

# CONSTRUCTION & MANUFACTURING

## HVAC & REFRIGERATION TECHNOLOGY

**Delivery:** Daytime

**Start:** Fall Semester, Full-Time

### AWARDS

HVAC & Refrigeration Diploma . . . . . 39 cr.

### MAJOR DESCRIPTION

Employment of HVAC/R technicians is expected to increase faster than average for all occupations through the year 2022.\* The goal of DCTC's Heating, Ventilation, Air Conditioning and Refrigeration Diploma program is to provide students with the entry level knowledge and skills required to safely install, maintain, troubleshoot and repair today's technologically advanced HVAC/R systems. Through group discussions, lectures and hands-on laboratory experience with actual HVAC/R equipment, this program helps students become successful in this exciting and challenging industry career. Interested applicants should possess strong basic math skills and mechanical aptitude. Each student will be prepared and required to pass the EPA Section 608 refrigerant handling certification exam.

### WORK ENVIRONMENT

HVAC/R technicians must be able to work independently, in extreme conditions, at all hours of the day. From the cold of winter to the heat and humidity of summer, in attics, basements, crawl spaces and on roof tops. Occasional heavy lifting, working off ladders or scaffolding and being comfortable with heights are also potential requirements. HVAC/R technicians should expect to be on call and work after hours and some weekends.

### POTENTIAL JOB TITLES

- Residential and/or Commercial HVAC/R Service Technician
- Residential and/or Commercial HVAC/R Installer
- Sheet Metal Fabrication and Installation
- HVAC/R Equipment and Parts Salesperson

### SALARY DATA

See latest data at [careerwise.minnstate.edu](http://careerwise.minnstate.edu).

- Average Wage: \$27.02/hour
- Top Earners: \$42.02/hour

### HVAC & REFRIGERATION DIPLOMA

*This is a sample course sequence.*

*Please contact your program advisor regarding your academic plans.*

First Year - First Semester		20 cr
HVAC1100	Alternative Heating and Cooling Methods . . . . .	2
HVAC1110	Indoor Air Quality . . . . .	1
HVAC1120	Refrigeration Principles and Applications . . . . .	4
HVAC1130	Tool Usage, Brazing and Soldering Techniques . . . . .	2
HVAC1140	Electric Motors/Controls/Schematics. . . . .	2
HVAC1150	Halide Refrigerant Certification . . . . .	2
HVAC1160	Employability, Problem Solving and Customer Relations . . . . .	2
HVAC1170	Introduction to Basic Electricity . . . . .	2
SPEE1020	Interpersonal Communication. . . . .	3

First Year - Second Semester		19 cr
BIOL1110	Environmental Science . . . . .	3
HVAC1200	Forced Air Heating Systems . . . . .	4
HVAC1210	Hydronic Heating Systems. . . . .	2
HVAC1230	Ventilating Systems and HVAC Installation. . . . .	4
HVAC1240	Air Conditioning and Heat Pump Service . . . . .	3
HVAC1250	Commercial Refrigeration. . . . .	3

### TOTAL PROGRAM REQUIREMENTS 39

*HVAC2960 Specialized Lab - 1 credit technical elective is suggested, but not required.*



**DAKOTA COUNTY**  
**TECHNICAL COLLEGE**

*DCTC.EDU • 2020-2021 CATALOG*

////////////////////////////////////  
**DCTC IS A MEMBER OF MINNESOTA STATE AND AN AFFIRMATIVE ACTION, EQUAL OPPORTUNITY EMPLOYER/EDUCATOR.**

This information is available in an alternate format by calling 651-423-8469 or TTY/Minnesota Relay at 1-800-627-3529.