AUTOMOTIVE DESIGN AND REPAIR TECHNOLOGY II

COURSE SYLLABUS

PROGRAM YEAR

2018-19

Automotive Technology II
Class Schedule
First Semester

Week 1	Introduction to Personal protective equipment and shop safety.
Week 2	Shop environment procedures and specialty equipment covered.
Week 3	Specialty tools for diagnose and repair of electrical systems.
Week 4	Introduction to transistors, diodes and resistors in basic circuits.
Week 5	Working with Ohm's Law as applied to automotive electronics.
Week 6	Vehicle identification and customer service techniques.
Week 7	Work with series and parallel circuitry in automotive systems.
Week 8	Electrical system component identification and function.
Week 9	Digital multi-meter presentation and workshop.
Week 10	Measuring voltage drop, resistance and amperage across a circuit.
Week 11	Diagnose and repair shorts, grounds and opens in a circuit.
Week 12	Inspecting and testing fusible links, fuses and circuit breakers.
Week 13	Wiring diagram- exercises on how to read and interpret various types.
Week 14	Wiring harness repair including terminal replace and repair.
Week 15	Demonstration and workshop on soldering and splicing wires.
Week 16	Practical exams.
Week 17	Reports and presentations.
Week 18	Design projects due.

Automotive Technology II
Class Schedule
Second Semester

Week 1	Introduction to heating and air conditioning –special safety concerns.
Week 2	Job and industry information. Chemicals- safe handling and disposal.
Week 3	Customer complaints. Verification and recommendation.
Week 4	Refrigerant identification and chemical composition analysis.
Week 5	Heat transfer theory and A/C components identification.
Week 6	A/C clutch and compressor identification, removal and install.
Week 7	Evaporator, expansion or orifice tube and condenser workshop.
Week 8	Heating and ventilation concepts.
Week 9	Cooling system parts identification and function.
Week 10	Cooling system pressure test, combustion leakage diagnosis/repair.
Week 11	Cooling system- hoses, belts and thermostats. Coolant comparisons.
Week 12	Cooling fans- engine driven and electric. Electrical circuits diagnosis.
Week 13	Ventilation controls- ducts, doors and vents.
Week 14	Refrigerant- recovery, recycling and handling
Week 15	Practical exams.
Week 16	Reports and presentations.
Week 17	Design projects due.
Week 18	Auto II class project due.

Attendance and Grading policy

As this course is mostly comprised of "hands on" learning exercises and projects students are expected to attend class regularly. There will also be daily in class work and written assignments to be completed. In the event work is turned in late it will be marked down accordingly. Students will be assessed by a combination of class work, written assignments, practical tests, written quizzes and tests and participation. Semester grades will be calculated as follows:

25% Classwork and written assignments

20% Written quizzes and tests

30% Practical examinations

25% Participation

Classwork and written assignments

Everyday there will be a written assignment or class project that must be completed and handed in by the student. All work will be kept in individual portfolios as a reference for tracking student progress and grading. Attendance is a must for this portion of the overall grade. Assignments turned in late will be marked down.

Written quizzes and tests

Quizzes and tests are a necessary part of evaluation and once again attendance is crucial to this portion of assessment. Students must inform the instructor if they will miss a day of class when there is a test, written or practical. Testing may be rescheduled at the instructor's convenience.

Practical examinations

Practical examinations carry the bulk of the weight of the overall grade because the vocational skills taught in this course are critical for optimum performance and quality in the field of automotive repair. Demonstration of the mastery of practical skills learned in this course is essential for competent performance as a specialty technician.

Participation

Students are expected to participate in all activities included in the course curriculum. Again, participation relies on students attending class every day. If you are not in class you can not participate. There is no make up work for this area.

Grading scale

Students will be graded based on a 100% scale. Letter grades are as follows:

93-100%	A	73-76	C
90-92	A-	70-72	C-
87-89	B+	67-69	D+
83-86	B	63-66	D
80-82	B-	60-62	D-
77-79	C+	=<59	E

Course objectives

This course is designed to help students achieve the mastery of vocational skills in the areas of automotive electrical systems as well as heating and air conditioning diagnosis and repair. Upon completion of this course students will be prepared to pass the appropriate NATEF certification examinations.

Textbooks

There will be two textbooks used in this class. They are:

"Modern Automotive Technology" by James E. Duffy. Published by Goodheart-Wilcox

Instructor information

In the event you need to contact the instructor in an emergency, my information is as follows:

Email: dale.pelton@tusd1.org