

HEATING, VENTILATION, AIR CONDITIONING/REFRIGERATION - ADVANCED

Diploma, 60 Credits



Trained and highly skilled personnel are in demand for the exciting new technological demands of the residential and commercial HVAC/R industry. Independent and critical thinking men and women instilled with troubleshooting and electrical control circuit skills are vital for the future installation and servicing of HVAC/R equipment. The HVAC/R program at SCC will prepare individuals for entry-level positions in the HVAC/R field. To participate in this program, one should have a strong mechanical aptitude, strong math skills and enjoy problem-solving. HVAC/R graduates are very much in demand because there is a shortage of qualified technicians.

NOTE: Below is the recommended course sequence for students who start in the **FALL**.

Semester One (Fall) – 16 Credits

Course ID	Course Name	Credits
HVAC2100	Refrigeration Theory	2
HVAC2340	Sheet Metal Ductwork Fabrication	3
HVAC2320	Gas Heat	3
HVAC2000	Electrical Circuits	2
HVAC2251	Brazing	2
HVAC2110	Refrigeration Controls	2
HVAC2120	Testing Refrigeration Systems	2

Semester Two (Spring) – 17 Credits

HVAC2240	Central Air Conditioning	2
HVAC2220	Commercial Ice Makers	3
HVAC2230	Commercial Alternative Systems	1
HVAC2301	Indoor Air Quality	1
Tech Elective*	Technical Electives	10

Summer – 4 Credits*

Tech Elective*	Technical Electives Internship Credits	4
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Semester Three (Fall) – 16 Credits

HVAC2310	Hydronic Heat	2
HVAC2010	IPH Motors & Auxiliary Controls	2
HVAC2325	Commercial Package Heat/Cool Units	2
HVAC2205	Coolers/Freezers Electrical Systems	3
HVAC2215	Coolers/Freezers Refrig. Diagnostic	3
Tech Elective*	Technical Electives	4

Semester Four (Spring) – 7 Credits*

LAS Credits*	MNTC Credits from 3 of 10 MNTC Goal Areas	6
Tech Elective*	Technical Electives	1

Program Core Competencies

Graduates of this program will be able to:

1. Test electrical circuits
2. Build or repair a refrigeration system
3. Conduct testing of different heating systems
4. Recover system refrigerants
5. Identify electrical, heating and refrigeration components

Offered on North Mankato Campus

Admission Dates: Fall & Spring Semesters

This program has an online option for one or more of its courses. Contact Advisor for online option availability. For more information, please visit www.online.southcentral.edu.

Program Advisors:

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***NOTE:** To earn this degree, students must complete **19 technical elective credits** (options listed in catalog), and **6 Liberal Arts & Sciences MNTC credits** from 2 of the 10 MNTC Goal Areas (combination of required and recommended). The sequence in which a student takes the required liberal arts& sciences (LAS) and technical education credits is determined by the student's schedule, goals and skills, as well as class availability. Prerequisites may be required for some courses. **Be sure to meet with a program advisor before starting.**



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Diploma, 60 Credits

Today's shortage of qualified technicians makes trained and highly skilled HVAC/R graduates very much in demand for the exciting new technological requirements of the residential and commercial HVAC/R industry. Independent and critical thinking men and women instilled with trouble-shooting and electrical control circuit skills are vital for the future installation and servicing of HVAC/R equipment. The HVAC/R program at SCC will prepare individuals for entry-level positions in the HVAC/R field. To participate in this program, one should have a strong mechanical aptitude, strong math skills and enjoy solving problems.

NOTE: Below is the recommended course sequence for students who start in the **SPRING**.

Semester One (Spring) – 16 Credits

Course ID	Course Name	Credits
HVAC2100	Refrigeration Theory	2
HVAC2340	Sheet Metal Ductwork Fabrication	3
HVAC2320	Gas Heat	3
HVAC2000	Electrical Circuits	2
HVAC2251	Brazing	2
HVAC2110	Refrigeration Controls	2
HVAC2120	Testing Refrigeration Systems	2

Summer – 4 Credits*

Tech Elective*	Technical Electives Internship Credits	2
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Semester Two (Fall) – 16 Credits

HVAC2310	Hydronic Heat	2
HVAC2010	IPH Motors & Auxiliary Controls	2
HVAC2205	Coolers/Freezers Electrical Systems	3
HVAC2215	Coolers/Freezers Refrig. Diagnostic	3
Tech Elective*	Technical Electives	6

Semester Three (Spring) – 17 Credits

HVAC2240	Central Air Conditioning	2
HVAC2220	Commercial Ice Makers	3
HVAC2230	Commercial Alternative Systems	1
HVAC2301	Indoor Air Quality	1
Tech Elective*	Technical Electives (up to 8)	8
HVAC2325	Commercial Package Heat/Cool Units	2

Semester Four (Fall) – 7 Credits*

LAS Credits*	MNTC Credits from 3 of 10 MNTC Goal Areas	6
Tech Elective*	Technical Electives	1

Program Core Competencies

Graduates of this program will be able to:

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