

## HVAC Technician

### **Description**

The purpose of this program is to provide specialized classroom instruction and practical shop experience to prepare students for employment in a variety of jobs in the field of heating and air conditioning. The HVAC Technician program prepares individuals to install, diagnose, repair, and maintain the operating condition of domestic, residential, and commercial heating and air conditioning units.

### **Program Learning Objectives**

1. To provide the student with a training program that includes adequate instruction, tools, equipment, and facilities necessary to train the student in servicing and maintaining domestic and/or residential air conditioning and refrigeration units.
2. To provide local industry with qualified maintenance and service personnel.
3. To provide opportunities for students and industry personnel to receive environmentally safe certification through on-site testing.

**Curriculum**

<b>Course #</b>	<b>Course Title</b>	<b>Lecture/ Lab Hours</b>	<b>Credit Hours</b>	<b>Clock Hours</b>
LEAD 1003	Work Readiness	2/2	3	90
WKSF 1003	Industrial Workplace Safety	2/2	3	90
HVAC 1013	Introduction to HVAC	2/4	4	150
HVAC 1023	Principles of Refrigeration	2/4	4	150
HVAC 1033	Fundamentals of Electricity	2/2	3	90
<b>CTS - HVAC Helper - Level I</b>			<b>17</b>	<b>570</b>
HVAC 1213	Electric Motors and Components	2/4	4	150
HVAC 1223	Residential Central Air I	2/2	3	90
HVAC 1233	Applied Electricity & Troubleshooting	5/4	4	150
HVAC 1243	Residential Central Air II	2/2	3	90
<b>CTS - HVAC Helper - Level II</b>			<b>31</b>	<b>1050</b>
HVAC 2013	Residential Heating	2/4	4	150
HVAC 2023	Heat Pumps and Specialized Equipment	2/2	3	90
HVAC 2033	Residential System Troubleshooting	2/2	3	90
HVAC 2043	Capstone: HVAC System Design	2/4	4	150
<b>TD - HVAC Technician</b>			<b>45</b>	<b>1530</b>

**Course Descriptions**

***HVAC 1013 Introduction to HVAC***

This course presents the scientific laws governing thermodynamics and their application to the HVAC Industry as well as the basic components of a mechanical refrigeration system and each components purpose as it pertains to mechanical refrigeration.

***HVAC 1023 Principles of Refrigeration***

Information needed to prepare individuals to enter the HVAC industry.

***HVAC 1033 Fundamentals of Electricity***

Introduction to fundamental electrical concepts and theories as applied to the air conditioning industry.

***HVAC 1213 Electric Motors & Components***

Provides instruction in identifying, installing, and testing commonly used components in an air conditioning system.

***HVAC 1223 Residential Central Air I***

This course focuses on the major factors that make up a residential central air conditioning system.

***HVAC 1233 Applied Elec & Troubleshooting***

Provides instruction on wiring various types of air conditioning systems.

***HVAC 1243 Residential Central Air II***

This course is focused on the understanding and installation of air conditioning system components and air distribution systems.

***HVAC 2013 Residential Heating***

This course is focused on the operation, maintenance, installation, and troubleshooting of electric and gas furnaces.

***HVAC 2023 Heat Pumps & Specialized Equip***

This course is focused on the operation, maintenance, installation, and troubleshooting of residential air to air and geothermal heat pumps.

***HVAC 2033 Res System Troubleshooting***

Understanding and Installation of Air Conditioning System and Air Distribution Systems.

***HVAC 2043 Capstone: HVAC System Design***

Understanding the components of the air distribution system.

***LEAD 1003 Work Readiness***

This course is designed to prepare for job readiness by reviewing the skills necessary for employment, including time management, communication, teamwork, and professionalism. The student will engage in a variety of skill-building activities, create a resume, participate in a simulated interview process, and review basic math and English skills necessary for their chosen program of study.

***WKSF 1003 Industrial Workplace Safety***

This course will provide an overview of the construction industry by examining organizational structures and systems, safety regulations and agencies, construction documents, office and field organizations, and the various construction crafts and trades. This course will focus on the basic knowledge and skills needed in the construction industry by studying safety, math, hand tools, power tools, rigging, blueprint reading, communication, and employability.