AIR CONDITIONING, HEATING, AND REFRIGERATION TECHNOLOGY

CURRICULUM DESCRIPTION

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 A.A.S. degree covers residential building codes, residential system sizing, and advanced comfort systems.

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

Certificate offerings are selected from associates degree courses and are offered only as demand warrants. Individual certificates provide limited basic skills. The Air Conditioning, Heating, and Refrigeration program has been identified as a limited enrollment program and may involve certain deadlines. See an academic counselor for additional information. The appropriate coursework for each is listed below.

ASSOCIATE IN APPLIED SCIENCE DEGREE (A35100)

		Hours Per Week		
FALL SEMESTER (1st Year)		**Class**	**Lab**	**Credit**
AHR 110	Introduction to Refrigeration	2	6	5
AHR 111	HVACR Electricity	2	2	3
AHR 113	Comfort Cooling	2	4	4
AHR 160	Refrigerant Certification	1	0	1
CIS 110	Introduction to Computers	2	2	3
		9	14	16
SPRING SEMESTER (1st Year)				
AHR 114	Heap Pump Technology	2	4	4
AHR 130	HVAC Controls	2	2	3
AHR 140	All Weather Systems	1	3	2
AHR 235	Refrigeration Design	2	2	3
		7	11	12
SUMMER SEMESTER (1st Year)				
AHR 112	Heating Technology	2	4	4
AHR 133	HVAC Servicing	2	6	4
ELC 125	Diagrams and Schematics	1	2	2
		5	12	10

		Hours Per Week		
FALL SEMESTER (2nd Year)		**Class**	**Lab**	**Credit**
AHR 212	Advanced Comfort Systems	2	6	4
COM 120	Interpersonal Communication ***or***	3	0	3
COM 231	Public Speaking	(3)	(0)	(3)
ENG 111	Expository Writing	3	0	3
ISC 115	Construction Safety	2	0	2
MAT 115	Mathematical Models	2	2	3
		12	8	15
SPRING SEMESTER (2nd Year)				
AHR 211	Residential System Design	2	2	3
AHR 220	Commercial Building Code	2	0	2
ELC 118	National Electric Code	1	2	2
	Humanities/Fine Arts Elective	3	0	3
	Social/Behavioral Sci Elective	3	0	3
		12	2	13
	Total Semester Hours:			**66**

APPROVED HUMANITIES/FINE ARTS ELECTIVES

ART 111	Art Appreciation	HUM 160	Introduction to Film
ART 114	Art History Survey I	HUM 211	Humanities I
ART 115	Art History Survey II	HUM 212	Humanities II
DRA 111	Theatre Appreciation	MUS 110	Music Appreciation
DRA 112	Literature of the Theatre	MUS 112	Introduction to Jazz
DRA 211	Theatre History I	MUS 210	History of Rock Music
DRA 212	Theatre History II	MUS 213	Opera and Music Theatre
ENG 231	American Literature I	PHI 215	Philosophical Issues
ENG 232	American Literature II	PHI 240	Introduction to Ethics
ENG 241	British Literature I	REL 112	Western Religions
ENG 242	British Literature II	REL 211	Intro to Old Testament
ENG 261	World Literature I	REL 212	Intro to New Testament
ENG 262	World Literature II	REL 221	Religion in America
HUM 130	Myth in Human Culture		

APPROVED SOCIAL/BEHAVIORAL SCIENCES ELECTIVES

ANT 210	General Anthropology	POL 110	Intro to Political Science
ECO 151	Survey of Economics	POL 120	American Government
ECO 251	Prin of Microeconomics	POL 210	Comparative Government
ECO 252	Prin of Macroeconomics	POL 220	International Relations
GEO 111	World Regional Geography	PSY 150	General Psychology
GEO 112	Cultural Geography	SOC 210	Intro to Sociology
HIS 115	Intro to Global History	SOC 213	Sociology of the Family
HIS 121	Western Civilization I	SOC 220	Social Problems
HIS 122	Western Civilization II	SOC 225	Social Diversity
HIS 131	American History I	SOC 240	Social Psychology
HIS 132	American History II		

DIPLOMA (D35100)

		Hours Per Week		
FALL SEMESTER		**Class**	**Lab**	**Credit**
AHR 110	Introduction to Refrigeration	2	6	5
AHR 111	HVACR Electricity	2	2	3
AHR 113	Comfort Cooling	2	4	4
AHR 160	Refrigerant Certification	1	0	1
CIS 110	Introduction to Computers	2	2	3
MAT 101	Applied Mathematics I	2	2	3
		11	16	19
SPRING SEMESTER				
AHR 114	Heat Pump Technology	2	4	4
AHR 130	HVAC Controls	2	2	3
AHR 140	All Weather Systems	1	3	2
AHR 235	Refrigeration Design	2	2	3
ENG 102	Applied Communications II	3	0	3
		10	11	15
SUMMER SEMESTER				
AHR 112	Heating Technology	2	4	4
AHR 133	HVAC Servicing	2	6	4
		4	10	8
	Total Semester Hours:			**42**

BASIC REFRIGERATION CERTIFICATE (C35100B)

(This certificate is offered every year in the evening program.)

		Hours Per Week		
FALL SEMESTER		**Class**	**Lab**	**Credit**
AHR 110	Introduction to Refrigeration	2	6	5
AHR 111	HVACR Electricity	2	2	3
		4	8	8
SPRING SEMESTER				
AHR 114	Heat Pump Technology	2	4	4
AHR 160	Refrigerant Certification	1	0	1
		3	4	5
	Total Semester Hours:			**13**

HEATING AND COOLING SYSTEMS CERTIFICATE (C35100C)

(This certificate is offered every other year in the evening program.)

FALL SEMESTER				
AHR 113	Comfort Cooling	2	4	4
AHR 235	Refrigeration Design	2	2	3
		4	6	7
SPRING SEMESTER				
AHR 112	Heating Technology	2	4	4
		2	4	4
SUMMER SEMESTER				
AHR 130	HVAC Controls	2	2	3
		2	2	3
	Total Semester Hours:			**14**

HVAC DESIGNS AND INSTALLATION CERTIFICATE (C35100D)

(This certificate is offered every year in the evening program.)

		Hours Per Week		
SUMMER SEMESTER		**Class**	**Lab**	**Credit**
AHR 140	All Weather Systems	1	3	2
		1	3	2
FALL SEMESTER				
AHR 212	Advanced Comfort Systems	2	6	4
		2	6	4
SPRING SEMESTER				
AHR 133	HVAC Servicing	2	6	4
AHR 211	Residential System Design	2	2	3
AHR 220	Commercial Building Codes	2	0	2
		6	8	9
	Total Semester Hours:			**15**