

SOUTHEAST COMMUNITY COLLEGE
CONSTRUCTION MANUFACTURING AND TECHNOLOGY DIVISION
Heating, Ventilation, Air Conditioning & Refrigeration Technology Program
Revision Date: August 2025

I. CATALOG DESCRIPTION

Course Number: HVAC 2901
Course Title: Cooperative Experience
Prerequisite(s): None
Catalog Description: On-the-job experience performing heating, air conditioning, refrigeration, sheet metal, heat pumps, with HVACR employers. Application of skills and knowledge acquired in previous quarters. This work experience is paid employment. Contact with supervising instructor two times throughout the semester. Daily performance logs, training site appraisals, instructor assessments, student's cooperative experience and self-summary reports required.
Credit Hours: 4
Class Hours: 0
Lab Hours: 240
Total Contact Hours: 240

II. COURSE OBJECTIVES: *Course will:*

- A.** Depending on the type of co-op, the students may perform the following procedures and other procedures as assigned by their employer.
1. Communicate with customers and respond to customer requirements.
 2. Complete service work order forms and all appropriate paper work associated with a service call.
 3. Gather information on a service request and assist in evaluating complaint information.
 4. Assist in the permit application and inspection processes.
 5. Install residential and/or commercial HVAC equipment including air conditioners, heat pumps, programmable thermostats, humidifiers, etc.
 6. Troubleshoot residential and/or commercial HVAC equipment with the use of meters and recovery equipment.
 7. Perform cooling and heating checkouts on HVAC equipment.
 8. Perform sheet metal fitting and duct fabrication.
 9. Perform system layout and sheet metal installation including duct installation, grilles, registers, and diffuser installation.
 10. Perform furnace flue installation.
 11. Diagnose electrical problems on commercial refrigeration systems.
 12. Diagnose mechanical problems on commercial refrigeration systems.
 13. Use a VOM meter, ammeter, digital temperature tester, and manifold gauges.
 14. Summarize internship education experiences.
 15. Discuss experiences, job types, accomplishments, and problems during internship education semester.
 16. Discuss attitude, attendance, health requirements, wages, fringe benefits, etc. in reference to full-time employment upon graduation.
 17. Compose and write a thank you letter to his/her internship education employer.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Experience and learn HVAC service with an HVACR company and/or,
 - 2. Experience and learn HVAC installation with an HVACR company and/or,
 - 3. Experience and learn HVAC sheet metal fabrication with an HVACR company and/or,
 - 4. Experience and learn refrigeration installation and service with an HVACR company
- B. General Education Learning Outcomes (GELOs)
 - 1. GELO #6: Career and Life Skills
 - Outcome 1: Employ effective interpersonal and intrapersonal communication skills.

IV. CONTENT/TOPICAL OUTLINE

- A. Depending on the type of co-op, the students may perform the following procedures and other procedures as assigned by their employer.
 - 1. Safety Procedures
 - 2. HVAC Service & Installation
 - 3. Sheet Metal Fabrication & Installation
 - 4. Refrigeration Service & Installation
 - 5. Written summary of *internship* education experiences
 - 6. Written thank you letter
 - 7. Student evaluation of *internship* education employer
 - 8. Self-evaluation

V. INSTRUCTIONAL MATERIALS

- A. Required Text(s): None
- B. Other Resources: Manufacturer's Manuals and Company Policies & Procedures

VI. METHODS OF PRESENTATION/INSTRUCTION

- A. Methods of presentation typically include a combination of the following:
 - 1. On-the-job training

VII. METHODS OF EVALUATION

- A. Methods of evaluation typically include a combination of the following:
 - 1. Accumulative job work hours
 - 2. Weekly work log assessment
 - 3. Site supervisor/student/instructor individual performance evaluation

VIII. SPECIFIC COURSE REQUIREMENTS

- A. Student must meet all of the following to receive a passing grade:
 - 1. Submit own work. Students turning in homework, reports, field notes, or calculations by someone other than themselves will receive 0% and be referred to the Division Dean and Dean of Students for further disciplinary action. Consequences can include failing the course.
 - 2. Demonstrate attitude, skills, and character commensurate with industry standards

All program policies of the Heating, Ventilation, Air Conditioning, & Refrigeration Technology program and cooperative experience program will be strictly enforced.