

AIR CONDITIONING HEATING AND REFRIGERATION TECHNOLOGY DEGREE (A35100)

The Air Conditioning, Heating, and Refrigeration Technology curriculum provides the basic knowledge to develop skills necessary to work with residential and light commercial systems. Topics include mechanical refrigeration, heating and cooling theory, electricity, controls, and safety. The diploma program covers air conditioning, furnaces, heat pumps, tools and instruments. In addition, the AAS degree covers residential building codes, residential system sizing, and advanced comfort systems.

Diploma graduates should be able to assist in the startup, preventive maintenance, service, repair, and/or installation of residential and light commercial systems. AAS degree graduates should be able to demonstrate an understanding of system selection and balance and advanced systems.

COURSE & HOUR REQUIREMENTS

Course Number & Name	Class Hours	Lab Hours	Credit Hours
FALL SEMESTER			
ACA 111 College Student Success OR ACA 122 Transfer & Career Success	0/1	0/2	1
AHR 110 Intro to Refrigeration	2	6	5
AHR 111 HVACR Electricity OR ELC 111 Intro to Electricity	2	2	3
ELC 125 Diagrams and Schematics	1	2	2
**English/Communication Elective	3	0	3
Total	8/9	10/12	14
SPRING SEMESTER			
AHR 112 Heating Technology	2	4	4
AHR 113 Comfort Cooling	2	4	4
AHR 125 HVACR Electronics	2	2	3
AHR 160 Refrigerant Certification	1	0	1
**Math	2/3	2	3/4
Total	9/10	12	15/16
SUMMER SEMESTER			
AHR 114 Heat Pump Technology	2	4	4
AHR 115 Refrigeration Systems	2	4	4
AHR 213 HVACR Building Code	1	2	2
AHR 263 Energy Management	1	3	2
***Major Elective	1/0	0/10	1
Total	6/7	13/23	13
FALL SEMESTER			
AHR 211 Residential System Design	2	2	3
AHR 212 Advanced Comfort Systems	2	6	4
AHR 240 Hydronic Heating	1	3	2
CIS 110 Introduction to Computers OR CIS 113 Computer Basics	0/2	2	1/3
*ENG 111 Writing and Inquiry	3	0	3
**Social/Behavioral Science Elective	3	0	3
Total	11/13	13	16/18
SPRING SEMESTER			
AHR 130 HVAC Controls	2	2	3
AHR 133 HVAC Servicing	2	6	4
AHR 151 HVAC Duct Systems I	1	3	2
AHR 235 Refrigeration Design	2	2	3
**Humanities/Fine Arts Elective	3	0	3
Total	10	13	15
TOTAL SEMESTER CREDIT HOURS FOR DEGREE			73/76

*This course is a component of the general education requirements needed for graduation.

AIR CONDITIONING HEATING AND REFRIGERATION TECHNOLOGY DEGREE REQUIREMENTS

Course Number & Name	Class Hours	Lab Hours	Credit Hours
**MATH ELECTIVE <i>Select one course from the following:</i>			
MAT 110 Math Measurement & Literacy	2	2	3
MAT 121 Algebra/Trigonometry I	2	2	3

Course Number & Name	Class Hours	Lab Hours	Credit Hours
MAT 143 Quantitative Literacy	2	2	3
MAT 152 Statistical Methods I	3	2	4
MAT 171 Precalculus Algebra	3	2	4
**ENGLISH/COMMUNICATION ELECTIVE Select <i>one</i> course from the following:			
COM 110 Introduction to Communication	3	0	3
COM 120 Intro to Interpersonal Communication	3	0	3
COM 231 Public Speaking	3	0	3
ENG 112 Writing/Research in the Disciplines	3	0	3
ENG 114 Professional Research & Reporting	3	0	3
**SOCIAL/BEHAVIORAL SCIENCE ELECTIVE Select <i>one</i> course from the following:			
ECO 251 Principles of Microeconomics	3	0	3
ECO 252 Principles of Macroeconomics	3	0	3
HIS 111 World Civilizations I	3	0	3
HIS 112 World Civilizations II	3	0	3
HIS 121 Western Civilization I	3	0	3
HIS 122 Western Civilization II	3	0	3
HIS 131 American History I	3	0	3
HIS 132 American History II	3	0	3
HIS 221 African American History	3	0	3
POL 120 American Government	3	0	3
PSY 150 General Psychology	3	0	3
SOC 210 Introduction to Sociology	3	0	3
SOC 213 Sociology of the Family	3	0	3
SOC 225 Social Diversity	3	0	3
**HUMANITIES/FINE ARTS Select <i>one</i> course from the following:			
ART 111 Art Appreciation	3	0	3
ART 113 Art Methods and Materials	0	6	3
ENG 131 Introduction to Literature	3	0	3
ENG 231 American Literature I	3	0	3
ENG 232 American Literature II	3	0	3
ENG 241 British Literature I	3	0	3
ENG 242 British Literature II	3	0	3
HUM 115 Critical Thinking	3	0	3
MUS 110 Music Appreciation	3	0	3
MUS 111 Fundamentals of Music	3	0	3
MUS 112 Introduction to Jazz	3	0	3
PHI 210 History of Philosophy	3	0	3
PHI 215 Philosophical Issues	3	0	3
PHI 240 Introduction to Ethics	3	0	3
REL 110 World Religions	3	0	3
***MAJOR ELECTIVE Select <i>one (1) SHC</i> from the following:			
AHR 180 HVACR Customer Relations	1	0	1
WBL 111 Work-Based Learning I	0	10	1

AIR CONDITIONING HEATING AND REFRIGERATION TECHNOLOGY DIPLOMA (D35100)

COURSE & HOUR REQUIREMENTS

Course Number & Name	Class Hours	Lab Hours	Credit Hours
FALL SEMESTER			
ACA 111 College Student Success OR ACA 122 Transfer & Career Success	0/1	0/2	1
AHR 110 Intro to Refrigeration	2	6	5
AHR 111 HVACR Electricity OR ELC 111 Intro to Electricity	2	2	3
ELC 125 Diagrams and Schematics	1	2	2
**Communication Elective	3	0	3
Total	8/9	10/12	14
SPRING SEMESTER			
AHR 112 Heating Technology	2	4	4
AHR 113 Comfort Cooling	2	4	4
AHR 125 HVACR Electronics	2	2	3
AHR 160 Refrigerant Certification	1	0	1
**Math	2/3	2	3/4
Total	9/10	12	15/16
SUMMER SEMESTER			
AHR 114 Heat Pump Technology	2	4	4
AHR 115 Refrigeration Systems	2	4	4
AHR 213 HVACR Building Code	1	2	2
AHR 263 Energy Management	1	3	2
***Major Elective	1/0	0/10	1
Total	5/6	12/22	13
TOTAL SEMESTER CREDIT HOURS FOR DIPLOMA			42/43

*This course is a component of the general education requirements needed for graduation.

AIR CONDITIONING HEATING AND REFRIGERATION TECHNOLOGY DIPLOMA REQUIREMENTS

Course Number & Name	Class Hours	Lab Hours	Credit Hours
**MATH ELECTIVE Select <i>one</i> course from the following:			
MAT 110 Math Measurement & Literacy	2	2	3
MAT 121 Algebra/Trigonometry I	2	2	3
MAT 143 Quantitative Literacy	2	2	3
MAT 152 Statistical Methods I	3	2	4
MAT 171 Precalculus Algebra	3	2	4
**COMMUNICATION ELECTIVE Select <i>one</i> course from the following:			
COM 110 Introduction to Communication	3	0	3
COM 120 Intro to Interpersonal Communication	3	0	3
COM 231 Public Speaking	3	0	3
***MAJOR ELECTIVE Select <i>one (1) SHC</i> from the following:			
AHR 180 HVACR Customer Relations	1	0	1
WBL 111 Work-Based Learning I	0	10	1

BASIC HVAC CERTIFICATE (C35100)

COURSE & HOUR REQUIREMENTS

Class Title	Class Hours	Lab Hours	Credit Hours
AHR 110 Intro to Refrigeration	2	6	5
AHR 112 Heating Technology	2	4	4
AHR 113 Comfort Cooling	2	4	4
AHR 160 Refrigerant Certification	1	0	1
AHR 111 HVACR Electricity OR ELC 111 Intro to Electricity	2	2	3
TOTAL SEMESTER CREDIT HOURS FOR CERTIFICATE	9	16	17

ADVANCED HVAC CERTIFICATE (C35100A)

COURSE & HOUR REQUIREMENTS

Class Title	Class Hours	Lab Hours	Credit Hours
AHR 114 Heat Pump Technology	2	4	4
AHR 125 HVACR Electronics	2	2	3
AHR 212 Advanced Comfort Systems	2	6	4
ELC 125 Diagrams and Schematics	1	2	2
TOTAL SEMESTER CREDIT HOURS FOR CERTIFICATE	7	14	13

HVAC SYSTEM INSTALLATION CERTIFICATE (C35100B)

COURSE & HOUR REQUIREMENTS

Class Title	Class Hours	Lab Hours	Credit Hours
AHR 113 Comfort Cooling	2	4	4
AHR 151 HVAC Duct Systems I	1	3	2
AHR 160 Refrigerant Certification	1	0	1
AHR 213 HVACR Building Code	1	2	2
AHR 111 HVACR Electricity OR ELC 111 Intro to Electricity	2	2	3
TOTAL SEMESTER CREDIT HOURS FOR CERTIFICATE	7	11	12

HVAC COMFORT ADVISOR CERTIFICATE (C35100C)

COURSE & HOUR REQUIREMENTS

Class Title	Class Hours	Lab Hours	Credit Hours
AHR 151 HVAC Duct Systems I	1	3	2
AHR 160 Refrigerant Certification	1	0	1
AHR 180 HVACR Customer Relations	1	0	1
AHR 211 Residential System Design	2	2	3
AHR 213 HVACR Building Code	1	2	2
<i>Select one of the following:</i>			
ECO 251 Principles of Microeconomics	3	0	3
PSY 150 General Psychology	3	0	3
TOTAL SEMESTER CREDIT HOURS FOR CERTIFICATE	9	7	12

NOTE: Students are required to complete C35100 before being eligible for this certificate. C35100 contains all prerequisites for the courses required in this certificate.