Tom P. Haney Technical College HVAC/R 2 Syllabus 2025-2026

Welcome to Your Advanced HVAC/R Journey!

Advance your career in the dynamic field of Heating, Ventilation, Air-Conditioning, and Refrigeration (HVAC/R) at Tom P. Haney Technical College! The HVAC/R 2 program builds on HVAC/R 1, equipping you with advanced technical expertise, industry certifications, and leadership skills for complex commercial and industrial roles in the Architecture and Construction career cluster. This program prepares you for high-demand, specialized positions or further training in the HVAC/R industry.

Program Mission

The purpose of this program is to prepare students for employment or provide advanced training in the heating, air-conditioning, and refrigeration industry. This program offers a sequence of courses that provides technical skill proficiency, and includes competency-based applied learning that contributes to academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, occupation-specific skills, and knowledge. The content includes but is not limited to designing, testing and repairing heating, air-conditioning, (HVAC) systems, and refrigeration.

Class Schedule

Full-Time Program

- Monday – Friday: 7:00 AM – 12:00 PM
- Arrival Time: Students must arrive by 7:00 AM to begin the day.

Instructors: Larry Conley and Gary Vickers

- **Location:** Building 1, Room 127
- **Email**: Conlelk@bay.k12.fl.us
- **Email**: Vickege@bay.k12.fl.us
- **Office**: 850-767-5500 ext. 212-5162
- **Office Hours**: Monday – Friday, 6:45 AM – 2:15 PM

Program Purpose

The HVAC/R 2 program is designed for students who have completed the 750-hour HVAC/R 1 program, preparing you for advanced employment in commercial and industrial HVAC/R settings or further specialized training. You'll master complex system design, diagnostics, and optimization, building on foundational knowledge. A key focus is achieving advanced certifications, such as NATE or ESCO Employment Ready credentials. The program emphasizes:

- **Advanced Technical Skills**: Master sophisticated HVAC/R system installation, maintenance, and troubleshooting.
- **Industry Leadership**: Develop problem-solving, project management, and communication skills for supervisory roles.
- **Career Advancement**: Prepare for high-demand roles in the Architecture and Construction career cluster.

Program Structure

The HVAC/R 2 program is a 600-hour course consisting of two Occupational Completion Points (OCPs), aligned with the Florida Statewide Course Numbering System (SCNS) per Section 1007.24(1), F.S. Career and technical credits are awarded per Section 1001.44(3)(b), F.S. Completing both OCPs is required to earn HVAC/R 2 certification; completing a single OCP does not qualify for full program completion.

Course Details:

- **Course Number**: ACR0013
  - **Title**: HVAC/R Intermediate Service Practices
  - **Length**: 250 Hours
  - **SOC Code**: 49-9021 (Heating, Air Conditioning, and Refrigeration Mechanics and Installers)
  - **Teacher Certification**: AC HEAT ME @7 G, REFRG MECH 7 G
- **Course Number**: ACR0044
  - **Title**: HVAC/R Advanced Commercial and Industrial Service Practices
  - **Length**: 300 Hours
  - **SOC Code**: 49-9021
  - **Teacher Certification**: AC HEAT ME @7 G, REFRG MECH 7 G
    Students completing all 600 hours may pursue advanced employment as an HVAC/R 2 occupational completer or continue specialized training. Combined with HVAC/R 1, the total program hours are 1350.

FDOE Curriculum Standards for HVAC/R 2 (2025-2026)

The following standards, aligned with the 2025-2026 FDOE CTE Curriculum Frameworks for HVAC/R 2, outline the advanced skills and knowledge you'll master across ACR0013 and ACR0044. These standards ensure readiness for complex commercial and industrial applications and advanced certifications.

1. **Apply advanced safety protocols (ACR0013)**: Implement OSHA standards and hazard mitigation in complex commercial/industrial environments.
2. **Utilize specialized tools and equipment (ACR0013)**: Operate advanced diagnostic tools for HVAC/R system maintenance.
3. **Perform advanced electrical diagnostics (ACR0044)**: Troubleshoot complex control circuits, variable frequency drives, and automation systems.
4. **Design HVAC/R systems (ACR0044)**: Develop system layouts for commercial and industrial applications.
5. **Optimize refrigeration systems (ACR0044)**: Enhance performance using advanced refrigeration techniques and low GWP refrigerants.
6. **Conduct advanced system maintenance (ACR0044)**: Perform predictive maintenance and energy efficiency audits.
7. **Troubleshoot commercial heating systems (ACR0044)**: Diagnose and repair advanced gas, electric, and hydronic systems.
8. **Interpret complex schematics and blueprints (ACR0013)**: Analyze detailed HVAC/R system diagrams for commercial projects.
9. **Implement advanced piping techniques (ACR0044)**: Install intricate piping systems for industrial applications.
10. **Exhibit leadership skills (ACR0013, ACR0044)**: Demonstrate project management and supervisory skills in workplace scenarios.
11. **Apply energy management principles (ACR0044)**: Integrate energy-efficient technologies and sustainable practices.
12. **Provide advanced customer service (ACR0044)**: Manage complex client interactions and service resolutions professionally.
13. **Prepare for advanced certifications (ACR0044)**: Study for credentials like NATE, ESCO Employment Ready (Air Conditioning, Heat Pump, Electrical, Light Commercial, Low GWP Refrigerant Safety).

Career Ready Practices

We integrate the Common Career Technical Core (CCTC) practices to ensure you are career-ready:

1. Act as a responsible and contributing citizen and employee.
2. Apply appropriate academic and technical skills.
3. Attend to personal health and financial well-being.

4. Communicate clearly, effectively, and with reason.
5. Consider the environmental, social, and economic impacts of decisions.
6. Demonstrate creativity and innovation.
7. Employ valid and reliable research strategies.
8. Utilize critical thinking to solve problems and persevere.
9. Model integrity, ethical leadership, and effective management.
10. Plan education and career paths aligned with personal goals.
11. Use technology to enhance productivity.
12. Work productively in teams with cultural and global competence.

Laboratory Activities

Hands-on learning drives this advanced program! You'll engage in lab activities such as:

- **System Design Projects**: Create and test commercial HVAC/R system designs.
- **Advanced Diagnostics**: Use cutting-edge tools to troubleshoot complex system issues.
- **Energy Audits**: Perform efficiency analyses to optimize system performance.
- **Safety Drills**: Practice advanced safety protocols in high-risk scenarios.
  These experiences prepare you for leadership roles in the HVAC/R industry.

Grading Policy

Your progress is evaluated using FDOE criteria, employability skills, and instructor assessments. A 2.0 cumulative GPA is required to graduate.

Assignment Weighting:	**Grading Scale**:
• **Lab Activities**: 35% • **Written Assessments**: 10% • **Observational Assessments**: 30% • **Employability Skills**: 25%	• **A**: 90–100 • **B**: 80–89 • **C**: 70–79 • **D**: 60–69 • **F**: 0–59

Required Materials

To succeed, you'll need:

- **HVAC Tool Kit**: Provided or purchased as specified.
- **Textbooks**:
  - NCCER HVAC Level 2, 6th Edition (ISBN: 978-0-13-765409-3)
  - NCCER HVAC Level 3, 6th Edition (ISBN: 978-0-13-794628-0)
  - NCCER HVAC Level 4, 6th Edition (ISBN: 978-0-13-765426-0)

Classroom Attendance Policy

Attendance is vital to my success in the HVAC/R 2 program. Class starts promptly at 7:00 AM, and the doors will be locked at 7:10 AM. If I arrive after 7:10 AM, I will not be able to clock in until 9:30 AM, resulting in the loss of those hours. I only have 37 hours of absence available each enrollment. Each class is 5 hours; missing an entire day results in the loss of 5 hours for the day, regardless of the reason. Arrival after 7:10 AM results in a loss of 2.5 hours, and leaving early before 11:50 AM results in a loss of 2.5 hours, unless prescheduled (notified the day prior or in case of an emergency, not the day of), in which case I only lose the hours I am missing. I understand that I am responsible for tracking my hours and meeting the program's attendance requirements. Further details are available in the Tom P. Haney Technical College Student Handbook.

Classroom Policies

To ensure a safe and focused learning environment:

- **Safety First**:
    - Wear closed-toe shoes and safety glasses in classroom and shop areas.
- **Cell Phone Policy**: Per Florida law (HB 379), cell phones and personal electronic devices are prohibited during instructional time unless explicitly permitted by the instructor for educational purposes. Lockers are available to store devices. Violations will result in removal from class for the remainder of the day, with a loss of those hours.
- **Professionalism**:
    - No eating or drinking in the classroom (labeled bottled water allowed).
    - Maintain classroom cleanliness and order.
    - Avoid disruptions; visitors require prior administrative approval.
- **Campus Rules**:
    - Smoking is prohibited on campus.
    - Emergency calls are permitted; personal calls are not allowed during class.

Why Choose HVAC/R 2 at Tom P. Haney Technical College?

This 600-hour program elevates your HVAC/R expertise, preparing you for advanced commercial and industrial roles and certifications. With hands-on training, alignment with FDOE standards, and a focus on leadership and innovation, you'll be equipped to excel in the HVAC/R industry. Join us to advance your career and shape a future of efficiency and excellence!