AIR CONDITIONING/REFRIGERATION (ACR)

(Wallace Campus and Ventress Correctional Facility)

This program provides training in which students gain the skills, knowledge, and experience for employment in Heating Ventilation, Air Conditioning, and Refrigeration (HVAC/R) occupations.

The student will acquire techniques and skills necessary to install, maintain, repair, or replace HVAC/R equipment. The student will have the opportunity to learn various phases of the fundamental principles of controls and electrical systems associated with HVAC/R. Courses focus on residential and light commercial HVAC/R systems.

Students who complete all courses listed in the curriculum will be awarded an associate in applied science degree in Air Conditioning/Refrigeration. Students completing all Air Conditioning courses, CIS 146, ENG 101, MTH 116, and SPH 106 or 107 will be awarded a program certificate. Admission is conditional and depends on the student's ability to perform the essential functions identified for this program. Reasonable accommodations are considered.

DEGREE CURRICULUM

Credit Hours ACR 127			
Written and Oral Communications	6		uter/Math Elective
English Composition I	3		
Fundamentals of Oral Communication OR			
Fundamentals of Public Speaking	3	SHORT C	ERTIFICATE C
		(Ventress (Correctional Faci
Humanities and Fine Arts	3		
Humanities/Fine Arts Elective	3	Course	
		Area V:	Career and Tec
Natural Sciences, Mathematics, and		Core Air C	onditioning Cour
Computer Science	9	ACR 111	Principles of Re
Microcomputer Applications	3	ACR 113	Refrigeration Pi
Mathematical Applications	3	ACR 121	Principles of Ele
Science/Computer Science/Math Elective	3	ACR 147	Refrigeration, T
-			Total Core Tecl
History, Social, and Behavioral Sciences	3		
General Psychology	3	After com	pleting the Core
, es			ay choose from th
Career and Technical Courses	47		
Prientation Courses		ELECTRI	CAL CONCENT
Orientation to College OR		ACR 122	HVAC/R Electr
WorkKeys® Assessment and Advisement	1	ACR 123	HVAC/R Electr
Orientation and Student Success	1-3	ACR 127	HVAC/R Electr
Field of Concentration Courses		ACR 210	Troubleshooting
Principles of Refrigeration	3	Tota	l Concentration
HVAC/R Service Procedures	3		Total Credits fo
Refrigeration Piping Practices	3		
Fundamentals of Gas Heating Systems	3	HEATING	CONCENTRAT
Principles of Electricity for HVAC/R	3	ACR 119	Fundamentals o
HVAC/R Electrical Circuits	3	ACR 120	Fundamentals o
HVAC/R Electrical Components	3	ACR 148	Heat Pump Syst
HVAC/R Electric Motors	3	ACR 149	Heat Pump Syst
Residential Air Conditioning	3		Total Concentr
Heat Pump Systems I	3		Total Credits fo
Heat Pump Systems II	3		
Commercial Refrigeration	3		
	English Composition I Fundamentals of Oral Communication OR Fundamentals of Public Speaking Humanities and Fine Arts Humanities/Fine Arts Elective Natural Sciences, Mathematics, and Computer Science Microcomputer Applications Mathematical Applications Science/Computer Science/Math Elective History, Social, and Behavioral Sciences General Psychology Career and Technical Courses Orientation Courses Orientation to College OR WorkKeys® Assessment and Advisement Orientation and Student Success Field of Concentration Courses Principles of Refrigeration HVAC/R Service Procedures Refrigeration Piping Practices Fundamentals of Gas Heating Systems Principles of Electricity for HVAC/R HVAC/R Electrical Circuits HVAC/R Electrical Components HVAC/R Electric Motors Residential Air Conditioning Heat Pump Systems I	Written and Oral Communications6English Composition I3Fundamentals of Oral Communication OR3Fundamentals of Public Speaking3Humanities and Fine Arts3Humanities/Fine Arts Elective3Natural Sciences, Mathematics, and3Computer Science9Microcomputer Applications3Mathematical Applications3Science/Computer Science/Math Elective3History, Social, and Behavioral Sciences3General Psychology3Career and Technical Courses47Orientation Courses47Orientation and Student Success1-3Tield of Concentration Courses1-3Principles of Refrigeration3HVAC/R Service Procedures3Refrigeration Piping Practices3Fundamentals of Gas Heating Systems3Principles of Electricity for HVAC/R3HVAC/R Electrical Circuits3HVAC/R Electrical Components3HVAC/R Electric Motors3Residential Air Conditioning3Heat Pump Systems I3Heat Pump Systems II3	Written and Oral Communications English Composition I Fundamentals of Oral Communication OR Fundamentals of Public Speaking Humanities and Fine Arts Humanities/Fine Arts Elective Natural Sciences, Mathematics, and Computer Science Microcomputer Applications Mathematical Applications Science/Computer Science/Math Elective History, Social, and Behavioral Sciences General Psychology Career and Technical Courses Orientation Courses Orientation to College OR WorkKeys® Assessment and Advisement Orientation and Student Success Principles of Refrigeration HVAC/R Service Procedures Fundamentals of Gas Heating Systems Principles of Electricity for HVAC/R HVAC/R Electrical Circuits HVAC/R Electrical Components Residential Air Conditioning Heat Pump Systems II Heat Pump Systems II

ACR 205	System Sizing and Air Distribution	3
ACR 209	Commercial Air Conditioning Systems	3
ACR 210	Troubleshooting HVAC/R Systems	3
	Total Field of Concentration Credits	45
	Total Credits for Degree	68

Air Conditioning/Refrigeration Associate in Applied Science Degree Suggested Course Sequence

FIRST SEMESTER	SECOND SEMESTER	THIRD SEMESTER
ACR 111	ACR 119	ACR 148
ACR 112	ACR 120	ACR 149
ACR 132	ACR 205	ACR 203
CIS 146	ACR 209	ACR 210
ORI 101 or 105	ENG 101	ORI 104
	MTH 116	PSY 200
	Humanities/Fine	SPH 106 or 107
	Arts Elective	

FOURTH SEMESTER

ACR121 ACR122 123 ACR

CURRICULUM

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Course	Credit Ho	ours
Area V:	Career and Technical Courses	
Core Air Co	onditioning Course Requirements	
ACR 111	Principles of Refrigeration	3
ACR 113	Refrigeration Piping Practices	3
ACR 121	Principles of Electricity for HVAC/R	3
ACR 147	Refrigeration, Transition and Recovery Theory	3
	Total Core Technical Credits	12

e Technical Course Requirements, he following concentrations:

TRATION

ACR 122	HVAC/R Electrical Circuits	3
ACR 123	HVAC/R Electrical Components	3
ACR 127	HVAC/R Electric Motors	3
ACR 210	Troubleshooting HVAC/R Systems	3
Total Concentration Credits		
Total Credits for Short Certificate		

HEATING	CONCENTRATION	
ACR 119	Fundamentals of Gas Heating Systems	3
ACR 120	Fundamentals of Electric Heating Systems	3
ACR 148	Heat Pump Systems I	3
ACR 149	Heat Pump Systems II	3
	Total Concentration Credits	12
	Total Credits for Short Certificate	24

Air Conditioning/Refrigeration Certificate Suggested Course Sequence

FIRST	SEMESTER	SECO	ND SEMESTER	THIRI	D SEMESTER
ACR	111	ACR	121	ACR	119
ACR	113	ACR	122	ACR	120
ACR	132	ACR	123	ACR	148
ACR	133	ACR	127	ACR	149
MAH	101	COM	103		

FOURTH SEMESTER

 ACR
 134

 ACR
 147

 ACR
 209

 ACR
 210

SHORT CERTIFICATE CURRICULUM (Wallace Campus and Ventress Correctional Facility)

Courses	Credit	Hours
Area V:	Required Field of Concentration Courses	15
ACR 111	Principles of Refrigeration	3
ACR 113	Refrigeration Piping Practices	3
ACR 121	Principles of Electricity for HVAC/R	3
ACR 122	HVAC/R Electrical Circuits	3
ACR 123	HVAC/R Electrical Components	3
	Three electives from ACR courses	9
	Total Credits for Short Certificate	24