

CATALOG INFORMATION

Dept and Nbr: AUTO 54 Title: AUTO BRAKES,STRNG&SUSPN
Full Title: Automotive Brakes, Steering and Suspension
Last Reviewed: 2/24/2020

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	7.00	Lecture Scheduled	5.00	17.5	Lecture Scheduled	87.50
Minimum	7.00	Lab Scheduled	7.00	17.5	Lab Scheduled	122.50
		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: 175.00

Total Student Learning Hours: 385.00

Title 5 Category: AA Degree Applicable
Grading: Grade Only
Repeatability: 24 - 14 Units Total
Also Listed As:
Formerly:

Catalog Description:
Lecture, demonstration, and practical lab experience in the study of the operation, troubleshooting, and repair of brakes, steering and suspension systems of most automobiles. Emphasis on the proper use of tools and equipment. Formerly Auto 54 and Auto 54L.

Prerequisites/Corequisites:

Recommended Preparation:
Auto 350 (formerly AUTO 50) & AUTO 350L (formerly AUTO 50L) or high school auto.

Limits on Enrollment:

Schedule of Classes Information:
Description: Lecture, demonstration, and practical lab experience in the study of the operation, troubleshooting, and repair of brakes, steering and suspension systems of most automobiles. Emphasis on the proper use of tools and equipment. Formerly Auto 54 and Auto 54L. (Grade Only)
Prerequisites/Corequisites:
Recommended: Auto 350 (formerly AUTO 50) & AUTO 350L (formerly AUTO 50L) or high

school auto.

Limits on Enrollment:

Transfer Credit: CSU;

Repeatability: 14 Units Total

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:

1. Explain the operation of, perform diagnosis, and repair of automotive brake, steering, and suspension systems.
2. Be able to pass the A.S.E. Brake, Suspension, and Steering Certification exam.
3. Enter the automotive trade as an apprentice level technician specializing in brakes, steering, and suspension.

Topics and Scope:

This course will provide classroom instruction relating to the diagnosis and repair of the following automotive brake and chassis systems:

1. Introduction to Brakes
2. Fundamentals of Hydraulics
3. Hydraulic-Brake System Components
4. Drum Brake Operation
5. Disc Brake Operation
6. Parking Brake Operation
7. Vacuum-Assist Brakes
8. Hydraulic-Assist Power Brakes
9. Electrohydraulic-Assist Power Brakes
10. Antilock Brake Systems
11. Automotive Suspensions
12. Fundamentals of Steering and Suspension Services
13. Steering Gears
14. Tire and Wheel Balancing

15. Wheel Alignment

Assignment:

Students will be required to keep a notebook of all class assignments and class notes. In the laboratory, 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.

Lab reports, Quizzes, Exams

Problem solving
5 - 10%

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

Class performances, Performance exams

Skill Demonstrations
30 - 40%

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

Multiple choice, Matching items, Completion

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:

Automotive Brake Systems, Check-Chart, (no author) Harper Collins, 2nd Ed., 1995

Automotive Suspension & Steering Systems, by Thomas W. Birch, Delmar, 3rd Ed. 1999