

**AUTO-11#56000 FALL 2009 Instructor: Mr. Garza**

Class meets: Mon.-Fri. 7:30am-1:20pm Classroom: IND. 11

Office Hours: Mon. Tues. & Wed. 1:30 to 2:30 Office: IND. 6

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**Course Description:**

This course, AT-11, in concert with AT10, will prepare the student with the knowledge and skills to perform diagnosis and repair of various automotive components and enter the automotive service industry at the advanced apprentice level. Subjects include: Safety, Ethics, Regulations, Engine Electrical and Electronic Systems, Air Conditioning and Heating. Most tools and equipment are provided; however the student is expected to furnish a Digital Volt Ohm Meter (DVOM), personal safety items, and a uniform laundry fee.

**COURSE OUTCOMES:**

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

- A. Identify the industry standards for the Automotive Repair Industry.
- B. Work safely in an automotive repair environment.
- C. Correctly choose and utilize hand and power tools.
- D. Correctly chose and use diagnostic test equipment.
- E. Diagnose and repair the engine electrical and electronics systems.
- F. Diagnose and repair air conditioning and heating systems.

**COURSE OBJECTIVES:**

In the process of completing this course, students will:

- A. Identify the industry standards for the Automotive Repair Industry.
- B. Identify shop safety and hazardous materials regulations and standards.
- C. Perform the correct use of hand and power tool utilization.
- D. Perform the correct use of diagnostic test equipment.
- E. Comprehend and critically evaluate the electrical and electronics systems.
- F. Comprehend and critically evaluate the air conditioning and heating systems.

**Required text**

Automotive Electrical and Electronic Systems 5<sup>th</sup> edition update by Check Chart Classroom manual and Shop manual

Automotive Heating and Air Conditioning 4<sup>th</sup> edition by Tom Birch

**Grading**

1.	Quizzes	34%
2.	Exams	33%
3.	Shop Work & Notebook	33%

TOTAL GRADE \_\_\_\_\_

## Grade Distribution

Grade	Percent
A	100-90%
B	89-80%
C	79-70%
D	69-60%
F	59.9% or less

## Attendance

Attendance will play a factor if you are to successfully pass this course. You will be expected to attend all class meetings, to be on time, and to be in class the **entire** class period. You will be expected to take care of any personal needs such as going to the restroom, getting a drink of water, sharpen your pencil, ect; prior to the start of class. Attendance will be taken each day.

- a. **Three** absences allowed per semester for all instructors.
- b. **Three** tardies equal **one** absence. Please be on time.
- c. **Three** early-outs equal **one** absence. Please make appointments after class.
  1. A **student must be in class for at least 3 hours for an early-out**, if not, it will be charged as an absence.
  2. The drop date without credit deadline is the ninth week of instruction **Friday, March 12<sup>th</sup>** (a letter grade is issued after this date). The student will be evaluated by quizzes, exams, shop work, notebook and attendance.
  3. Falling asleep in class and/or disruptive behavior **will not be tolerated. If student is asked to leave for such actions this will result in student being counted absent for the day.**
  4. Use of cell phones, iPods, BlackBerry, PDA, pagers, cameras, recorders **during class and shop will not be allowed** (exception made at Instructor's discretion on a case-by-case basis). Please turn off all electronic devices prior to start of each class.

## Assignments

1. Students will follow lecture and reading schedule for reading assignments.
2. All homework will be turned in on the assigned date. **All late assignments will be penalized a minimum of 10% for each day late. Notebooks will not be accepted late.**
3. Electronic duplication from other students or sources is prohibited if not approved by instructor.
4. Copying, cheating of any kind will not be accepted.

## **Quizzes and Exams**

### **1. Make-up of quizzes.**

It is your responsibility to notify me **in advance** that you will be unable to take a quiz as scheduled.

- a. It is the student's responsibility to contact instructor.
- b. Quizzes cannot be made up if:
  1. Reviewed in class
  2. Excuse for absence is unacceptable
  3. Student is limited to one make-up per semester
  4. The final exam may not be made-up
- c. Make-up quiz will be arranged by the instructor.
- d. There will be a **10% deduction** for make up quiz.
- e. There will be a **10% deduction** for any quiz or exam that does not have student's assigned grade number.

### **2. There will be two exams:**

- a. An Electrical final exam.
- b. HVAC final exam during finals week.

## **Having Trouble?**

If at any time you are having trouble succeeding in this course, whether because of a change in your life circumstances or because of something you don't understand about the material- please see me. There are a number of services available to assist Reedley College students succeed in their coursework, and I would be happy to recommend one of these to you.

## **Accommodations for Students with Disabilities**

If you have a verified need for an academic accommodation or materials in alternate media (i.e. Brail, large print, electronic text, ect.) per the Americans with Disabilities Act (ADA) or section 504 of the Rehabilitation Act, please contact me as soon as possible.

## **Lecture and Lab Rotations**

(A) Three one hour lectures Monday, Tuesday and Wednesday as outlined in daily schedule.

(B) Five 5 day lab rotations per group.

1. Basic Electrical Systems Check
2. Sensors/ Input Devices
3. Actuators/ Output Devices
4. Computer Systems/ HVAC Introduction
5. HVAC

**Class lecture and reading schedule****Chap. /Text**

<b><u>Week</u></b>		
1	Automotive Electronics	10c
2	Ignition Systems	11c
3	Automotive Lighting Systems	12c
4	Information and Warning Systems	13
5	Horns, Wiper/washer Systems	14c
6	Body Accessory and Airbag Systems	15c
7	Air Bag Systems	15c
8	Electrical Review/ <b><u>ELECT. FINAL</u></b>	15c
9	Employment/ Resumes	
10	Basic Heating and Air Conditioning/ Heat Movement	3&4a/c
11	Refrigerants/ HVAC Principals	5&6a/c
12	Heating Systems/ Air Management Systems	9&10a/c
13	Air Conditioning Systems and Components	7&8a/c
14	HVAC System Inspection and Diagnosis <b><u>CAT Conference Friday April 23</u></b>	11a/c
15	A/C Inspection and Diagnosis	12a/c
16	Air Management Inspection and Diagnosis	13a/c
17	A/C System Repair/ REVIEW/ <b><u>Notebooks Due Monday May 10<sup>th</sup></u></b>	16a/c
18	<b><u>Finals Week (Final Exam Mon. May 17th)</u></b>	
Holidays	Martin Luther King Birthday, Mon. Jan. 18th Presidents Birthday, Fri. Feb. 12 and Mon. Feb. 15th Spring Break, March 29 <sup>th</sup> - April 2nd	

