
COURSE PREFIX/NO:	ACR 102
COURSE TITLE:	Tools & Service Techniques
LEC HRS/WEEK:	2.0
LAB HRS/WEEK:	3.0
CREDIT HRS/SEMESTER:	3.0

[Distance Learning Attendance/VA Statement](#)
[Textbook Information](#)

COURSE DESCRIPTION

This course is a basic study of the uses of tools and service equipment used in the installation and repair of HVAC equipment.

COURSE COMPETENCIES

Upon successful completion of this course, the student should be competent to perform the following tasks:

- Identify the different types of tools used in the air conditioning trade and their applications.
- Safely handle and maintain the various tools used in the trade.
- Measure various items using the standard measuring instruments used in the field today.

MINIMAL STANDARDS

Given a piece of metal and a project assignment by the instructor, the student will select the proper file, hacksaw blade, drill bit and tap to complete the project. The finished project must be clean, free of burrs, and within dimensional tolerances as specified by the instructor.

Given a repair project assignment by the instructor, the student will complete the assigned project used located within the HVAC shop area. The repairs must be clean and hold pressure if required. All dimensions must be within tolerances defined by the instructor.

The student will demonstrate safe handling procedures in the use of the tools in our trade, both electrical and mechanical. These safety points will be pointed out to the students in every phase of study of tools and their use.

Given guidelines of acceptable work behavior by the instructor, the student will exhibit proper work attitudes at all times.

See Evaluation Strategies/Grading of this outline for additional details.

COURSE REQUIREMENTS

Students are responsible for attaining competencies through completion of the following course requirements:

Attendance

Students will be bound by the policies stated in the York Technical College Student Handbook. Students must attend 90% of the hours assigned the class for a semester to receive credit for the course.

In case a student does miss a class, the student is responsible for obtaining the material that was covered during the absence. If a student is aware that a class will be missed, then the student should notify the instructor at the earliest possible date.

If a student misses a test because of illness or urgent emergency, it is the responsibility of the student to contact the instructor at the earliest possible date. At that time a new date for a make-up test can be scheduled. Students with unexcused absences during tests will be allowed to take a make-up test at the discretion of the instructor. The student has the burden to be sure that some arrangement was made with the instructor for taking a make-up test.

Participation in Class Discussions

Completing Assigned Lab Requirements and Tests

LABORATORY REQUIREMENTS

The student will complete all lab assignments issued by the instructor.

Academic Honesty

"York Technical College adheres to the South Carolina TECH Student Code, approved by the State Board for Technical and Comprehensive Education on March 13, 1974 (revised last April 25, 1984). Copies of this code are available in the Library and from Student Services. ...Any student caught cheating or involved in any other academic dishonesty will be given a grade of zero and will be subject to further disciplinary action."

Evaluation Strategies/Grading

The grading scale will be as follows:
(See addendum or instructor for specific details)

Grade Points

A 90 - 100
B 80 - 89
C 70 - 79
D 60 - 69
F 0 - 59

EVALUATION METHOD

Tests	50%
Laboratory	30%
Work Attitude	20%
Total	100%

Work Attitude

1. Participation
2. Cooperation
3. Appearance
4. Effort
5. Safety
6. Responsibility
7. Professionalism
8. Attendance
9. Self Motivation
10. Works Independently

METHODS OF INSTRUCTION

This course consists of 2 hours of class periods and 3 hours of laboratory. The class instruction includes lectures, demonstrations, discussions, and tests. The lectures are given while drawing on the blackboard, using overhead projections, or video tapes.

The lab experiments are assigned by the instructor and may be performed on tools in the shop or as on-the-job training off campus.

ENTRY-LEVEL SKILLS: None

PREREQUISITES: None

CO-REQUISITES: None

Disabilities Statement: Any student who feels s/he may need an accommodation based on the impact of a disability should contact the Special Resources Offices (SR) at 803-327-8007 in the 300 area of Student Services. The SRO coordinates reasonable accommodations for students with documented disabilities.

TOPIC/CONTENT OUTLINE: (See addendum or instructor for details)

- A. Tubing
- B. Soldered/Brazed Fittings
- C. Gaskets
- D. Hand Tools

LABORATORY EXPERIMENTS:

- A. Selection of proper tools.
- B. Preparation of tools for work.
- C. Completion of an assigned task.
- D. Proper cleaning and repair of tools.