

AIR CONDITIONING AND REFRIGERATION, ADVANCED CERTIFICATE



College(s): KK

Program Code: 0118

The Advanced Certificate program in Air Conditioning and Refrigeration studies the design, selection, maintenance, testing and installation of residential and commercial air conditioning, refrigeration, heating, and ventilation systems with emphasis on business skills. No General Education or elective courses are required for this program.

Program Requirements

Code	Title	Hours
Required Program Core		
AIR CON 101	Intro Air Conditioning I	3
AIR CON 102	Intro Air Conditioning II	3
AIR CON 103	Duct Design And Layout	3
AIR CON 104	Equipment and Systems Controls	3
AIR CON 105	Owner-Contractor Management	3
AIR CON 120	Introductory Laboratory	2
AIR CON 150	Intro To Refrigeration	3
AIR CON 151	Commercial Refrigeration	3
AIR CON 155	Refrigeration Laboratory	2
AIR CON 158	Commercial Refrigeration Laboratory	2
AIR CON 160	Intro to Principles of Heating	3
AIR CON 165	Heating Laboratory	2
AIR CON 204	Advanced Control Systems	3
MATH 107	Math For Technicians I	4
Total Hours		39

Pathway

This is an example course sequence for students interested in pursuing Air Conditioning and Refrigeration. It does not represent a contract, nor does it guarantee course availability. If this pathway is followed as outlined, you will earn a Basic Certificates (BCs) in Domestic Refrigeration and Heating and an Advanced Certificate (AC) in Air Conditioning and Refrigeration.

Semester-by-Semester Program Plan for Full-Time Students

All plans can be modified to fit the needs of part-time students by adding more semesters.

Semester 1		Hours
AIR CON 104	Equipment and Systems Controls	3
AIR CON 150	Intro To Refrigeration	3
AIR CON 160	Intro to Principles of Heating	3
MATH 107	Math For Technicians I	4
Hours		13
Semester 2		
AIR CON 101	Intro Air Conditioning I	3
AIR CON 102	Intro Air Conditioning II	3
AIR CON 120	Introductory Laboratory	2
AIR CON 151	Commercial Refrigeration	3
AIR CON 165	Heating Laboratory	2
Hours		13
Semester 3		
AIR CON 103	Duct Design And Layout	3
AIR CON 105	Owner-Contractor Management	3
AIR CON 155	Refrigeration Laboratory	2
AIR CON 158	Commercial Refrigeration Laboratory	2
AIR CON 204	Advanced Control Systems	3
Hours		13
Total Hours		39

Choose your courses with your College Advisor.

Careers

This program can prepare students for the jobs listed below. Click on each one to learn more, including average earnings, annual job openings, and how much education people in that field have. For additional guidance and resources on career options, current City Colleges students and alumni can contact the Career Services Office (<https://www.ccc.edu/departments/Pages/Career-Services.aspx>).

Heating, Air Conditioning, and Refrigeration Mechanics and Installers
Job Description

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

Salary Based on Experience Level

Take a look at the average hourly/annual earnings for this career in Cook County

Lightcast earnings figures are based on OES data from the BLS and include base rate, cost of living allowances, guaranteed pay, hazardous-duty pay, incentive pay (including commissions and bonuses), on-call pay, and tips.

Annual Wages	
Entry-Level 10 th Percentile	\$34,283
Median 50 th Percentile	\$58,920
Senior-Level 90 th Percentile	\$110,852

Hourly Wages	
Entry-Level 10 th Percentile	\$16
Median 50 th Percentile	\$28
Senior-Level 90 th Percentile	\$53

Annual Job Openings

433 annual openings in Cook County

National Education Attainment

Here, you can see the level of education that people in this career complete.

Degree Program	% of Jobs
A high school diploma or less	23.49%
A certificate	68.08%
Some college	6.93%
An Associate degree	1.50%
A Bachelor's degree	0.00%
A Master's or Professional degree	0.00%
A Doctoral degree or more	0.00%

0.00% continue their education beyond an associate degree