AUTO-11#52011 Spring 2014 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 Performance: Fuel, Ignition and Emission Control 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 shirt.

COURSE OUTCOMES:

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

A. Identify the components and describe the operation of fuel, ignition and emission control systems.
B. Correctly select, set up and use diagnostic test equipment.
C. Diagnose and repair engine fuel, ignition and emission control systems.
D. Identify the components and refrigerant cycle of an air conditioning system.
E. Correctly use air conditioning refrigerant recovery and recycling equipment.
F. Diagnose and repair air conditioning and heating systems.

COURSE OBJECTIVES:

In the process of completing this course, students will:

A. Identify shop safety and hazardous materials regulations and standards.
B. Perform the correct use of diagnostic test equipment.
C. Comprehend and evaluate the electronic engine management systems.
D. Comprehend and evaluate the air conditioning and heating systems.

Required text

MUST HAVE REQUIRED TEXTBOOK BY START OF SECOND WEEK!!!

Diagnosis and Troubleshooting of Automotive Electrical, Electronic, and Computer Systems, sixth edition, James D. Halderman.
Automotive Heating and Air Conditioning 6th edition by Tom Birch

Grading

1.	Quizzes & Notebook	34%
2.	Exams	33%
3.	Lab	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 is a key factor in your success as a college student. **If you are absent once in the first week or more than three times in the semester, you may be dropped.** You will be expected to attend all class meetings, to be **on time**, to **be prepared** 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. **This is considered disruptive behavior and student will be asked to leave and marked absent for the day.** 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, Friday March 14th** (a letter grade is issued after this date). The student will be evaluated by quizzes, exams, shop work, notebook.
    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, and laptops **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.

Classroom/Shop Deportment

1. **Each student is expected to respect the rights of other students and the instructor. Students who do not behave in a respectful manner will be dropped from the class**. **NO FOOD, CELLULAR PHONES OR PROFANITY AT ANY TIME!!!!**
2. **Each student will be assigned a locker. Use it to store your materials.**
3. **No backpacks allowed in classroom or shop.**
4. **Students who are not prepared or do not have the required materials** (safety glasses, DVOM, coveralls, textbook, ect.) **will be asked to leave and marked absent for the day.**

Student Rights

Students are encouraged to become familiar with the "Campus Policies" section of the Schedule of Courses. This material includes information regarding cheating and plagiarism, disruptive classroom behavior, and other instructional issues.

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. **Students found cheating will be dropped.**
5. Work will be grade on completeness, neatness, and effort. **I will not accept work on spiral bound notebook paper.**

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.
   f. There will be **NO ADJUSTMENTS** made for electronic scoring where scantron has erase marks, smudges, wrinkles, ect.
   g. There will be a **10% deduction** for scantrons that must be hand scored because of frayed, wrinkled scantron.

2. There will be two exams:
   a. Engine Performance 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) Nine one hour lectures per week. (see weekly schedule handout)
(B) Seven lab rotations

1. Computerized Engine Controls
2. Computerized Engine Controls
3. Ignition Systems
4. Fuel/Air Induction & Exhaust Systems
5. Emission Control Systems
6. HVAC
7. HVAC

This schedule and syllabus are subject to change at the discretion of the instructor- it is the responsibility of the student to check on announcements made during any absence.

Holidays Martin Luther King Holiday, Mon. Jan. 20
Presidents' Day Holiday Fri. Feb. 15 and Mon. Feb. 18
Spring Break, April 14 - 18

Dates to remember

CAT Conference Friday April 25
Notebooks Due Friday May 2
A/C License Exam Fri. May 16

GLAD TO HAVE YOU THIS SPRING!!!!!!

(Tentative)

Class lecture and reading schedule		**Chap./s**
Week		
1	On-Board Diagnostics	27
2	Temp. & Throttle Position Sensors	28, 29
3	MAP & MAF Sensors	30, 31
4	Oxygen Sensors	32
5	Ignition Systems	33
6, 7, 8	Fuel Systems, Diagnosis & Service	34, 35, 37
9, 10	Emission Controls	38, 39
11	Engine Performance Diagnosis	41
12	Hybrid Vehicles	40
13	Basic Heating and Air Cond./ Heat Movement	3&4a/c
14	Refrigerants/ HVAC Principals	5&6a/c
15	Air Conditioning Systems and Components	7&8a/c
16	HVAC System Inspection and Diagnosis	11&12a/c
17	Heating Systems/ Air Management Systems	9&10a/c
18	**Finals Week**	