

CATALOG INFORMATION

Dept and Nbr: AUTO 52 Title: ENGINE PERF/POLL CONTRL
Full Title: Automotive Engine Performance and Pollution Control
Last Reviewed: 9/20/2010

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	8.00	Lecture Scheduled	6.00	17.5	Lecture Scheduled	105.00
Minimum	8.00	Lab Scheduled	6.00	17.5	Lab Scheduled	105.00
		Contact DHR	0		Contact DHR	0
		Contact Total	12.00		Contact Total	210.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 210.00

Total Student Learning Hours: 420.00

Title 5 Category: AA Degree Applicable
Grading: Grade Only
Repeatability: 25 - 16 Units Total (WrxE only)
Also Listed As:
Formerly:

Catalog Description:
Lecture, demonstration and practical lab experience in the study of the operation, troubleshooting and repair of the ignition, fuel and pollution control systems of most automobiles. Emphasis on the proper use of tools and diagnostic equipment. Formerly Auto 52 and Auto 52L.

Prerequisites/Corequisites:

Recommended Preparation:
Course Completion or Concurrent Enrollment in AUTO 56

Limits on Enrollment:

Schedule of Classes Information:
Description: Lecture, demonstration, and practical lab experience in the study of the operation, troubleshooting, and repair of the ignition, fuel, and pollution control systems of most automobiles. Emphasis on the proper use of tools and diagnostic equipment. Formerly Auto 52 and Auto 52L. (Grade Only)
Prerequisites/Corequisites:

Recommended: Course Completion or Concurrent Enrollment in AUTO 56

Limits on Enrollment:

Transfer Credit: CSU;

Repeatability: 16 Units Total (WrxEx only)

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area			Effective:	Inactive:
CSU GE:	Transfer Area			Effective:	Inactive:
IGETC:	Transfer Area			Effective:	Inactive:
CSU Transfer:	Transferable	Effective:	Fall 1981	Inactive:	Fall 2017
UC Transfer:		Effective:		Inactive:	

CID:

Certificate/Major Applicable:

Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:

Students successfully completing this course will be able to explain the operation of, perform problem diagnosis, and repair of automotive ignition, fuel, and pollution control systems. The student should be able to pass the A.S.E. Engine Performance Certification Exam and enter the automotive trade as an apprentice level technician specializing in engine performance and emission control.

Topics and Scope:

1. Review of basic engine operation related to emission control related to emission control.
2. Ignition systems operation and service
 - A. Breaker point ignition
 - B. Electronic ignition system
 - C. Spark control systems
 - D. Emission controls related to ignition systems
 - E. Engine troubleshooting and diagnosis
 1. Scope diagnosis
 2. Infrared diagnosis
 3. Computer trouble code and scanner diagnosis
3. Fuel system operation and service
 - A. Tanks and evaporative emission control
 - B. Fuel delivery systems
 - C. Basic carburetion
 - D. Electronic carburetors
 - E. Electronic fuel injections
 - F. Mechanical fuel injection

- G. Emission controls related to fuel systems
- 4. Other emission controls
 - A. Smog check procedures

Assignment:

Students will be required to keep a notebook of all class assignments and class notes that will be graded for completeness and organization. In the lab, students will be evaluated on their ability to follow industry approved diagnostic and repair procedures in a reasonable amount of time based on flat rate timetables. Students will complete work orders, diagnostic sheets, parts orders, and time sheets in a neat and readable manner.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.

Writing
0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Exams, Quizzes

Problem solving
5 - 10%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

component identification

Skill Demonstrations
30 - 40%

Exams: All forms of formal testing, other than skill performance exams.

Multiple choice

Exams
35 - 45%

Other: Includes any assessment tools that do not logically fit into the above categories.

Attendance

Other Category
10 - 15%

Representative Textbooks and Materials:

Advanced Engine Performance Diagnosis, By James D. Halderman Prentice Hall, 1st Ed 1998

