



## COURSE SYLLABUS

1. **TITLE OF COURSE:** GENERAL ENGINE DIAGNOSIS  
**PREFIX/NUMBER:** ASE 130    **CREDIT HOURS:** 2 CR. (1L/1.5 LBV)
2. **PREREQUISITE:** None
3. **RESOURCES NEEDED:**  
**TEXT:** \_\_\_\_\_  
**SUPPLIES:** Basic tools and uniform shirts
4. **COURSE DESCRIPTION:** Focuses on lecture and related laboratory experiences in the diagnosis and necessary corrective actions of automotive engine performance factors.
5. **COURSE GOAL:**
6. **COURSE OBJECTIVES:**  
 By the end of the course, students will
  - A Interpret and verify customer concern.
  - B Inspect engine assembly for fuel, oil, coolant, and other leaks.
  - C Diagnose unusual engine noise or vibration
  - D Diagnose unusual exhaust color, odor, and sound.
  - E Perform engine absolute (vacuum/boost) manifold pressure tests.
  - F Perform cylinder power balance test, cylinder compression test, and cylinder leakage test.
  - G Diagnose engine mechanical, electrical, electronic, fuel and ignition concerns with diagnostic equipment, including the oscilloscope, and determine necessary action(s).
  - H Prepare 4 or 5 gas analyzer and vehicle for testing, obtain readings and determine necessary action.
  - I Diagnose the cause of excessive oil consumption, unusual engine exhaust color, odor, and sound; determine necessary action.
7. **EVALUATION PROCEDURES:**
  - (A) There will be a written exam after each unit and a final, during the 7½ week term, during class time, and on announced dates. All will be weighted equally, except the final will count double.
  - (B) There may be unannounced “pop” quizzes throughout the 7½ week term, which will also be weighted equally to other exams.

- (C) Routine evaluations will be made on an individual basis by the instructor during each lab session.
- (D) There will be a lab final (performance) exam. The score on this exam will be entered twice (doubled) when computing your final grade.
- (E) Grading will be weighted--30% of your grade for written assignments, 40% of your grade for lab assignments, 30% of your grade for tests. **One grade point value will be deducted from total grade percentage for every day absent.**

<b>Grading Scale</b>	
<b>Raw Score Range</b>	<b>Letter Grade</b>
90 to 100	A
80 to 89	B
70 to 79	C
60 to 69	D
0 to 59	F

<b>Written Assignments</b> <b>30%</b>	<b>Lab Assignments</b> <b>40%</b>	<b>Tests</b> <b>30%</b>	<b>Attendance</b>
50/50 50/38 50/50	50/38 50/50 50/38	100/90 100/70 100/90	<b>One point will be deducted from total grade value for every hour absent.</b>
150/138	150/126	300/250	

### Special Remarks:

- All announced examinations will be made up of multiple choice, completion and short essay type questions and will be given during regular class periods. Make-up exams will only be given if prior arrangements have been made.
- Attendance: College policy states that students may be dropped from enrollment when absent 20% of the scheduled class meetings. If enrolled from the beginning of the term, 15 hours will usually constitute 20% of a four-credit semester course which meets five hours per week. Reinstatement procedures are described in the PCC catalog.
- Tardy Policy: A student who is late three times (enters classroom after the instructor has taken roll) will be charged with one full absence unless the student can provide valid reasons for one or more of these tardies.
- Assignments/Missed Exams: It is the student's responsibility, whether present or absent, to obtain all material presented and to complete all course assignments. If prior arrangements are made or extenuating circumstances exist, makeup of tests may be allowed. Late homework papers will not be accepted unless those same extenuating circumstances exist. Makeup of quizzes is to be at the instructor's discretion.

**8. COURSE OUTLINE:**

- I. The Four Stroke Cycle and typical Wear Factors.
- II. Engine Fuel and Ignition Requirements.
- III. Inspection, Diagnosis and Repair Techniques for Internal and External Leakage of Fuel, Oil, and Coolant.
- IV. Diagnosis and Repair Techniques for Unusual Exhaust Color, Odor, and Sound.
- V. Engine Cylinder Power Balance, Compression, and Leakage Tests and Necessary Corrective Actions. The Economics of Engine Service and Repair.
- VI. Diagnosis and Determination of Corrective Action for Engine Mechanical, Electrical, Electronic, Fuel, and Ignition Concerns with Oscilloscope and Other Engine Diagnostic Equipment.
- VII. Use of the 4 or 5 Gas Analyzer to Diagnose Engine Problems and Determine Corrective Action.

**9. METHODS OF INSTRUCTION:**

To be successful in this course, students are expected to participate in discussions, readings, in-class writing, and peer review activities. The instructor may assign point values to such activities.

**10. ACADEMIC INTEGRITY:**

The very nature of higher education requires that students adhere to accepted standards of academic integrity. Therefore, Pueblo Community College has adopted a policy of academic conduct as described in the Student Handbook. Violation of academic integrity may be defined to include the following: cheating, plagiarism, falsification and fabrication, abuse of academic materials, complicity in academic dishonesty, and personal misrepresentation. It is the student's responsibility to be aware of the behaviors that constitute academic dishonesty. Sanctions for violating the standards of academic integrity may include warning, probation, suspension, and/or failure of the course or assignment at the discretion of the instructor.

**11. ADANOTICE:**

Students who have a documented disability may be eligible to receive accommodations for this class. Please contact the Disability Resources Center at 549-3446 for further information.