial Refrigeration and HAC 212: Pneumatic Controls	HAC 220: HVACR National Certification	Industrial Technology Elective	Liberal Education Requirement	Required Communications course		

**CCTI**  
 College and Career Transition Institute  
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**Basic Vocational Specialist in Heating AC & Refrigeration, Level I:** HAC 114, HAC 101, HAC 103, HAC 102, HAC 119;  
**Level 2:** HAC 115, HAC 114, HAC 101, HAC 103, HAC 109; **Vocational Specialist in Heating AC & Refrigeration Level III:** HAC 115, HAC 114, HAC 101, HAC 103, HAC 109, HAC 119, HAC 102, HAC 104, HAC 205, HAC 110, WEL 101, HAC 111, HAC 220 (HVACR National Certification); **Vocational Specialist in Sheet Metal Mechanics:** HAC 114, HAC 109, WEL 101, HAC 115, HAC 116, HAC 104, HAC 111, HAC 117, HAC 208, HAC 118, WEL 102

**Credit-Based Transition Programs: "AC:" = Articulated Credit (High school courses linked for ECC college credit eligibility.)**

**Credit-Based Transition Programs: Dual Credit (Elgin Community College courses available to high school seniors.)**

**Mandatory Assessments, Advising, and Additional Preparation**

## Elgin Community College Catalog:

For further information regarding Automotive at Elgin Community College visit this website:

<http://www.elgin.edu/HVAC>

## ACT WorkKeys Job Skill Statements Useful in this Career Field

(Based on WorkKeys Assessments, a product of ACT, Inc. More information available at: [www.act.org/workkeys](http://www.act.org/workkeys).)

<p><b>Applied Mathematics</b></p> <p>Problems require several steps of logic and calculation (e.g., problem may involve completing an order form by totaling the order and then computing tax)</p>	<p><b>Skills</b></p> <p>Decide what information, calculations, or unit conversions to use to solve the problem            Look up a formula and perform single-step conversions within or between systems of measurement            Calculate using mixed units (e.g., 3.5 hours and 4 hours 30 minutes)            Divide negative numbers            Find the best deal using one- and two-step calculations and then comparing results            Calculate perimeters and areas of basic shapes (rectangles and circles)            Calculate percent discounts or markups</p>
<p><b>Locating Information</b></p> <p>Complicated workplace graphics, such as detailed forms, tables, graphs, diagrams, maps, or instrument gauges            Graphics may have less common formats            One or more graphics are used at a time</p>	<p><b>Skills</b></p> <p>Sort through distracting information            Summarize information from one or more detailed graphics            Identify trends shown in one or more detailed or complicated graphics            Compare information and trends from one or more complicated graphics</p>
<p><b>Reading for Information</b></p> <p>Reading materials include company policies, procedures, and notices            Reading materials are straightforward, but have longer sentences and contain a number of details            Reading materials use common words, but do have some harder words, too            Reading materials describe procedures that include several steps            When following the procedures, individuals must think about changing conditions that affect what they should do            Questions and answers are often paraphrased from the passage</p>	<p><b>Skills</b></p> <p>Identify important details that may not be clearly stated            Use the reading material to figure out the meaning of words that are not defined            Apply instructions with several steps to a situation that is the same as the situation in the reading materials            Choose what to do when changing conditions call for a different action (follow directions that include "if-then" statements)</p>

### Transfer Options to Illinois Universities:

[http://www.elgin.edu/catalogprograms/Programs.aspx?ProgramCode=UTA&ekmense1=c580fa7b\\_12\\_48\\_402\\_2](http://www.elgin.edu/catalogprograms/Programs.aspx?ProgramCode=UTA&ekmense1=c580fa7b_12_48_402_2)

### Career Exploration & Job Analysis - O\*Net-online:

<http://online.onetcenter.org/> Type in 49-9021.01 to see the summary report for: 49-9021.01 – Heating & Air Conditioning Mechanics & Installers

*Note: This information is funded by the Perkins (Partnership for College and Career Success) grant. No contractual rights, either expressed or implied are created by its contents, and it in no way constitutes a contract with the college.*