

Coordinating Commission for Postsecondary Education

Review of Existing Instructional Programs

Institution: Central Community College **Program:** Heating, Air Conditioning and Refrigeration

I certify the following:

- the information provided regarding this program is accurate
- the above-named institution has in place a procedure for reviewing instructional programs
- such review took place and was presented to the institution's governing board on **May 15, 2025 PENDING**
- the governing board's action was: **Approved PENDING**

Signed: _____
 (Chief Academic Officer or designated representative) (Date)

Evidence of Demand and Efficiency

		19-20	20-21	21-22	22-23	23-24	5 yr avg*
Student Credit Hours (SCH)		333	252	276	296	261	283.60
Faculty Full-time Equivalency (FTE)		1.00	1.00	1.00	1.18	1.00	1.04
SCH/Faculty FTE		333.00	252.00	276.00	250.85	261.00	272.69
Number of Degrees and Awards <i>(list degrees/awards separately)</i>	AAS	3	6	2	3	2	3.2
	Diploma	6	5	3	3	8	5.0
	Certificate	6	8	6	6	7	6.6
	Total Awards	15	19	11	12	17	14.8

*By term analysis combined to conduct an annual review. Numbers reported reflect 3 negotiated contract periods (FA17-SU20, FA20-SU22, FA22-SU25). Numbers for 22-23 and 23-24 FTE reflect updated tracking method for part-time instructors.

Evidence of Need (provide a detailed explanation below or attach documentation)

See attached

Justification if the program is below either of the CCPE thresholds—complete page 2

 For CCPE use: reviewer/date

Justification if the program is below CCPE thresholds—check one or more boxes and provide a detailed explanation or attach a document

☐ Program is critical to the role and mission of the institution (detailed explanation).

☐ Program contains courses supporting general education or other programs (detailed explanation).

☐ Interdisciplinary program (providing the program meets the requirements set in the existing policy for interdisciplinary programs) (explain).

☐ Student or employer demand, or demand for intellectual property is high and external funding would be jeopardized by discontinuing the program (explain).

☐ Program provides unique access to an underserved population or geographical area (explain).

☒ Program meets a unique need in the region, state, or nation (explain).

Central Community College's Heating, Air Conditioning and Refrigeration program serves an important need in the workforce. Industry seeks our students and often prior to graduation. Data suggests there are more jobs available than we have graduates with a projected increase in need in the next five years.

☐ Program is newly approved within the last five years (no additional justification needed).

☐ Other (detailed explanation).



Heating, Air Conditioning and Refrigeration

Coordinating Commission Seven-Year Review 2025

Information in this report reviewed and recommended to cabinet:

Central Community College Educational Services, 04/24/2025

Recommended continuation of programs without monitoring:

Central Community College College Cabinet, 05/01/2025

Central Community College Board of Governors, 05/15/2024 **PENDING**

Dale Long – Program Faculty

Alison Feeney, M.A.E. – Associate Dean of Instruction, Career & Technical Sciences

Brian Hoffman, M.A. – Associate Dean of Instruction, Career & Technical Sciences

John McKinney, M.Div. – Associate Dean of Instruction, Career & Technical Sciences

Nate Allen, Ed.D. – Dean of Instruction, Career & Technical Sciences

Christopher Waddle, J.D. – Division Vice President, Career & Technical Sciences

Heating, Air Conditioning and Refrigeration

Program Review Summary – Dr. Nate Allen

The Heating, Air Conditioning and Refrigeration (HVAC) program continues to be a successful, and industry demanded, program within the Career and Technical Sciences division offered at Central Community College. The program is offered on one campus across our twenty-five-county service area with one full-time instructor located on the Hastings campus. The HVAC program at CCC plays a crucial role in meeting the growing demand for skilled technicians in the ever-evolving building systems industry. This program is designed to provide students with the hands-on training, technical expertise, and industry-recognized certifications required to excel in HVAC installation, maintenance, and repair.

The HVAC program is unique in the sense that it is featured on one campus, and both first- and second-year students are taught by the same instructor. The ability to navigate a schedule and lab opportunities for both groups of students requires a unique scheduling block to teach both groups of students separately. Since the implementation of this separate schedule over the last two years, it has allowed the instructor more individualized instruction which allows for more engaged students, and an overall increase of more students coming into the program. Since fall of 2023, retention rates for HVAC students are around 79%. Focused efforts and goals by the faculty to work with area employers to retain students between year one and two of the program have begun. The instructor has heard from employers that students who enter the summer internship or part-time employment enjoy working and the pay and don't want to return. Working with business partners who back the educational experience for each student to reach completion is a current goal of the instructor.

The CCC HVAC program offers an educational opportunity for those students seeking to enter the HVAC Technology Industry, which is a high demand work force in Central Nebraska. CCC currently offers an Associate of Applied Science degree in HVAC, a diploma in HVAC Technology, and one certificate can be awarded in Basic Refrigeration. The awards within the HVAC program at CCC have stayed consistent, with a five-year average of 14.8 awards received by our graduates. Over the past five years, the number of degrees awarded annually has ranged from 2-6, with a five-year average of 3.2 degrees. The instructor works with local industry to ensure a competitive wage for their graduates compared to other parts of the state and national averages. According to Light Cast data, our area is far behind in terms of pay compared to the rest of the state.

The HVAC program is under the minimum threshold for student credit hours, student credit hours to full-time equivalent faculty (FTEF) ratio, but meets the total number of graduates. Due to the high demand of this career in the service area and across the state, we understand how important this field and program is; therefore, Career and Technical Sciences leadership recommends continuation of the program.

- I. **Program:** **Heating, Air Conditioning and Refrigeration (HVAC)**
- II. **College Mission:** Central Community College maximizes student and community success.
- III. **College Vision: The Best Choice –**
- for students to achieve their educational goals.**
- quality education
 - personal service and individualized attention
 - exceptional and passionate faculty and staff
 - extraordinary value
- to develop a skilled workforce.**
- employability and/or successful credit transfers
 - graduates who advocate for CCC
 - business and industry partnerships
 - state-of-the-art facilities and technologies
- for advancing communities.**
- educational partnerships
 - strong alumni support
 - foster economic development
 - sustainability leaders
- IV. **Program Mission Statement:** Maximize student and community success in the Heating, Ventilation and Air Condition program.
- V. **Program Vision Statement:** To be the best choice for HVAC students, business and industry.
- VI. **Program/Discipline Environmental Scan (Program Need):**
- A. Industry or college need:
- The Central Community College (CCC) Heating, Air-Conditioning and Refrigeration (HVAC) program offers a vital educational opportunity for those students seeking to enter the HVAC industry. CCC currently offers an Associate of Applied Science degree in Heating, Air Conditioning and Refrigeration. Additionally, a diploma in Heating, Air Conditioning and Refrigeration and a Certificate focusing on Basic Refrigeration are offered. Industry partners are very passionate about the quality of the students being produced in the program and the need for qualified HVAC technicians is very high.

Lightcast (EMSI) Q4 2024 Data Set

Lightcast data is a hybrid dataset derived from official government sources such as the US Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics. Leveraging the unique strengths of each source, our data modeling team creates an authoritative dataset that captures more than 99% of all workers in the United States. This core offering is then enriched with data from online social profiles, resumés, and job postings to give you a complete view of the workforce.

Report Parameters

1 Occupations

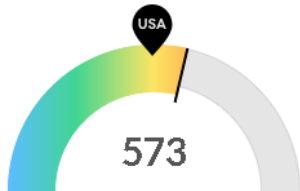
Heating, Air Conditioning, and Refrigeration Mechanics and Installers (SOC 49-9021):

Install or repair heating, central air conditioning, HVAC, or refrigeration systems, including oil burners, hot-air furnaces, and heating stoves.

Sample of Reported Job Titles: HVAC Tech (Heating, Ventilation, and Air Conditioning Technician), HVAC Mechanic (Heating, Ventilation, and Air Conditioning Mechanic, Refrigeration Mechanic, HVAC Service Tech (Heating, Ventilation, and Air Conditioning Service Technician), A/C Service Tech (Air Conditioning Service Technician), Refrigeration Service Technician (Refrigeration Service Tech), HVAC Installer (Heating, Ventilation, and Air Conditioning Installer), A/C Mechanic (Air Conditioner Mechanic, Heating, Ventilation, Air Conditioning, and Refrigeration Technician, HVAC-R Service Tech (Heating, Ventilation, Air Conditioning, and Refrigeration Service Technician)

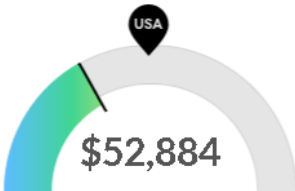
Executive Summary

Light Job Posting Demand Over a Deep Supply of Regional Jobs



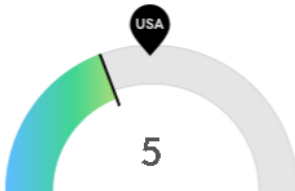
Jobs (2024)

Your area is a hotspot for this kind of job. The national average for an area this size is 465* employees, while there are 573 here.



Compensation

Earnings are low in your area. The national median salary for Heating, Air Conditioning, and Refrigeration Mechanics and Installers is \$56,611, compared to \$52,884 here.



Job Posting Demand

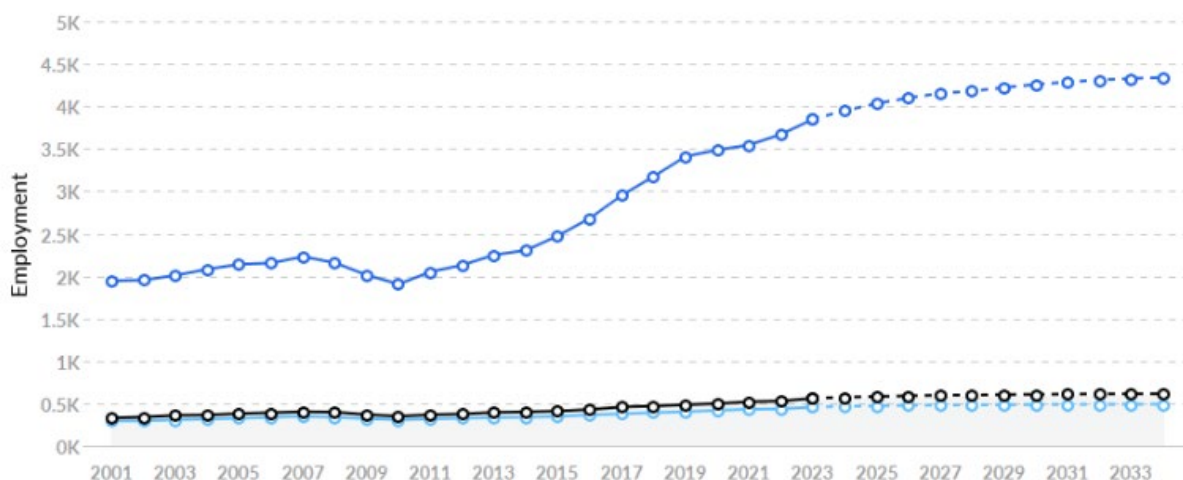
Job posting activity is low in your area. The national average for an area this size is 7* job postings/mo, while there are 5 here.

*National average values are derived by taking the national value for Heating, Air Conditioning, and Refrigeration Mechanics and Installers and scaling it down to account for the difference in overall workforce size between the nation and your area. In other words, the values represent the national average adjusted for region size.

Jobs

Regional Employment Is Higher Than the National Average

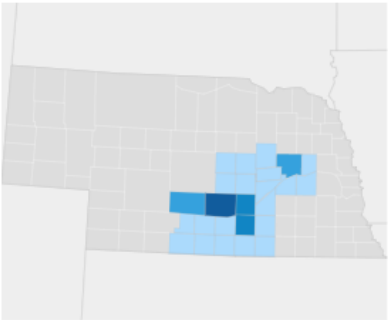
An average area of this size typically has 465* jobs, while there are 573 here. This higher than average supply of jobs may make it easier for workers in this field to find employment in your area.



Region	2024 Jobs	2029 Jobs	Change	% Change
● CCC Service Area	573	603	30	5.3%
● National Average	465	484	19	4.1%
● State of Nebraska	3,950	4,221	271	6.9%

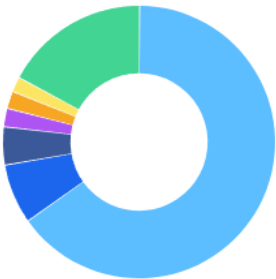
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Regional Breakdown



County	2024 Jobs
Buffalo County, NE	134
Adams County, NE	105
Hall County, NE	100
Platte County, NE	57
Dawson County, NE	45

Most Jobs are Found in the Building Equipment Contractors Industry Sector

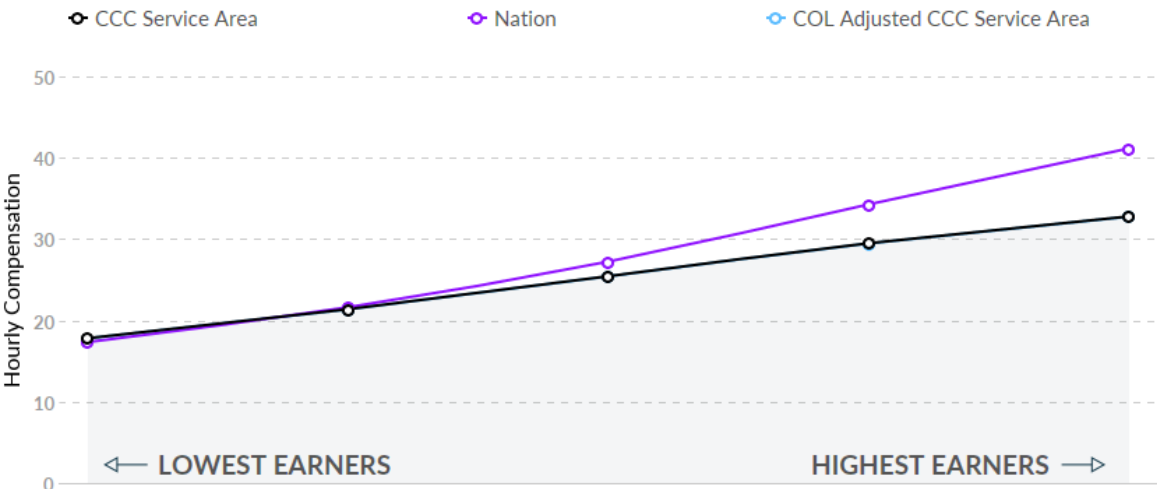


Industry	% of Occupation in Industry (2024)
Building Equipment Contractors	65.1%
Animal Slaughtering and Processing	7.1%
Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	4.5%
Agriculture, Construction, and Mining Machinery Manufacturing	2.2%
Residential Building Construction	2.1%
Other Specialty Trade Contractors	1.8%
Other	17.2%

Compensation

Regional Compensation Is 7% Lower Than National Compensation

For Heating, Air Conditioning, and Refrigeration Mechanics and Installers, the 2023 median wage in your area is \$25.43/hr, while the national median wage is \$27.22/hr.



Job Posting Activity



55 Unique Job Postings

The number of unique postings for this job from Jan 2024 to Nov 2024.



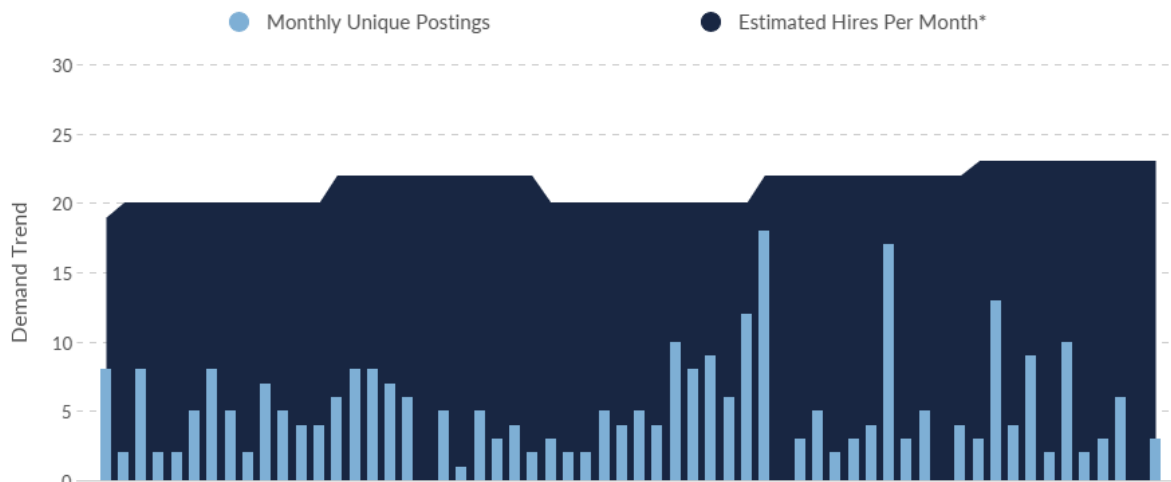
24 Employers Competing

All employers in the region who posted for this job from Jan 2024 to Nov 2024.



21 Day Median Duration

Posting duration is 1 day shorter than what's typical in the region.



Occupation	Avg Monthly Postings (Jan 2024 - Nov 2024)	Avg Monthly Hires (Jan 2024 - Nov 2024)
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	5	23

*A hire is reported by the Quarterly Workforce Indicators when an individual's Social Security Number appears on a company's payroll and was not there the quarter before. Lightcast hires are calculated using a combination of Lightcast jobs data, information on separation rates from the Bureau of Labor Statistics (BLS), and industry-based hires data from the Census Bureau.

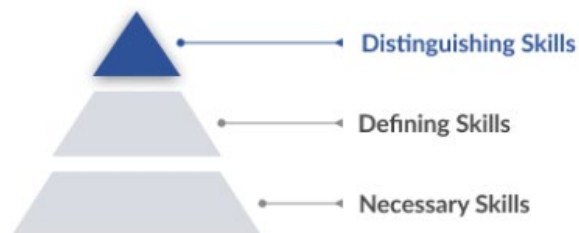
Top Companies		Unique Postings
University of Nebraska	5	
Essential Personnel	3	
Nebraska Public Power Distri	3	
Pearce Services	3	
American Foods Group	2	
Cargill	2	
Central Community College	2	
Gibbon Packing	2	
Johnson Controls	2	
Trane Technologies	2	

Top Job Titles		Unique Postings
HVAC Technicians	11	
Freezer Workers	4	
HVAC Installers	4	
HVAC Refrigeration Technicia	3	
HVAC Service Technicians	3	
Construction Technicians	2	
Construction Techs	2	
Controls Electricians	2	
Electrical Maintenance Techni	2	
HVAC Installation Technicians	2	

Skills

Top Distinguishing Skills by Demand

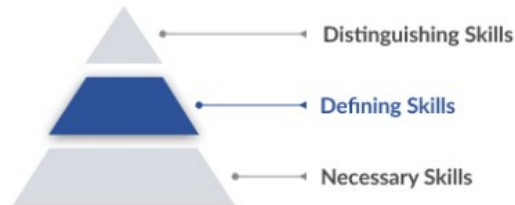
An occupation's Distinguishing Skills are the advanced skills that are called for occasionally. An employee with these skills is likely more specialized and able to differentiate themselves from others in the same role.



Skill	Salary Boosting	Job Postings Requesting	Projected Growth	Growth Relative to Market
Cooling Towers	✗	7	+17.4%	Growing
HVAC Split Systems	✓	5	+15.4%	Growing
Energy Management Systems	✓	5	+23.7%	Rapidly Growing
Air Handler	✓	2	+5.0%	Stable
Ammonia	✓	2	+7.9%	Stable
Absorption Refrigeration	✓	2	+4.8%	Stable
Vapor-Compression Refrigeration	✗	2	+5.7%	Stable
Pipefitting	✗	1	+8.4%	Stable
HVAC Controls	✓	0	+28.1%	Rapidly Growing
Electric Motors	✗	0	+16.4%	Growing

Top Defining Skills by Demand

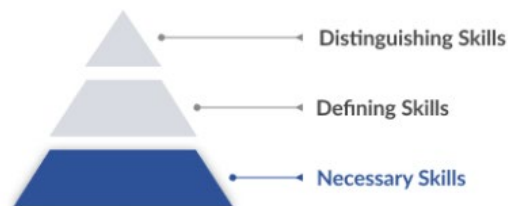
An occupation's Defining Skills represent the day-to-day tasks and responsibilities of the job. An employee needs these skills to qualify for and perform successfully in this occupation.



Skill	Salary Boosting	Job Postings Requesting	Projected Growth	Growth Relative to Market
HVAC	×	46	+7.5%	Stable
Valid Driver's License	×	18	+7.5%	Stable
Refrigeration	×	10	+5.4%	Stable
Boilers	×	9	+8.9%	Growing
EPA 608 Technician Certification	×	9	+2.2%	Lagging
Ventilation	×	7	+9.3%	Growing
Refrigerant	×	5	+10.9%	Growing
HVAC Repair And Maintenance	×	4	+4.0%	Lagging
EPA Universal Certification	×	2	+12.6%	Growing
Furnaces	×	1	+10.8%	Growing

Top Necessary Skills by Demand

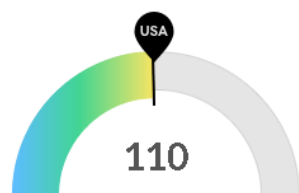
An occupation's Necessary Skills are the specialized skills required for that job and relevant across other similar jobs. An employee needs these skills as building blocks to perform the more complex Defining Skills.



Skill	Salary Boosting	Job Postings Requesting	Projected Growth	Growth Relative to Market
Plumbing	×	12	+9.8%	Growing
Hand Tools	×	7	+6.2%	Stable
Preventive Maintenance	×	6	+11.8%	Growing
Power Tool Operation	×	4	+7.4%	Stable

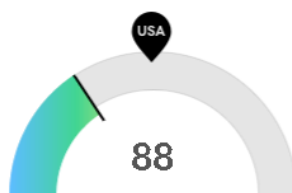
Demographics

Retirement Risk Is About Average, While Reliable Diversity Information Is Not Available



Retiring Soon

Retirement risk is about average in your area. The national average for an area this size is 112* employees 55 or older, while there are 110 here.



Racial Diversity

Racial diversity is low in your area. The national average for an area this size is 162* racially diverse employees, while there are 88 here.



Gender Diversity

Reliable gender diversity information is not available in your area, because there are too few employees.

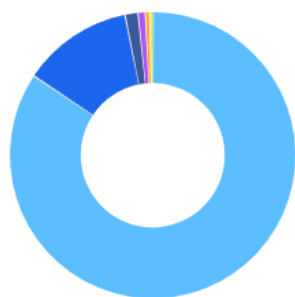
*National average values are derived by taking the national value for Heating, Air Conditioning, and Refrigeration Mechanics and Installers and scaling it down to account for the difference in overall workforce size between the nation and your area. In other words, the values represent the national average adjusted for region size.

Occupation Age Breakdown



	% of Jobs	Jobs
14-18	1.2%	7
19-24	12.3%	69
25-34	24.3%	136
35-44	25.1%	141
45-54	17.5%	98
55-64	13.5%	76
65+	6.1%	34

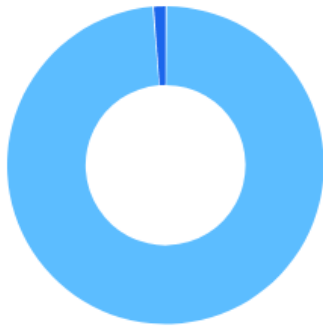
Occupation Race/Ethnicity Breakdown



	% of Jobs	Jobs
White	84.3%	473
Hispanic or Latino	12.5%	70
Black or African American	1.5%	8
Two or More Races	0.8%	5
Asian	0.5%	3
American Indian or Alaska Native	0.4%	2
Native Hawaiian or Other Pacific Islander	0.0%	0

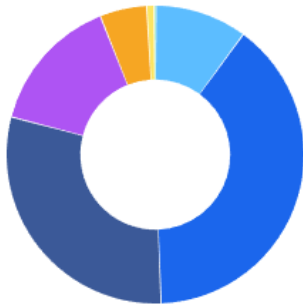
Occupation Gender Breakdown

...



	% of Jobs	Jobs
Males	98.7%	553
Females	1.3%	7

National Educational Attainment



	% of Jobs
Less than high school diploma	10.0%
High school diploma or equivalent	39.3%
Some college, no degree	29.7%
Associate's degree	14.9%
Bachelor's degree	5.1%
Master's degree	0.8%
Doctoral or professional degree	0.2%

Graduate Pipeline



1 Program

Of the programs that can train for this job, 1 has produced completions in the last 5 years.



12 Completions (2023)

The completions from all regional institutions for all degree types.



59 Openings (2023)

The average number of openings for an occupation in the region is 28.

CIP Code	Top Programs	Completions (2023)
47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance	12
Top Schools		Completions (2023)
Central Community College		12

2025 Summary of Lightcast Q4 2024 Data Set:

HVAC jobs are in high demand in the area. The wages, however, are lower than the national average along with the actual job postings. This needs to be brought to the attention of the employers. These problems could be fixed with higher wages and postings per month. The number of jobs available in our area should mean that our students will have a better chance of getting the job they want. The future is also good because of the number of retirees in the next couple of years. Diversity hires in this area could be low in some cases just because of population. The number of males to female ratio is very significant. At CCC we usually have at least one female enrolled in classes. We support and enjoy having a diverse classroom in the HVAC department; however, females rarely enroll in the program. CCC is the only training facility in our area, and we produced 12 completions last year with 59 job openings. Most students like to go back home to work for people they already know and sometimes that will take the student out of our area. CCC has a 5-year average of 17 completions, and we plan to grow this in the future.

B. Supporting Data

a. Awards

Degree/ Credential Awarded	2019-20	2020-21	2021-22	2022-23	2023-24	5-yr avg
AAS	3	6	2	3	2	3.2
Diploma	6	5	3	3	8	5.0
Certificate	6	8	6	6	7	6.6
Total Awards	15	19	11	12	17	14.8
# of unduplicated graduates	11	15	8	10	10	10.8

	2019-20	2020-21	2021-22	2022-23	2023-24	5-yr avg
Degrees	3	6	2	3	2	3.20
Total awards	15	19	11	12	17	14.80
FT program faculty	1.00	1.00	1.00	1.18	1.00	1.04
Degrees/ FT faculty	3.00	6.00	2.00	2.54	2.00	3.08
Awards/ FT faculty	15.00	19.00	11.00	10.17	17.00	14.23

LOA	Award name	2019-20	2020-21	2021-22	2022-23	2023-24	5-Year Total	5-Year Avg
AAS_HVAC	Heating, Air Conditioning & Refrigeration Degree	3	6	2	3	2	16	3.2
DIP_HVAC	Heating, Air Conditioning & Refrigeration Diploma	6	5	3	3	8	25	5
CER_HVAC.R	Basic Refrigeration Certificate	6	8	6	6	7	33	6.6
	Total Awards	15	19	11	12	17	74	14.8

2025 Summary of Awards (2023-24 data):

Both enrollment and awards increased this year. The program has grown in the past year, and the awards indicate this. Students who complete the 64-credit hour degree are students who receive a diploma for the first 32-credit hours.

b. Student Credit Hours Produced per Faculty FTE

	2019-20	2020-21	2021-22	2022-23	2023-24	5-yr avg
Student Credit Hours (SCH)	333	252	276	296	261	283.60
Faculty Full-time Equivalency (FTE)	1.00	1.00	1.00	1.18	1.00	1.04
SCH/Faculty FTE	333.00	252.00	276.00	250.85	261	272.69

Source: Program Stats by Alpha and Instructor-Student FTE reports.

**By term analysis combined to conduct an annual review. Numbers reported reflect 3 negotiated contract periods (FA17-SU20, FA20-SU22, FA22-SU25). Numbers for 22-23 and 23-24 FTE reflect updated tracking method for part-time instructors.*

2025 Summary of the Student Credit Hours per Faculty FTE (2023-24 data):

Enrollment was affected by not having a night lab. The numbers have dropped a little, but the awards went up. Our 5-year average of FTE is 9.3. Students are finding out about HVAC through a new and improved recruiting office.