AIR CONDITIONING/REFRIGERATION (ACR)

(Wallace Campus, Sparks 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. 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
(Wallace and Sparks Campuses)

Courses			*Credit Hours*
Area I:		**Written and Oral Communications**	**6**
ENG	101	English Composition I	3
SPH	106	Fundamentals of Oral Communication **OR**	
SPH	107	Fundamentals of Public Speaking	3
Area II:		**Humanities and Fine Arts**	**3**
		Humanities/Fine Arts Elective	3
Area III:		**Natural Sciences, Mathematics, and Computer Science**	**9**
CIS	146	Microcomputer Applications	3
MTH	116	Mathematical Applications	3
		Science/Computer Science/Math Elective	3
Area IV:		**History, Social, and Behavioral Sciences**	**3**
PSY	200	General Psychology	3
Area V:		**Career and Technical Courses**	**47-49**
Required Orientation Courses			
ORI	101	Orientation to College **OR**	
ORI	105	Orientation and Student Success	1-3
ORI	104	WorkKeys® Assessment and Advisement	1
Required Field of Concentration Courses			
WKO	110	NCCER Core	3
ACR	111	Principles of Refrigeration	3
ACR	112	HVAC/R Service Procedures	3
ACR	113	Refrigeration Piping Practices	3
ACR	119	Fundamentals of Gas Heating Systems	3
ACR	121	Principles of Electricity for HVAC/R	3
ACR	122	HVAC/R Electrical Circuits	3
ACR	123	HVAC/R Electrical Components	3
ACR	127	HVAC/R Electric Motors	3
ACR	132	Residential Air Conditioning	3
ACR	134	Ice Machines	3
ACR	147	Refrigerant Transition and Recovery Theory	3
ACR	148	Heat Pump Systems I	3
ACR	149	Heat Pump Systems II	3
ACR	203	Commercial Refrigeration	3
WKO	106	Workplace Skills	3
		Total Field of Concentration Credits	**48**
		Total Credits for Degree	**71-73**

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

FIRST SEMESTER	*SECOND SEMESTER*	*THIRD SEMESTER*
ACR 111	*ACR 122*	*ACR 147*
ACR 112	*ACR 148*	*ACR 127*
ACR 121	*ACR 149*	*ACR 134*
ORI 101 or 105	*ORI 104*	*SPH 106 or 107*

FOURTH SEMESTER	*FIFTH SEMESTER*	*SIXTH SEMESTER*
ACR 123	*ACR 132*	*ACR 113*
ENG 101	*ACR 119*	*ACR 203*
MTH 116	*CIS 146*	*PSY 200*
WKO 110	*Humanities/Fine Arts Elective*	*Science/Computer/ Math Elective*
		WKO 106

CERTIFICATE CURRICULUM
(Wallace and Sparks Campuses)

Courses			*Credit Hours*
Area I:		**Written and Oral Communications**	**6**
ENG	101	English Composition I	3
SPH	106	Fundamentals of Oral Communication **OR**	
SPH	107	Fundamentals of Public Speaking	3
Area III:		**Natural Sciences, Mathematics, and Computer Science**	**6**
CIS	146	Microcomputer Applications	3
MTH	116	Mathematical Applications	3
Area V:		**Career and Technical Courses**	**47**
Required Orientation Courses			
ORI	101	Orientation to College	1
ORI	104	WorkKeys® Assessment and Advisement	1
Required Field of Concentration Courses			
WKO	110	NCCER Core	3
ACR	111	Principles of Refrigeration	3
ACR	112	HVAC/R Service Procedures	3
ACR	113	Refrigeration Piping Practices	3
ACR	119	Fundamentals of Gas Heating Systems	3
ACR	121	Principles of Electricity for HVAC/R	3
ACR	122	HVAC/R Electrical Circuits	3
ACR	123	HVAC/R Electrical Components	3
ACR	127	HVAC/R Electric Motors	3
ACR	132	Residential Air Conditioning	3
ACR	134	Ice Machines	3
ACR	147	Refrigerant Transition and Recovery Theory	3
ACR	148	Heat Pump Systems I	3
ACR	149	Heat Pump Systems II	3

ACR 203	Commercial Refrigeration	3
	Total Field of Concentration Credits	**45**
	Total Credits for Certificate	**59**

Air Conditioning/Refrigeration Certificate Suggested Course Sequence

FIRST SEMESTER	*SECOND SEMESTER*	*THIRD SEMESTER*
ACR 111	*ACR 122*	*ACR 147*
ACR 112	*ACR 148*	*ACR 127*
ACR 121	*ACR 149*	*ACR 134*
ORI 101 or 105	*ORI 104*	*SPH 106 or 107*

FOURTH SEMESTER	*FIFTH SEMESTER*	*SIXTH SEMESTER*
ACR 123	*ACR 132*	*ACR 113*
WKO 110	*ACR 119*	*ACR 203*
MTH 116	*CIS 146*	*PHS 111*
ENG 101		

SHORT CERTIFICATE CURRICULUM
(Ventress Correctional Facility)

Course		*Credit Hours*
Area V:	**Career and Technical Courses**	
Core Air Conditioning 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	Refrigerant, Transition and Recovery Theory	3
	Total Core Technical Credits	**12**

After completing the Core Technical Course Requirements, students may choose from the following concentrations:

ELECTRICAL CONCENTRATION (ACE)

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	**12**
	Total Credits for Short Certificate	**24**

HEATING CONCENTRATION (ACH)

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 Short Certificate (Ventress) Suggested Course Sequence

FIRST SEMESTER	*SECOND SEMESTER*	*THIRD SEMESTER*
ACR 111	*ACR 122*	*ACR 119*
ACR 113	*ACR 123*	*ACR 120*
ACR 121	*ACR 127*	*ACR 148*
ACR 147	*ACR 210*	*ACR 149*

SHORT CERTIFICATE CURRICULUM
(Wallace and Sparks Campuses)

Courses		*Credit Hours*
Area V:	**Required Field of Concentration Courses**	**27**
ACR 111	Principles of Refrigeration	3
ACR 112	HVACR Service Procedures	3
ACR 119	Fundamentals of Gas Heating Systems	3
ACR 121	Principles of Electricity for HVAC/R	3
ACR 122	HVAC/R Electrical Circuits	3
ACR 123	HVAC/R Electrical Components	3
ACR 147	Refrigerant Transition and Recovery Theory	3
ACR 148	Heat Pumps I	3
ACR 149	Heat Pumps II	3
	Total Credits for Short Certificate	**27**

Air Conditioning/Refrigeration Short Certificate Suggested Course Sequence

FIRST SEMESTER	*SECOND SEMESTER*	*THIRD SEMESTER*
ACR 111	*ACR 122*	*ACR 147*
ACR 112	*ACR 119*	
ACR 121	*ACR 148*	
ACR 123	*ACR 149*	