

8503 & 8504 - HVAC (Core & Level 1) Class Syllabi for School Year 2025-2026

New Horizons Career and Technical Education Center
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E-BOOKS

National Center for Construction Education and Research (NCCER), Pearson, 6th Ed.
CORE - Introduction to Basic Construction Skills

National Center for Construction Education and Research (NCCER), Pearson, 6th Ed.
HVACR, Level 1, 6th Edition.

CORE OBJECTIVE

The CORE curriculum is an introduction to craft skills. It prepares individuals for entry-level positions on project sites by providing the basics in safety, hand and power tools, construction math, materials handling, construction drawings, rigging, and employability skills.

This competency-based program can be used as a pre-apprenticeship program, meets Perkins funding requirements, and is recognized throughout our country by the construction industry. The knowledge and skills established in CORE are the foundation of successful construction careers. It is a required prerequisite before taking any NCCER Level One curriculum. Below are the modules:

- M2 - Applying Basic Construction Safety Standards
- M3 - Introduction to Construction Math
- M4 - Introduction to Hand Tools
- M5 - Introduction to Power Tools
- M8 - Basic Communication Skills
- M9 - Basic Employability Skills

LEVEL 1 OBJECTIVE

This HVACR curriculum prepares learners for a career as skilled heating, air conditioning, and refrigeration mechanics and installers. It covers the concepts technicians need to install, maintain, and troubleshoot HVACR systems. The curriculum also covers the required basic knowledge of sheet metal, welding, and pipefitting.

This curriculum meets HVAC Excellence accreditation standards and prepares trainees to sit for HVAC Excellence certification tests and complies with the U.S. Department of Labor's standards for apprenticeship programs. Below are the modules:

- M1. Introduction to HVACR
- M2. Trade Mathematics
- M3. Basic Electricity
- M4. Introduction to Heating
- M5. Introduction to Cooling
- M6. Air Distribution Systems
- M8. Soldering and Brazing

CREDENTIALS

1. OSHA 10 Hr Safety Course (Required)
2. EPA 608 Certification (Core, Type I, Type II, Type III, or Universal)

TEACHER POLICIES/CLASSROOM MANAGEMENT PLAN

1. Cell phones and/or personal electronic devices (headsets, earbuds, smart watches, etc.) are not to be used anywhere inside New Horizons' building. This is a Virginia State mandate (Executive Order 33) signed by Governor Youngkin. In alignment with that policy, cell phones must be turned off and out of visual sight and placed in the lockbox BEFORE class begins.

- a. First offense: Verbal warning
- b. Second offense: Parent/guardian contacted.
- c. Third offense: Phone confiscated, parent/guardian contacted again, and referred to administration for discipline.

2. Students must be prepared every day - this includes laptops, a pen and/or pencil, paper, notebook, folder, etc., so assignments can be completed.

3. Students not in their classroom seats when the bell rings will be counted as tardy. Three unexcused tardies are equivalent to one day's absence.

4. While in the classroom, students will be expected to act calmly and orderly to provide all students with an atmosphere for learning.

5. NO HORSE PLAYING AND/OR ROUGH HOUSING ANYWHERE AT NEW HORIZONS, ESPECIALLY IN THE SHOP OR CLASSROOM.

6. While working in the shop, students must follow all rules to provide a safe working environment for themselves and others. Proper safety gear must be used in the shop area. Your flame-retardant jacket must be worn at all times when in the lab. If you fail to do this, you will sit in the classroom facing the lab so you can safely observe the

day's lesson, and you will lose all employability points for that day. SAFETY DOESN'T HAPPEN BY ACCIDENT, AND IT NEVER SLEEPS.

7. Additional rules, procedures, required materials, class fees, and information will be provided for students and parents to sign once class starts.

RULES AND REGULATIONS/POLICIES AND PROCEDURES

Students will follow all rules and policies outlined in the *Student Rights & Responsibilities Handbook* by New Horizons Regional Education Centers. An employee rubric will also be handed out with a set of rules for you to follow.

LATE WORK

Students can make up any missed assignments, quizzes, tests, WorkForce Wednesday sessions, training sessions, etc. This must be completed within five days after the missed assignment. After five days, there will be a 10-point deduction per day, up to five days, and then the assignment will be closed.

GRADING

Student grades will be proportioned as such:

- 34% - Employability - See employability rubric handout
- 33% - Related Instruction - Tests, quizzes, written assignments, etc.
- 33% - Competencies - Lab work and hands-on

The grading scale is:

- A = 90-100
- B = 80-89
- C = 70-79
- D = 60-69