

Heating and Cooling Technician
Diploma | 35 credits

Campus: Hibbing

| FALL SEMESTER 2024 – 18 Credits | | CREDITS | HOURS LEC/LAB |
|--|--------------------------------------|----------------|--------------------------|
| HCT 1501 | Introduction to Electricity | 4 | 3/2 |
| HCT 1525 | Tools and Equipment | 3 | 1/4 |
| HCT 1535 | Gas Heating Systems | 5 | 2/6 |
| HCT 1541 | Oil Heating Systems | 3 | 1/4 |
| HCT 1546 | Radiant Heating Systems | 2 | 1/2 |
| HCT 1555 | Indoor Air Quality | 1 | 0/2 |
| SPRING SEMESTER 2025 – 17 Credits | | | |
| HCT 1505 | Refrigeration Theory | 3 | 2/2 |
| HCT 1520 | Refrigerant Certification | 2 | 2/0 |
| HCT 1530 | Air Conditioning & Heat Pump Systems | 5 | 2/6 |
| HCT 1550 | Applied Refrigeration Technology | 4 | 2/4 |
| COMM 1400 | Communication for Career Success | 3 | 3/0 |

PROGRAM DESCRIPTION

The HCT Program prepares graduates for careers as mechanics in the heating, ventilation, air-conditioning and refrigeration (HVACR) industry. Students train to install, troubleshoot, and maintain residential and light commercial heating, cooling and refrigeration equipment.

PROGRAM LEARNING OUTCOMES

Upon completion of the Heating and Cooling Technician program the graduate will be able to demonstrate entry-level competencies in the following areas of the HVAC trade:

1. safe working practices with electricity, compressed gasses, and general / trade-specific hand and power tools,
2. work as a team member to complete projects related to Heating, Ventilation and Air Conditioning (HVAC),
3. interpret equipment electrical schematics,
4. effectively troubleshoot high & low voltage controls and system components,
5. perform mechanical repairs, and
6. install, diagnose, and adjust fuel gas components & refrigeration systems

ARTICULATION AGREEMENTS

- Bemidji State University: Applied Engineering
- Minnesota State University, Moorhead: Operations Management. Technical Management

PROGRAM NOTES

- [Differential tuition is assessed for the HCT courses.](#)

EMPLOYMENT OPPORTUNITIES

Demand remains high for qualified HVACR Mechanics nationwide. Because the maintenance, repairs and replacement of existing systems is essential, this career field is more resilient to economic downturns than many others.

HCT Program graduates can apply their training to many different careers in the HVACR Industry. Field mechanics / installers, facilities maintenance (hospitals, office buildings, nursing homes, etc.), building management / controls, system design, equipment manufacturing, and sales are just a few options open to graduates with HVACR backgrounds.

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2024-25 PROGRAM PLANNER

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PROGRAM FACULTY

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