

# AUTO 101B: FUNDAMENTALS OF AUTOMOTIVE SERVICE, DIAGNOSIS AND REPAIR PART 2

## Citrus College Course Outline of Record

Heading	Value
Effective Term:	Fall 2025
Credits:	3
Total Contact Hours:	75
Lecture Hours :	45
Lab Hours:	30
Hours Arranged:	0
Outside of Class Hours:	90
Total Student Learning Hours:	165
Prerequisite:	AUTO 101A.
Strongly Recommended:	ENGL C1000.
Transferable to CSU:	Yes
Transferable to UC:	No
Grading Method:	Standard Letter

## Catalog Course Description

Intended for automotive majors, this class serves as the prerequisite for all automotive certificate and/or degree-applicable courses. Automobiles and light trucks will be explored from the point of view of the service technician. Scientific principles and operation of essential automotive technologies are central to the course goal of preparing students for entry into the automotive core curriculum. Appropriate lab activities in automobile inspection, service and repair are included. A valid California driver license is required for this course. 45 lecture hours, 30 lab hours.

## Course Objectives

- understand and interpret volume, temperature, angles, whole numbers, decimals, standard and metric conversions, basic arithmetic operations, order of operation, charts and graphs as it pertains to engines by calculating displacement, static and dynamic compression, torque, horsepower and angular velocity and acceleration.
- understand and interpret angles in a steering and suspension system and line and angle relationships in a chassis and suspension system.
- understand the torque multiplication or reduction in gear ratios in a drive-train using the basic concept of moments of rigid bodies in algebraic terms and concepts of ratio and proportion.
- identify various automotive fluids, their level and condition on a given automotive vehicle.
- perform basic service on a given automotive vehicle using the proper tools, equipment and procedures.

## Major Course Content

1. Automotive Related Science
  - a. Friction
  - b. Pressure and Vacuum

- c. Motion
  - d. Aerodynamics
  - e. Energy and Work
  - f. Thermodynamics
  - g. Basic Chemistry
  - h. Basic electricity
2. Preventative Maintenance and Service
    - a. Identification, Inspection and Adjustment of Fluid Levels
    - b. Fluid Selection, Replacement Intervals and Procedures
    - c. Filter Replacement Intervals and Procedures
    - d. Belts and Hoses
    - e. Tire Pressure and Rotation Methods
    - f. Spark Plug Selection and Replacement
    - g. Basic Brake Inspection
    - h. Basic Battery Inspection

## Lab Content

1. Maintenance, Inspection, Service & Repair of the following Automotive Systems
  - a. Engines
    - i. Oil and Filter
    - ii. Belts and Hoses
    - iii. Coolant and Thermostat
  - b. Fuel & Ignition Systems
    - i. Spark Plugs
    - ii. Fuel Filter
    - iii. Air Filter
  - c. Chassis Systems
    - i. Tire Pressure and Rotation
    - ii. Brake Inspection
  - d. Drivetrain
    - i. Fluid and Filter Changes

## Suggested Reading Other Than Required Textbook

Technical articles, journals, or on-line resources related the specific course content.

## Examples of Required Writing Assignments

Students will write an essay explaining their specific automotive career goals and what specific skills are required to attain that career goal.

## Examples of Outside Assignments

Students will read specific course content related articles, journals, or on-line resource material and provide a written assessment of the content and its value to their continued education in automotive technology.

## Instruction Type(s)

Lab, Lecture, Online Education Lecture