Course Description

Presents the operation, design, construction, repair, and servicing of braking and suspension systems. Explains use of tools and test equipment, evaluation of test results, estimation and repair cost, front and rear suspension alignment, power and standard steering, and power, standard, and disc brakes. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

General Course Purpose

The student who successfully completes this course will be able to efficiently and intelligently analyze automobile suspension and braking defects and repair any imperfections. They will be able to discuss their findings with the car owner and describe the problems and corrective actions required.

Course Prerequisites/Corequisites

Ability to read, write, and speak the English language

Course Objectives

Upon completion of this course, the student will be able to:

- Develop a thorough knowledge of assemblies, sub-assemblies, and components of frame and suspension, braking and steering systems
- Develop an understanding of the purpose and operating principles of automotive frames, suspension, and braking systems
- Construct the ability to troubleshoot for possible defects, their cause, and effects upon automobile operation, and intelligently and efficiently determine the adjustments needed for correction
- Understand and apply proper service procedures and practices
- Know tools and equipment used in suspension and braking system repairs

Major Topics To Be Included

- Equipment usage and familiarization
- Components of steering systems
- Hydraulic brakes: operation and service
- Power brakes: operation and service
- Anti-lock brake systems: operation and service
- Frame and suspension components and designs
- Independent wheel suspension service
- Shock absorbers: operation and service
- Air suspension: operation and service