

HVAC

COURSE SYLLABUS

TEACHER: MR. STEVE STOVER

Classroom: Carlson H.S. Room 164f
Classroom: 7:50 – 2:30
Classroom
Phone : 734-379-7161
E-MAIL
ADDRESS: STOVERS@GIBDIST.NET
CLASS
HOURS: 7:50 – 10:05 11:00 – 1:18

A. DESCRIPTION

This course introduces students to Energy Technologies and Renewable Energies by providing the study of basic energy conversion systems, differing energy systems and measurement of their basic quantities. An introductory course in heating, air conditioning, and refrigeration, providing the student with basic principles in each of the major subject areas and orientation to the service and maintenance technicians' job in the field. Practical laboratory sessions involve copper tubing, test instruments, tools, and equipment.

B. ORGANIZATION

This is a lecture-lab course, in which topics are presented by the instructor, Practice troubleshooting problems are explained and assigned to each Student. Objective and service call quizzes are given weekly and there is a Final exam. This basic HVAC course therefore assumes no HVAC Experience or training, so the initial emphases are on the use of equipment And basic procedures.

C. COURSE OBJECTIVES

1. To introduce students to pressure flows, methods of measuring, monitoring, calculating, and analyzing pressure flow, temperature, humidity, electrical, pneumatic, gas analysis, power systems, energy conversions and types related to natural gas, solar energy, fossil fuels, wind, and fuel cells
2. To introduce students to the process of layout and fabrication of standard sheet metal fittings.
3. A course to provide entry-level technicians the basic hands on skills

For installing and starting up an HVAC system.

4. Designed to prepare students to be service technicians in the refrigeration field, covering basic refrigeration system design and components and equipment for various domestic, residential and light commercial systems.

D. COURSE TOPICS

The course will cover the following topics:

1. Energy Technology
2. AC and DC electric
3. Parallel circuits
4. Ohm's Law
5. Tracing circuit problems
6. Schematic diagrams
7. Basic electrical
8. Electronic circuits
9. Identifying problems
10. Soldering
11. Refrigerant Recovery
12. Heating Codes
13. Cooling Codes
14. ARI Certification handling test

E. TEXT AND REQUIRED SUPPLIES

Required text: Modern Refrigeration and Air Conditioning by Althouse, Turnquist, Bracciano

F. GRADING PLAN

Coursework will be weighted as follows:

1. Drawings 20%
2. Quizzes 20%
3. Shop 20%
4. Attendance 10%
5. Final Exam 30%