

AUSTIN COMMUNITY COLLEGE
Heating, Air Conditioning, & Refrigeration Technology
Air Conditioning Mechanical Codes and Inspection

HART1491 Special Topics in HVACR:

(Rev:01/07/2013)

Syllabus

COURSE LEVEL intermediate

COURSE DESCRIPTION discussion of information for preparing the student for the Texas Air Conditioning License Exam.

PREREQUISITE HART certificate

LEARNING OUTCOMES the student will demonstrate the ability to locate information in a mechanical code book; apply information from air conditioning and refrigeration textbooks; discuss boiler law and Texas Air Conditioning License rules and regulations.

COURSE TEXT BOOK *Uniform Mechanical Code*, by International Conference of Building Officials, 1997 edition and *Uniform Mechanical Code Amendments* regulated by the City Council of the City of Austin, Texas.

Textbooks/Materials:(Modern Refrigeration and Air Conditioning 18th Edition ISBN: 1-59070-280-8; **Course packet sold in the HART Department**

UPON SUCCESSFUL COMPLETION OF THE COURSE THE STUDENT WILL BE ABLE TO locate reference data and pertinent facts in the textbooks and code books necessary to pass the Texas Air Conditioning License Exam, and:

- safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation, and maintenance or use of heating, ventilating, cooling, refrigeration systems, incinerators and other miscellaneous heat-producing appliances within the city of Austin jurisdiction.
- correctly erect, install, alter, repair, relocate, replace, add on to, use or maintain any heating ventilation, cooling, refrigeration system, incinerator or other miscellaneous heat-producing appliances with the Austin jurisdiction.
- to be able to install mechanical equipment in the State of Texas according to code.

Required Texts

The text for this course is the *Uniform Mechanical Code*, published jointly by the International Association of Plumbing and Mechanical Officials and the International Conference of Building Officials. The *Illustrated Mechanical Manual*, published by the International Conference of Building Officials, will be use by the Instructor as a reference and may be purchased by the student if desired.

The student is expected to complete the reading assignment for the specific sessions prior to attending the class for that session so he or she can participate actively and intelligently in class discussions.

Testing and Grading tests are multiple-choice or fill-in-the-blank type questions. Tests (6 in all) account for 75% of the course grade, and final exam is 25% of the course grade.

Grading Policy	Grade of A - Maintain an average of 90% to 100%
	Grade of B - Maintain an average of 80% to 89%
	Grade of C - Maintain an average of 70% to 79%
	Grade of D - Maintain an average of 60% to 69%
	Grade of F - Maintain a grade below 60%-failing

To receive a grade of A, B, C, D, the student must take all tests.

<i>Test (14 in all)</i>	
<i>6 open book</i>	<i>= 30%</i>
<i>6 closed book</i>	<i>= 30%</i>
<i>1 Mid Course Test</i>	<i>= 15% (closed book)</i>
<i>1 Final Test</i>	<i>= 25% (open book)</i>

What Each Test Covers

Each test covers the material after the last test, up to the next test. The test will be given as scheduled.

Attendance

The student will be dropped if he/she has a total of four unexcused absences. You must attend class until it is dismissed. Your instructor is committed to helping you get through the course in which you are registered. Please notify him if you must miss one or more classes.

To Contract in the City of Austin

Applicant must have a current state mechanical or refrigeration license and be registered with the City. The registration fee is \$50.00 per year.

Grade of I (Incomplete): A student may receive a grade of "I" if the student has **no** unexcused absences and has completed at least 75% of the required course work. The student must meet with the instructor and request the grade of incomplete.

If the instructor agrees that you have put forth your best effort but due to extenuating circumstances you were unable to complete the course, the instructor will grant a grade of "I".

Grade of W (Withdrawal): When a student is unable to complete the course and does not qualify for a grade of "I", the student should consider withdrawing from the course. ***It is the student's responsibility to initiate withdrawal procedures.*** Do not rely on the instructor to perform this service for you.

If a student stops attending, or otherwise fails to complete the course, and does not withdraw, the student will receive a grade of F.

Absences: Your instructor may initiate withdrawal procedures and assign a grade "W" if you accumulate as many as four unexcused absences.

Excused Absences: Verifiable family emergencies, illness or hospitalization constitute excused absences. A prolonged illness or situation which will prevent attendance of many classes may require the student to withdraw rather than receive a grade of "I". These situations should be discussed with your instructor.

Importance of Good Grades: The grade you earn in this and any other courses you take are recorded on your transcript. You must maintain passing grades to be allowed to continue in college. A grade of F must be offset by a grade of A to average a "C" (assuming equal credit hours in each course).

If you are unable to complete this or any other course, your best advice is to withdraw from the course. A grade of W does not count against you.

State of Texas License: The Texas Legislature has passed a bill authorizing state licensing of Air Conditioning/Heating personnel. The license became mandatory in January 1986. Cities presently requiring licensing may elect to continue or discontinue municipal licensing. If a municipality continues their licensing, the work can be done within that municipality with only the city license. The State License authorizes work anywhere within the state, regardless of city licensing. The state requires a minimum of three years experience before applying for the state examination for licensing. The state recognizes time in the ACC HART courses as credit toward work experience.

The Department of Licensing and Regulation is the agency which administers the license. They are listed in the telephone book, blue pages under GOVERNMENT OFFICES-STATE. See LICENSING AND REGULATION-TEXAS DEPARTMENT OF. Under this heading is AC/Refrigeration Licensing.

L.P. Gas License: A separate license is required for anyone working on liquid petroleum (L.P.) systems such as butane or propane. The license is issued through the Texas Railroad Commission. Their telephone number is in the telephone book under GOVERNMENT OFFICES-STATE. Find L.P.G. Division under RAILROAD COMMISSION)

Federal Requirement for Technician Certification: In April, 1993 the *Environmental Protection Agency* approved the final rule on refrigerant recovery and recycling. The final rule includes mandatory technician certification. The certification includes four levels;

Type I - for servicing small appliances

Type II - for servicing or disposing of high or very high pressure appliances

Type III- for servicing or disposing of low-pressure appliances

Type IV- (Universal) for servicing all types of equipment

This certification is obtained by passing an examination approved by the EPA. Seminars, ranging from ½ day to full day are providing by various agencies, including ACC. The seminars prepare you to take the exam.

Ozone Depleting Chemicals Operating Permit: The City of Austin requires technicians to possess an Ozone Depleting Chemicals Operating Permit in order to purchase and repair refrigeration parts and systems. The technician must be certified and possess certain refrigerant recovery and testing equipment to obtain the permit. The permit is required for any handling, purchasing, servicing or maintaining HVAC equipment.

The ODP is not required of Certified Licensed Technicians.

Scans Competencies

Air Conditioning, Heating & Refrigeration

Special Topics in HART	HART-1491	Special Topics in HART	HART-1491
1.0 Resources		5.0 Technology	
1.1 Manages Time	X	5.1 Selects Technology	
1.2 Manages Money		5.2 Applies Technology to Task	
1.3 Manages Materials and Facility Resources		5.3 Maintains and Troubleshoots Technology	
1.4 Manages Human Resources		6.0 Basic Skills	
2.0 Interpersonal		6.1 Reading	X
2.1 Participates as a Member of a Team	X	6.2 Writing	X
2.2 Teaches Others	X	6.3 Arithmetic	X
2.3 Serves Clients/Customers		6.4 Mathematics	X
2.4 Exercises Leadership		6.5 Listening	X
2.5 Negotiates to Arrive at a Decision		6.6 Speaking	X
2.6 Works with Cultural Diversity	X	7.0 Thinking Skills	
3.0 Information		7.1 Creative Thinking	
3.1 Acquires and Evaluates Information	X	7.2 Decision Making	
3.2 Organizes and Maintains Information	X	7.3 Problem Solving	
3.3 Uses Computers to Process Information	X	7.4 Mental Visualization	
4.0 Systems		7.5 Knowing How to Learn	
4.1 Understands Systems	X	7.6 Reasoning	
4.2 Monitors and Corrects Performance	X	8.0 Personal Qualities	
4.3 Improves and Designs Systems		8.1 Responsibility	
		8.2 Self Esteem	
		8.3 Sociability	
		8.4 Self-Management	
		8.5 Integrity/Honesty	