

PROGRAM REQUIREMENTS

www.cvtc.edu - 1-800-547-2882

START DATE(S): **August**, January

EFFECTIVE: **AUGUST 2011**

AIR CONDITIONING, HEATING, AND REFRIGERATION TECHNOLOGY: Program Outcomes

Associate Degree

August Start

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
First Semester				
601-110	Principles of Heating and Air Flow (T, L)	8	4	601-141 or concurrent
601-111	Principles of Refrigeration (L)	4	2	601-141 or concurrent
601-116	Principles of Air Conditioning (L)	4	2	601-141 or concurrent
601-141	Electricity-HVAC (L)	6	3	
601-115	Renewable Energies for HVAC	2	1	Program student
801-195	Written Communications (T)	3	3	(Prepared Learner Guide)
804-113	College Technical Math 1A (T)	3	3	834-110, (Prepared Learner Guide)
Total Semester Hrs./Week and Total Credits		30	18cr.	
Second Semester				
601-114	Plan and Print Reading-HVAC (L)	4	2	
601-130	Sheet Metal Layout (L)	2	1	
601-142	Schematic Wiring-HVAC (L)	4	2	601-141
601-161	HVAC Load Calculations & Psychometrics (L)	6	3	
601-151	Technical Problems-HVAC (L)	8	4	601-110, 601-111, 601-141
601-120	Geothermal/Solar Applications (L)	4	2	
804-114	College Technical Math 1B (T)	2	2	804-113
809-199	Psychology of Human Relations (T)	3	3	(Prepared Learner Guide)
Total Semester Hrs./Week and Total Credits		33	19 cr.	
Third Semester				
601-112	Principles of Air Handling (T, L)	6	4	601-110, 601-161
601-165	CAD-HVAC (L)	6	3	601-114 or concurrent
601-143	Advanced HVAC Controls (T, L)	4	3	601-141, 601-142
806-143	College Physics 1	4	3	(804-113, 804-114) or 804-115
809-195	Economics (T)	3	3	(Prepared Learner Guide)
Total Semester Hrs./Week and Total Credits		23	16 cr.	
Fourth Semester				
601-113	HVAC Systems Design (L)	6	3	601-112, 601-161, Co-requisite: 601-117
601-117	Drafting HVAC (L)	4	2	601-165, (601-113 or concurrent)
601-118	Sustainability for HVAC/R (L)	4	2	
601-119	Hydronic/Geothermal Systems Design (T, L)	6	3	
801-197	Technical Reporting (T)	3	3	801-195 with a minimum grade of C
809-197	Contemporary American Society (T)	3	3	(Prepared Learner Guide)
Total Semester Hrs./Week and Total Credits		26	16 cr.	

TOTAL CREDITS REQUIRED = 69

2.0 MINIMUM PROGRAM CUMULATIVE GPA REQUIRED FOR GRADUATION

If a student does not enroll in any courses at CVTC for two or more consecutive semesters, the student will be required to reapply with Admissions. Students must abide by any changes in admission requirements and degree requirements.

T = Theory L = Lab

PROGRAM REQUIREMENTS

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START DATE(S): August, January	EFFECTIVE: JANUARY 2012
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AIR CONDITIONING, HEATING, AND REFRIGERATION TECHNOLOGY: Program Outcomes

Associate Degree

January Start

Note: Five Semester Program

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
First Semester				
601-141	Electricity-HVAC (L)	6	3	<u>Must be taken as an evening course</u>
601-114	Plan and Print Reading-HVAC (L)	4	2	
601-161	HVAC Load Calculations	6	3	
601-130	Sheet Metal Layout (L)	2	1	
809-199	Psychology of Human Relations (T)	3	3	(Prepared Learner Guide)
Total Semester Hrs./Week and Total Credits		21	12 cr.	
Second Semester				
601-110	Principles of Heating (T, L)	8	4	601-141
601-111	Principles of Refrigeration (L)	4	2	601-141
804-113	College Technical Math 1A (T)	3	3	834-110, (Prepared Learner Guide)
601-116	Principles of Air Conditioning (L)	4	2	601-141
801-195	Written Communications (T)	3	3	(Prepared Learner Guide)
601-115	Renewable Energies for HVAC	2	1	Program student
Total Semester Hrs./Week and Total Credits		24	15 cr.	
Third Semester				
804-114	College Technical Math 1B (T)	2	2	804-113
601-151	Technical Problems-HVAC (L)	8	4	601-110, 601-111, 601-141
601-142	Schematic Wiring-HVAC (L)	4	2	601-141
601-120	Geothermal/Solar Applications (L)	4	2	
601-118	Sustainability for HVAC/R (L)	4	2	
601-119	Hydronic/Geothermal Systems Design (T, L)	6	3	
Total Semester Hrs./Week and Total Credits		28	15 cr.	
Fourth Semester				
806-143	College Physics 1	4	3	<u>(804-113 and 804-114) or 804-115</u>
601-112	Principles of Air Handling (T, L)	6	4	601-110, 601-161
601-143	Advanced HVAC Controls (T, L)	4	3	601-141, 601-142
809-195	Economics (T)	3	3	(Prepared Learner Guide)
601-165	CAD-HVAC (L)	6	3	601-114 or concurrent
Total Semester Hrs./Week and Total Credits		23	16 cr.	
Fifth Semester				
801-197	Technical Reporting (T)	3	3	801-195 with a minimum grade of C
601-113	HVAC Systems Design (L)	6	3	601-112, 601-161, Co-requisite: 601-117
601-117	Drafting HVAC (L)	4	2	601-165, Co-requisite: 601-113
809-197	Contemporary American Society (T)	3	3	(Prepared Learner Guide)
Total Semester Hrs./Week and Total Credits		16	11 cr.	

TOTAL CREDITS REQUIRED = 69

2.0 MINIMUM PROGRAM CUMULATIVE GPA REQUIRED FOR GRADUATION

Air Conditioning, Heating, and Refrigeration Technology Tips

Necessary Skills

- **Computer Skills**

To be successful in this program, you must be computer literate before entry. You must be familiar with a computer (i.e. you must have used the mouse, used a computer in some capacity). If you are not computer literate, Academic Services offers Basic Computer Literacy training free at many locations throughout the district.

- **Algebra Skills**

834-110 Elementary Algebra with Applications or one year of high school algebra or the equivalent is strongly recommended prior to taking any 601, 606, or 607 numbered courses. If your algebra skills need to be upgraded, we recommend going to Academic Services at a Chippewa Valley Technical College (CVTC) campus nearest you. Depending upon your assessment results, you will be advised to remediate your skills or enroll in 834-110. Students who need to remediate their algebra skills may not complete their program within two years.

Pre-program Status Students

Pre-program students have been accepted into a program and are taking courses before entry into the major core courses because the core courses are filled to capacity. Students may wish to begin the General Studies before entry into the major core courses (601 numbered). Air Conditioning pre-program students are not eligible for major core courses unless openings occur but may take any of these:

801-195 Written Communications

801-197 Technical Reporting (Prereq: 801-195)

804-113 College Technical Math 1A (see prepared learner guide for required score or prereq of 834-110)

804-114 College Technical Math 1B (Prereq: 804-113)

806-143 College Physics 1 (Prereq: 804-113 and 804-114 or 804-115)

809-195 Economics

809-197 Contemporary American Society

809-199 Psychology of Human Relations

By completing the above courses ahead of time, pre-program students can take a decreased credit load. If you need to carry 12 credits per semester for full-time status, plan carefully so you will have enough remaining credits to reach this goal once you begin your program.

Federal financial aid requirements say that students must complete their programs by the time 150% of the published credits have been attempted.

Competency Exams

Technicians who pass the Industry Competency exam offered by the **Air Conditioning Refrigeration Institute (ARI)** demonstrate that they have met and surpassed nationwide industry standards. Students should see their instructors for details. The fee for this exam is approximately \$30. The Air Conditioning, Heating and Refrigeration Technology program prepare students to take the **Environmental Protection Agency (EPA) 608 certification exam** for refrigerant recovery, recycling, and reclamation. The fee for this exam is approximately \$25.

Tool Set Purchase

You will be required to purchase an approved tool set that costs approximately \$600 through CVTC. These tools will be used throughout the program.

Transfer Credit

Go to the Transfer Information System at www.uwsa.edu/tis, to see what courses transfer to a public postsecondary institution in Wisconsin,

- Click on Credit Transfer Wizard
- Click on Course Wizard

You must contact the college you wish to attend to find out exactly what they expect and when you should seek admission. The Transfer Information System does not include private colleges or out-of-state institutions.

Financial Aid Consideration:

Some courses may not be eligible for financial aid. Courses must be part of a program to be eligible. A list of courses not eligible is located on www.cvtc.edu.