EL CAMINO COLLEGE
AUTOMOTIVE TECHNOLOGY 1 (ATEC 1)
INTRODUCTION TO AUTOMOTIVE SERVICE (#7260)

Fall 2015 Thurs. 6-10:20PM Rooms: CAT 136 & CAT 130

Instructor: **Richard Lopez** Email: **Cirilian@yahoo.com**

Course Description:

This course is an introduction to the study of automotive servicing including engine, ignition, fuel, cooling, charging, cranking, drive line, brakes and suspension systems construction and operational theories. Laboratory activities include maintenance procedures and proper use of tools utilized in the field.

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and The El Camino College Special Resource Center at (310) 660-3295, as early as possible in the term

Prerequisite: None

Required Textbook:

Introduction to Automotive Service, Halderman & Deeter, ISBN-13: 978-0-13-254008-7 | ISBN-10: 0-13-254008-8, Pearson (2013)

Student Learning Outcomes (SLOs):

Students who successfully complete this course will be able to perform:

1. **Safety Exam:** Given an in-class exam, based on readings, classroom discussions and demonstrations, the student will be able to work in the Automotive Shop safely and pass the Automotive Safety Exam with 100% accuracy.
2. **Under Hood Inspection:** The student will perform a vehicle under hood inspection and complete a Vehicle Under Hood Inspection lab sheet.
3. **Under Vehicle Inspection:** The student will perform an under vehicle inspection and complete and Under Vehicle Inspection lab sheet.

Your attendance is required to facilitate learning. Your attendance in class is part of the course requirements. You should organize your schedule to accommodate your attendance. Students with 3 or more unexcused absences will be dropped for lack of attendance.

Course Objectives:

1. Comply with personal and environmental safety practices regarding clothing, respiratory protection, eye protection, hand tools, power equipment, proper ventilation, and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and federal regulations.
2. Identify and understand the proper usage of the various tools used in automotive repair.
3. Identify basic automotive parts, components and, systems.
4. Demonstrate an understanding of the proper use of automotive repair nomenclature.
5. Perform a thorough vehicle inspection.
6. Retrieve vehicle-specific repair information from OEM technical information websites.
7. Perform an analysis of engine condition by conducting a compression test.
8. Service, test and evaluate a lead-acid battery.
9. Test and evaluate a cranking system.
10. Service, test, and evaluate a liquid cooling system.
11. Perform an engine oil and filter change.
12. Inspect, test and evaluate the ignition system.
13. Test and evaluate a charging system in accordance with industry standards.
14. Inspect, service, test and evaluate a braking system.
15. Inspect and evaluate tire wear.
16. Inspect and maintain drive line components and fluid levels.
17. Perform chassis lubrication and "top off" fluid levels for steering and suspension.

Grading Criteria:

Your final grade in this class will be determined by the following criteria:

- **Lecture** (Quizzes, Attendance, Mid-Term) 30%
- **Lab** (Lab Projects, Attendance, Participation, Safety) 30%
- **Final Exam** (Written Exam) 40%

100%

Grading Scale:

90-100% = **A**, 80-89% = **B**, 70-79% = **C**, 65-69% = **D**, 64% and below = **F**

Policies:

• NO PERSONAL ELECTRONIC DEVICES ARE TO BE USED WHILE IN THE CLASSROOM. THIS INCLUDES ALL CELL PHONES, MP3 PLAYERS OR E-CIGS.

• STUDENTS ARE REQUIRED TO FOLLOW ALL SAFETY PROCEDURES WHILE IN THE SHOP.

• NO PARKING IN OR NEAR THE SHOP AREAS UNLESS YOU HAVE PRIOR APPROVAL FROM YOUR INSTRUCTOR.

• NO SMOKING IN THE SHOP AREAS OR WITHIN 20 FEET OF AN ENTRANCE.

• IT IS THE RESPONSIBILITY OF EACH STUDENT TO KEEP THE SHOP AREA CLEAN.

• SAFETY GLASSES AND SHOP SAFE CLOTHING ARE REQUIRED AT ALL TIMES WHILE IN THE SHOP AREAS.

****** STUDENTS VIOLATING ANY OF THESE POLICIES WILL BE EXCUSED AND MARKED ABSENT FOR THE DAY.**

TENTATIVE SCHEDULE OF CLASS MEETINGS

Week	Date	Topics/ Activities	Assignment	Task
1	8/27	Overview & Objectives. Safety And Hazardous Materials Awareness	CH. 6 & 7	**Safety Test**
2	9/03	Tool and Equipment Safety/Tool Identification	CH. 9, 10 & 18	Tool Demo
		Power Tool Usage, Safety and Identification		**Quiz**
3	9/10	Introduction to Vehicle Systems and Components/Driveline Concepts	CH. 12, 13 & 17	
		Introduction to Vehicle Construction and Terminology		**Quiz**
4	9/17	Engine Concepts: Construction and Operation	CH. 14 & 15	
				Quiz
5	9/24	Engine Lubrication & Cooling Systems	CH. 16 & 19	
				Quiz
6	10/01	Introduction to Electrical Theory & Concepts	CH. 20, 21, 22 & 25	
				Quiz
7	10/08	Ignition & Charging Systems	CH. 23 & 30	
				Quiz
8	10/15	**MID-TERM**	**MID-TERM**	**MID-TERM**
9	10/22	OBD, Computer Control Systems & Diagnostic Procedures	CH. 24, 29, 32 & 34	
				Quiz
10	10/29	Tires, Wheels & Braking Systems	CH. 35 & 36	
				Quiz
11	11/05	Suspension & Steering Systems	CH. 37	
				Quiz
12	11/12	Manual/Automatic Transmissions & Transaxles	CH. 38 & 39	
				Quiz
13	11/19	Alternative Fuels & Hybrid/Electric Vehicles	CH. 28 & 33	
				Quiz
14	11/26	**THANKSGIVING HOLIDAY- NO CLASS**		
15	12/03	Final Review	Open Lab	
16	12/10	**FINAL EXAM**	**FINAL**	**FINAL**