

ARIZONA WESTERN COLLEGE
SYLLABUS

ACR 113 HEATING TECHNOLOGY

Credit Hours: 3 Lec 2 Lab 2

PREREQUISITE: ACR 103

COURSE DESCRIPTION

The theory, installation practices, and servicing of heating systems, including the study of equipment sizing, equipment selection, energy conservation, natural gas, propane, electric heating systems, and the study of alternative fuels.

1. COURSE GOAL

Prepare the student to install and service heating systems.

2. OUTCOMES

Upon satisfactory completion of this course, students will be able to:

- 2.1 describe the operation of a natural gas furnace.
- 2.2 diagnose and service a natural gas furnace.
- 2.3 describe the operation of a propane furnace.
- 2.4 diagnose and service a propane furnace.
- 2.5 describe the operation of an electric furnace.
- 2.6 diagnose and service an electric furnace.
- 2.7 explain and demonstrate the procedure for installing a heating system.
- 2.8 demonstrate a complete knowledge of all safety procedures.
- 2.9 describe different fuels and equipment used in a heating system, equipment sizing and alternative fuels.

3. METHODS OF INSTRUCTION

- 3.1 Lecture
- 3.2 Lab projects
- 3.3 Written and oral exams
- 3.4 Homework assignments
- 3.5 Fieldtrips

4. LEARNING ACTIVITIES

- 4.1 Practice safety in the lab and the field
- 4.2 Proper use of technical manuals and service flashes
- 4.3 Draw and interpret wiring diagrams
- 4.4 Learn to perform as a crew leader or crewmember
- 4.5 Handle equipment properly

5. EVALUATION

- 5.1 Written examinations
- 5.2 Homework assignments
- 5.3 Lab assignments

6. STUDENT RESPONSIBILITIES

- 6.1 Under AWC Policy, students are expected to attend every session of class in which they are enrolled.
- 6.2 If a student is unable to attend the course or must drop the course for any reason, it will be the responsibility of the student to withdraw from the course. Students who are not attending as of the 45th day of the course may be withdrawn by the instructor. If the student does not withdraw from the course and fails to complete the requirements of the course, the student will receive a failing grade.

- 6.3 Americans with Disabilities Act Accommodations: Arizona Western College provides academic accommodations to students with disabilities through AccessABILITY Resource Services (ARS). ARS provides reasonable and appropriate accommodations to students who have documented disabilities. It is the responsibility of the student to make the ARS Coordinator aware of the need for accommodations in the classroom prior to the beginning of the semester. Students should follow up with their instructors once the semester begins. To make an appointment call the ARS front desk at (928) 344-7674 or ARS Coordinator at (928) 344-7629, in the College Community Center (3C) building, next to Advising.
- 6.4 Academic Integrity: Any student participating in acts of academic dishonesty—including, but not limited to, copying the work of other students, using unauthorized “crib notes”, plagiarism, stealing tests, or forging an instructor’s signature—will be subject to the procedures and consequences outlined in AWC’s Student Code of Conduct.
- 6.5 Texts and Notebooks: Students are required to obtain the class materials for the course.
- 6.6 Arizona Western College students are expected to attend every class session in which they are enrolled. To comply with Federal Financial Aid regulations (34 CFR 668.21), Arizona Western College (AWC) has established an Attendance Verification process for "No Show" reporting during the first 10 days of each semester. Students who have enrolled but have never attended class may be issued a “No Show” (NS) grade by the professor or instructor and receive a final grade of “NS” on their official academic record. An NS grade may result in a student losing their federal financial aid. For online classes, *student attendance in an online class is defined as the following* (FSA Handbook, 2012, 5-90):
- Submitting an academic assignment
 - Taking an exam, an interactive tutorial or computer-assisted instruction
 - Attending a study group that is assigned by the school
 - Participating in an online discussion about academic matters
 - Initiating contact with a faculty member to ask a question about the academic subject studied in the course