A/C Installation & Service (HART 2438)

Credit: 4 semester credit hours (2 hours lecture, 6 hours lab)

Prerequisite/Co-requisite: N/A

Course Description
A study of air conditioning system installation, refrigerant piping, condensate disposal, and air cleaning equipment with emphasis on startup and performance testing.

Required Textbook and Materials
   a. ISBN number is 10: 1-111-03874-0
   a. ISBN number is 978-1-63126-354-5

Course Objectives
Upon completion of this course, the student will be able to:

Install air conditioning system competently, run refrigerant piping, install condensate disposal piping, evaluate air equipment needs, startup systems, and perform performance test.

Course Outline
A. Introduction
   1. Introduction of faculty and students
   2. Review Syllabus
   3. Review Class Policies
   4. Review Lab Assignments
B. Review of Installation Codes
   1. Electrical
   2. Plumbing/Piping
   3. Gas/Fuel/Ventilation
   4. Duct System
C. Piping
   1. Plumbing
   2. Refrigeration
   3. Fuel
D. Electrical
   1. Line Voltage Circuits
   2. Control Voltage Circuits
E. Evacuation, Leak Testing & Charging
   1. Deep Vacuum Evacuation
   2. Triple Evacuation
   3. Electronic Leak Detectors
   4. Ultrasonic Leak Detectors
   5. Black Light Leak Detectors
   6. Suds Agent Leak Detector
   7. Charging by Super Heat & Subcool Method
   8. Charging by Weight
   9. Charging by Charging Charts
F. Thermostats
   1. Installing
   2. Programming
   3. Troubleshooting

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

Course Evaluation
1. 4 Objective Test 25%
2. Lab Projects/test 25%
3. Comprehensive Final 25%
4. Homework 25%

Course Requirements
1. Homework assignments
2. Hands on lab activities
3. Complete comprehensive final

Course Policies
1. There will be no horseplay tolerated.
2. No open foot shoes, sandals, or flip-flops: closed foot shoes only.
3. No smoking, eating, or sleeping will be tolerated during class.
4. If an assignment is late, there will be 5 points deducted per day.
5. No hanging jewelry or rings in lab.

Disabilities Statement
The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the online resource:

http://www.lit.edu/depts/stuserv/special/defaults.aspx

Student Code of Conduct Statement
It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the LIT Catalog and Student Handbook. The LIT Catalog and Student Handbook may be accessed at www.lit.edu or obtained in print upon request at the Student Services Office.
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