



# HEATING, VENTILATION, AIR CONDITIONING/REFRIGERATION

## Heating Certificate, 26 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 **FALL**.

### Semester One (Fall) – 13 Credits

| Course ID | Course Name                        | Credits |
|-----------|------------------------------------|---------|
| HVAC2000  | Electrical Circuits                | 2       |
| HVAC2010  | IPH Motors & Auxiliary Controls    | 2       |
| HVAC2310  | Hydronic Heat                      | 2       |
| HVAC2320  | Gas Heat                           | 3       |
| HVAC2510  | Advanced Heating lab 2 (Electives) | 2       |
| HVAC2251  | Brazing                            | 2       |

### Semester Two (Spring) – 8 Credits

|          |   |   |
|----------|---|---|
| HVAC2325 | Commercial Package Heat/Cool Units      | 2 |
| HVAC2301 | Indoor Air Quality                      | 1 |
| HVAC2340 | Sheet Metal Ductwork Fabrication        | 3 |
| HVAC2330 | Alternative Heating Systems (Electives) | 2 |

### Semester Three (Summer) – 5 Credits

|                |                                   |   |
|----------------|-----------------------------------|---|
| Tech Elective* | Technical Elective(s)/Internships | 5 |
|----------------|-----------------------------------|---|

**\*NOTE:** To earn this certificate, students must complete **9 technical elective credits** (options listed in catalog). The sequence in which a student takes the required 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.**

### 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](http://www.online.southcentral.edu).*

### Program Advisors:

#### Todd Huxford

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

### Semester One (Spring) – 10 Credits

| Course ID | Course Name                            | Credits |
|-----------|--|---------|
| HVAC2000  | Electrical Circuits                    | 2       |
| HVAC2325  | Commercial Package Heat/Cool Units     | 2       |
| HVAC2301  | Indoor Air Quality                     | 1       |
| HVAC2320  | Gas Heat                               | 3       |
| HVAC2330  | Alternative Heating Systems (elective) | 2       |

### Semester Two (Summer) – 5 Credits

|                |                                |   |
|----------------|--------------------------------|---|
| Tech Elective* | Technical Electives/Internship | 5 |
|----------------|--------------------------------|---|

### Semester Three (Fall) – 11 Credits

|          |                                  |   |
|----------|----------------------------------|---|
| HVAC2340 | Sheet Metal Ductwork Fabrication | 3 |
| HVAC2010 | IPH Motors & Auxiliary Controls  | 2 |
| HVAC2310 | Hydronic Heat                    | 2 |
| HVAC2510 | Advanced Heating 2 (elective)    | 2 |
| HVAC2251 | Brazing                          | 2 |

**\*NOTE:** To earn this certificate, students must complete **9 technical elective credits** (options listed in catalog). The sequence in which a student takes the required 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.**

### Program Core Competencies

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