**Course Outline:**

Explain job opportunities related to the HVACR program.

 -Personal evaluations

 -Job Applications and resume’

Demonstrate safety rules, regulations, and procedures when working with electrical systems.

 -Job Site Safety

 -Safety Test -100%

Demonstrate use of hand tools and power tools related to HVACR systems.

 -Hand tools and application

 -Electrical tools and use

 -Hand tool activities and test

Use various meters to measure electrical values.

 -Digital and Analog Multi-meter use and practice

**Introduction to Control Circuit Troubleshooting 8.i**

Demonstrate troubleshooting techniques to solve electrical problems encountered in HVACR

 electrical systems.

 -Troubleshoot units and explanation of system operation.

Demonstrate procedures used for replacing electrical components in an HCACR system.

 -Component change-out and replacing of defective parts.

Interpret schematic wiring diagrams for HVACR systems and system components.

 -Comprehension of wiring and voltage.

**Alternating Current 6.i**

Define what Electricity is, does, and how it affects HVACR systems.

 -What is Electricity; concepts and theory

Demonstrate the use of Ohm’s law and Joule’s law.

 -Theory and how Ohm’s law is used to calculate electrical circuits.

Demonstrate techniques involve with assembly and disassembly of a single phase motor.

 -Break down and motor component identification.

Determine resistance of windings in a split-phase motor to identify start-run windings.

 -Identification and determination of windings in various types of motors.

Determine common start-run terminals of a single phase compressor motor.

 -Disassembly of compressor and location of motor windings.

Demonstrate preventive maintenance procedures for a window air-conditioner.

 -Proper maintenance and cleaning of coils and motor lubrication.

Demonstrate the procedure of replacing a double-shaft fan motor.

 -Breakdown and reassembly of various motor housings and unit assemblies.