# HVAC Technology Course No. 17056 Credit: 0.5

|  |  |  |  |
| --- | --- | --- | --- |
| **Student name:** |  | **Graduation Date:** |  |

Pathways and CIP Codes: **Construction & Design (46.0000) - Construction Strand**; Energy (17.2071); Manufacturing (48.0000) - Maintenance Strand

Course Description: An **application level** course designed to provide students with exposure to and training in the theories, equipment and skills needed to install and maintain HVAC systems. (Prerequisite: 17002/Carpentry.)

Directions:The following competencies are required for full approval of this course. Check the appropriate number to indicate the level of competency reached for learner evaluation.

**RATING SCALE:**

4. Exemplary Achievement: Student possesses outstanding knowledge, skills or professional attitude.

3. Proficient Achievement:Student demonstrates good knowledge, skills or professional attitude. Requires limited supervision.

2. Limited Achievement:Student demonstrates fragmented knowledge, skills or professional attitude. Requires close supervision.

1. Inadequate Achievement:Student lacks knowledge, skills or professional attitude.

0. No Instruction/Training:Student has not received instruction or training in this area.

## Benchmark 0: The following competencies are to be taught within ALL application level courses offered in your school's approved pathway.

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 0.1 | Demonstrate an understanding of industry standards for personal safety including the safe use of tools, equipment, and hazardous materials |  |
| 0.2 | Demonstrate time management skills. |  |
| 0.3 | Create and utilize employment documents including a resume and portfolio. |  |
| 0.4 | Demonstrate job seeking and interview skills. |  |
| 0.5 | Understand and respond to performance reviews. |  |

## Benchmark 1: Click or tap here to enter text.

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 1.1 | Safely utilize and maintain tools common to the mechanical trades industry. |  |
| 1.2 | Describe the heating and cooling process. |  |
| 1.3 | Demonstrate the use of a duct calculator and the formulas used to calculate heat loads. |  |
| 1.4 | Apply layout to HVAC projects. |  |
| 1.5 | Describe various types of heating and cooling systems, including the pros, cons and applications of each. |  |
| 1.6 | Demonstrate basic electrical knowledge of how electrical circuits work and how they are used within the industry. |  |
| 1.7 | Install basic and programmable heat/cool thermostats. |  |
| 1.8 | Describe thermostat wire and identify what each color should be used for. |  |
| 1.9 | Research future trends in “green technology” for the HVAC industry. |  |
| 1.10 | Troubleshoot and repair problems with HVAC systems. |  |
| 1.11 | Correctly measure, cut and join piping/tubing. |  |
| 1.12 | Demonstrate proper soldering techniques. |  |
| 1.13 | Demonstrate ability to maintain appropriate maintenance documentation. |  |

I certify that the student has received training in the areas indicated.

Instructor Signature:

For more information, contact:

CTE Pathways Help Desk

(785) 296-4908

[pathwayshelpdesk@ksde.org](mailto:pathwayshelpdesk@ksde.org)



900 S.W. Jackson Street, Suite 102

Topeka, Kansas 66612-1212

[https://www.ksde.org](https://www.ksde.org/)

The Kansas State Department of Education does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities and provides equal access to any group officially affiliated with the Boy Scouts of America and other designated youth groups. The following person has been designated to handle inquiries regarding the nondiscrimination policies: KSDE General Counsel, Office of General Counsel, KSDE, Landon State Office Building, 900 S.W. Jackson, Suite 102, Topeka, KS 66612, (785) 296-3201.