HEATING, VENTILATION, AND AIR CONDITIONING TECHNOLOGY (HVAC)

HVAC 1005 Safety
1.0 credit hours
15.0 Classroom Hours = 15.0 Lecture Hours
Specific safety practices that apply to the HVAC shop.

HVAC 1315 Electrical Theory
3.5 credit hours
53.0 Classroom Hours = 53.0 Lecture Hours
Basic electron theory and how we use electrical energy for heating ventilation and air conditioning. Use of electrical meters and circuits to check and troubleshoot HVAC equipment. Safety practices are an integral part of this course. Corequisite: HVAC 1005.

HVAC 1320 Electrical Applications Lab
1.0 credit hours
45.0 Classroom Hours = 45.0 Lab Hours
This course will cover Atomic theory, Ohm's Law., Watt's Law, wiring diagrams and symbols, use of electric meters, types of electric motors, controls, and troubleshooting in a lab application. Co-requisite: HVAC 1315.

HVAC 1330 Sheetmetal Installation
3.0 credit hours
75.0 Classroom Hours = 30.0 Lecture Hours + 45.0 Lab Hours
The student will be introduced to tools and materials used in sheetmetal work, as well as the procedures used in making heating and cooling ducts and the installation of actual projects.

HVAC 1340 Furnace Fundamentals
4.0 credit hours
60.0 Classroom Hours = 60.0 Lecture Hours
A study of gas and electric furnaces. Students will study and understand applications of installations and repair. Co-requisites: HVAC 1315 and HVAC 1320.

HVAC 1350 Furnace Fundamentals Lab
3.0 credit hours
135.0 Classroom Hours = 135.0 Lab Hours
A study of gas and electric furnaces. Students will study and understand applications of installations and repair in a lab application. Co-requisites: HVAC 1320 and HVAC 1340.

HVAC 1360 Fall Internship
1.5 credit hours
90.0 Classroom Hours = 90.0 Lab Hours
Hands on experience working as an employee with a local HVAC business and coordinated by Mid-Plains HVAC Department.

HVAC 1400 Spring Internship
1.5 credit hours
90.0 Classroom Hours = 90.0 Lab Hours
Hands on experience working as an employee with a local HVAC business and coordinated by Mid-Plains HVAC Department.

HVAC 1410 A/C Cycle Theory
3.0 credit hours
45.0 Classroom Hours = 45.0 Lecture Hours
This course will cover basic A/C principles, refrigerants, and the refrigeration cycle. Prerequisite: HVAC 1320.

HVAC 1425 A/C Cycle Lab
2.0 credit hours
90.0 Classroom Hours = 90.0 Lab Hours
This course includes working with actual models of window air conditioners and mock-up trainers while applying shop tools and techniques. Co-requisite: HVAC 1410. Fee $25.

HVAC 1435 A/C Controls Theory
3.0 credit hours
45.0 Classroom Hours = 45.0 Lecture Hours
This course will cover residential and commercial A/C wiring diagrams, schematics and electrical control devices including troubleshooting and repair. Prerequisite: HVAC 1315 and Corequisites: HVAC 1445 and HVAC 1460.

HVAC 1440 A/C Controls Lab
1.0 credit hours
45.0 Classroom Hours = 45.0 Lab Hours
This course will cover residential and commercial A/C wiring diagrams, schematics and electrical control devices including troubleshooting and repair. Co-requisite: HVAC 1435.

HVAC 1445 A/C Apps Refrigerant/Rec
4.0 credit hours
60.0 Classroom Hours = 60.0 Lecture Hours
The student will study design and do maintenance, troubleshooting, repair, and fine tuning of residential and commercial air conditioning. Prerequisite: HVAC 1315 and Corequisite: HVAC 1435.

HVAC 1460 A/C Applications Lab
1.0 credit hours
45.0 Classroom Hours = 45.0 Lab Hours
The student will study design and do maintenance, troubleshooting, repair, and fine tuning of residential and commercial air conditioning. Corequisite: HVAC 1445. Fee $25.

HVAC 1475 Heat Pumps Theory
3.0 credit hours
45.0 Classroom Hours = 45.0 Lecture Hours
A study of heat pumps and electrical sequence of heat pumps. Prerequisites: HVAC 1315 and Corequisite: HVAC 1410.

HVAC 1480 Heat Pumps Lab
1.0 credit hours
45.0 Classroom Hours = 45.0 Lab Hours
A study of heat pumps. Students will have applications of tracing, troubleshooting, and repair. Corequisite: HVAC 1475. Fee $25.

HVAC 1490 Internship
8.0 credit hours
480.0 Classroom Hours = 480.0 Lab Hours
On-the-job training through a cooperative arrangement with HVAC businesses. Students work a minimum of 480 hours under the direction of a sponsoring manager or supervisor to apply classroom knowledge and training. Prerequisite: The student must have completed both fall and spring semesters in the HVAC program.

HVAC 1500 Comm Refrigeration Elec Mechanical
6.0 credit hours
90.0 Classroom Hours = 90.0 Lecture Hours
This course helps to prepare the student to install, service and repair some light commercial refrigeration systems as ice machines, reach-in coolers and freezers, walk-in coolers and freezers. This course helps to prepare the student to install, service and repair some light commercial refrigeration systems as ice machines, reach-in coolers and freezers, walk-in coolers and freezers. Prerequisites: HVAC 1410, HVAC 1425, HVAC 1435, and HVAC 1440.

HVAC 1510 Comm Refrigeration Elec Mech Lab
2.0 credit hours
90.0 Classroom Hours = 90.0 Lab Hours
Students will advance through several practical lab competencies designed to develop hands-on skills needed when working on light commercial refrigeration equipment. Prerequisites: HVAC 1410 and HVAC 1435. Co-requisite: HVAC 1500.

HVAC 1710 Refrigeration & Air Conditioning
2.0 credit hours
45.0 Classroom Hours = 22.0 Lecture Hours + 23.0 Lab Hours
Refrigeration cycle, component principles, repair applications and shop projects. Heating and cooling unit installation and service. Fee $25.

HVAC 2990 Special Topics
3.0 credit hours
45.0 Classroom Hours = 45.0 Lecture Hours
Special topic course description upon request.