**Course Outline:**

Explain job opportunities related to the HVACR program.

-Personal evaluations

-Career options and pathways

-Job Applications and resume’

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

-OSHA 10-hour Construction Card

**Trade Mathematics 2.i**

-solve problems involving measurement of lines, area, volume, weights, angles, pressure, vacuum and temperature.

-scientific notation , powers, roots, and basic algebra/geometry

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

-Hand tools and application

-Hand tool activities and test

**Introduction to Heating 8.i**

-heating fundamentals, types and designs of furnaces and components.

-basic procedures for installing and servicing furnaces

Determine the condition of a combustion chamber.

-Inspection of Furnace and heat exchanger.

Practice techniques for heating system component replacement.

-Replacement of fan-limit control, gas valve, transformer, wall thermostat, blower motor

**Air Distribution Systems 9.i**

-Air flow measurement, ductwork installation, and use of air flow instruments

-Measuring temperature, humidity, pressure, and velocity.

-Use of Digital thermometer, Velometer, Digital Psychrometer, etc.

Determine the condition of a heating element.

-Use of Digital meter and wiring diagrams.

Determine the condition of motor and blower for HVACR systems.

-Troubleshooting techniques.

Demonstrate the procedure to test and replace components of an electric heat pump.

Perform preventive maintenance on HVACR equipment.

- gas-fueled equipment, electric heating equipment, forced-air furnaces, air

handlers, electronic air cleaners, humidifiers, indoor and outdoor heat pump coils

Estimate material and labor costs for HVACR system installation and repairs.

-Knowledge of repair cost and how to fill out service tickets.