

# Climate Control Technology

What would Upper Peninsula residents do without heating, those in Florida do without air conditioning, or blood banks all over the country do without refrigeration? Heating and air conditioning systems control the temperature, humidity, and the total air quality in residential, commercial, industrial, and other buildings. Refrigeration systems make it possible to store and transport food, medicine, and other perishable items. Heating, Ventilation, Air Conditioning and Refrigeration (HVACR) installers and technicians maintain and repair such systems.

Although they are trained to do both, technicians often specialize in either installation or maintenance and repair. Some specialize in one type of equipment—for example, oil burners, solar panels, or commercial refrigerators. Technicians may work for large or small contracting companies or directly for a manufacturer or wholesaler. Those working for smaller operations tend to do both installation and servicing, and work with heating, cooling, and refrigeration equipment.

New technology, in the form of cellular “Web” phones that allow technicians to tap into the Internet, may soon affect the way technicians diagnose problems. Computer hardware and software have been developed that allow heating, venting, and refrigeration units to automatically contact the maintenance establishment when problems arise. The maintenance establishment can then notify the mechanic in the field via cellular phone. The mechanic can access the Internet to “talk” with the unit needing maintenance. While this technology is cutting-edge and not yet widespread, its potential for cost-savings will lead to its acceptance.

## Course Work

This degree includes the following courses as part of the program requirements, and specific major requirements along with general education courses and graduation requirements.

### Core

- HV170 Applied Electricity for Trades (4 cr.)
- HV171 Basic Heating (4 cr.)
- HV172 Basic Refrigeration (4 cr.)
- HV173 Heating Systems I (4 cr.)
- HV174 ACR System Principles and Methods (4 cr.)
- HV260 Principles of Air Delivery Systems (3 cr.)
- HV270 Advanced Hydronics (4 cr.)
- HV271 Advanced Commercial Refrigeration (5 cr.)
- HV273 Comfort Systems Designs (4 cr.)
- HV275 HVACR Fieldwork, Contracting and Business Operations (4 cr.) or HV291 HVACR Internship (1–4 cr.)

### Other required courses

- EN111 College Composition I (4cr.)
- EN211 College Composition II (4 cr.)
- MA100 Intermediate Algebra (or higher) (4 cr.) or IM105 Applied Technical Math (4 cr.)

Detailed course descriptions can be found at [www.nmu.edu/bulletin](http://www.nmu.edu/bulletin).

## Skills and Competencies

Students should remember high school mathematics, physics, chemistry, electricity, automotive technology, metal shop, and blueprint reading are helpful. A successful HVAC/R Technician will find that attention to detail, good communication skills, and a strong work ethic are the most important qualities.

## Career Development

You should begin the resume-building process as soon as you can. The Academic and Career Advisement Center can assist you with career planning, while Career Services will help you fine tune your resume and look for jobs related to your field. In the meantime, the more hands-on experience you have, the better the chances are that you will find a job. Becoming involved in a field-related internship is a way to develop your professional network, enhance your skills and proficiencies, and gain experience. Your academic course work is important as well, so be sure to maintain a high grade point average.

## Additional Considerations

HVACR Technicians are exposed to potential safety hazards such as electrical shock, burns, muscle strains, and injuries from dealing with heavy equipment.

Climate Control Technician is an associate of Applied Sciences that requires 63 credits to complete. The credits from the degree will apply to other bachelor's degrees in the technology program such as Building Technology.

## Job Outlook

Climate Control Technology is expected to grow at 34% average rate in the coming years, much faster than the average for all jobs. The median pay is usually between \$16 and \$21 per hour. Apprenticeships usually earn half of what a fully license Climate Control Technician earns.

# Potential Careers

NMU's Climate Control Technology Program prepares students for employment in the following careers:

Apprentice Mechanic

Field Service

HVAC Technician

Installer/Service Technician

Job Foreman

Journeyman Mechanic

Sales/Estimator

Service Manager

Shop Fabrication

Shop Service

Wholesaling

# Additional Resources and Information

For Career Planning and Opportunities:

Academic & Career Advisement Center  
3302.1 C.B. Hedgcock  
906-227-2971  
103 Jacobetti Complex  
906-227-2283  
[www.nmu.edu/acac](http://www.nmu.edu/acac)

Department of Technology and Occupational  
101 Jacobetti Complex  
906-227-2190  
[www.nmu.edu/tos](http://www.nmu.edu/tos)

For Job Search, Resume and Career Information:

Career Services  
3302.3 C.B. Hedgcock  
906-227-2800  
[www.nmu.edu/careers](http://www.nmu.edu/careers)

For Information about NMU Student Organizations Associated with this Major Contact:

Center for Student Enrichment  
1206 University Center  
906-227-2439  
[www.nmu.edu/cse](http://www.nmu.edu/cse)

Internet Resource Links:

[www.careers.org](http://www.careers.org)  
[www.bls.gov](http://www.bls.gov)

For Career Information with National Organizations:

[www.nhraw.org](http://www.nhraw.org) North Am. Heating, Refrigeration,  
Air Conditioning Wholesalers Assoc  
[www.hbi.org](http://www.hbi.org) Home Builders Institute, National  
Association of Home Builders  
[www.mcca.org](http://www.mcca.org) Mechanical Contractors of Am.  
[www.coolcareers.org](http://www.coolcareers.org) Air-Conditioning and  
Refrigeration Institute



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The Academic & Career Advisement Center  
2020



What to do with  
a major in...

Climate Control Technology

Associate's Degree

