



# **Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC-R): CIP 47.0201**

Mr. Rick Heltion • 2022 – 2023

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## **Program Description:**

HVAC-R (47.0201): An instructional program that prepares individuals to apply technical knowledge and skills to install, repair and maintain commercial and domestic heating, air conditioning and refrigeration systems. Instruction includes theory and application of basic principles involved in conditioning of air (cooling and heating); filtering and controlling humidity; operating characteristics of various units and parts; blueprint reading; use of technical reference manuals; the diagnosis of malfunctions; overhaul, repair and adjustment of units and parts such as pumps, compressors, valves, springs and connections; and repair of electric/electronic and pneumatic control systems.

## **Textbooks:**

-NCCER core curriculum: 5th ed., 2015 Pearson Education Inc., Blueprints and Plans for HVAC. 2nd ed. Clifton Park: Delmar Learning, 1996. Print.

-Silberstein, Eugene. Residential Construction Academy: HVAC. 2nd ed. Clifton Park, NY: Cengage Learning, 2012. Print.

## **Industry Certifications:**

- EPA 608 (Refrigerant License)
- EPA 609 (Automotive Refrigerant License)
- OSHA 30 Hour General Industry
- American Ladder Institute
  - Articulated Ladder Safety
  - Mobile Ladder Safety
  - Single & Extension Ladder Safety
  - Step Ladder Safety
- Industry Competency Exams
  - Residential Heating and Cooling
  - Light Commercial A/C & Heating
  - Commercial Refrigeration

**Assessment and Evaluation:** All tests, quizzes and projects will be graded using Steel Center's grading scale:

- 93-100 A
- 85-92 B
- 77-84 C
- 70-76 D
- 70-0 E

**Measures of Achievement:**

1. Work Ethics (daily grade): This grade accounts for 34% of a student's total grade. The scale is a 0-10 base on preparation, participation, behavior, staying on task and proper dress. (Including safety glasses)
  - a. Absences require the student to call off using the Remind App to get makeup work sent directly to them.
    - i. Makeup work is either sent back digitally or hand written and is due upon return to school
2. Skills Grade (task grade): This grade accounts for 33% of a student's total grade and consists of the evaluation and recording of lab activities the students are assigned each grading period.
3. Knowledge Grade (test and assignment grade): This grade accounts for 33% of a student's total grade. The knowledge grade will include but not limited to homework, quizzes, time cards, weekly logs, midterm, and final exams.

**Rules and Regulations:**

**Student Handbook rules and regulations supersede all classroom rules.**

1. Proper Attire a. All students must be dressed in school appropriate attire in the classroom. b. In the shop, students must have: boots, jeans, safety glasses, and gloves.
2. Present and Prompt (time management)
  - a. Be on time to class and stay in class
  - b. Stay on task
3. Professional
  - a. Be respectful to everyone and everything
  - b. Model appropriate behavior
4. Productive (follow directions)
  - a. Prompt compliance
  - b. Thoroughness in following directions
5. Procedures
  - a. Preparedness, safety, tools, equipment, instruction, assignments and clean up.

**Consequences to these Rules and Regulations:**

1. Verbal Warning
  - a. Redirection based on teacher discretion and severity
2. Point Deductions of Daily Grade (per category).
  - a. point deductions are made according to the severity and frequency of the violation
3. Parental Contact
  - a. Parents will be notified of issues students are having in class / shop
4. Office Referral
  - a. Discipline based on Administration discretion.