**Introduction to Electricity for HVACR**

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**Course Outline:**

Explain job opportunities related to the HVACR program.

 -Personal evaluations

 -Career options and pathways

 -Job Applications and resume’

 -Skills/USA Leadership /Job skills/ Interviews

**Basic Electricity 7.i- safety rules, regulations, and procedures when working with electrical systems.**

 -General safety

 -Fire extinguisher 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

**What is Electricity? – Heating and Cooling Essentials**

 -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 procedures for testing fuses and capacitors.

 Demonstrate procedures for building series, parallel, and series-parallel circuits.

 -Construction of circuits, using conductors and components

 -Test Cord construction and compressor testing

Demonstrate testing procedures for electrical components, including fan relays, contactor

relays, capacitors, and motor windings.

Demonstrate procedures for installing heating and cooling thermostats.

Explain conductors, insulators, and related symbols used in HVACR.

Demonstrate procedures for making proper electrical connections.

 -Use of Solder Iron and mechanical connections

Explain various types of wiring diagrams, including pictorial, line, and schematic used in

HVACR.