AUTO 101A: FUNDAMENTALS OF AUTOMOTIVE SERVICE, DIAGNOSIS AND REPAIR PART 1

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
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. 45 lecture hours, 30 lab hours.

Course Objectives

- identify and measure a specific metric and standard size bolts.
- understand the concept of percent and apply it to repair order cost and pricing calculations.
- measure outside dimensions, inside dimensions, radial runout, or endplay on specific automotive components using the appropriate measuring instrument.
- successfully lift a vehicle on an automotive hoist using the recommended lifting points in a safe and appropriate manner.
- write a repair order with all the necessary information completed in a timely manner.
- identify specific hand tools correctly.
- retrieve service information from a computer-based Automotive Information Database.
- understand and interpret numerical place value, whole numbers, decimals, fractions, mixed numbers unit conversion and angles when using precession measuring tools such as dial indicators, vernier calipers, micrometers and torque wrenches.

Major Course Content

1. Industry Exposure
    a. Organizations
        i. Technician credentialing and licensing
        ii. Industry standards
    b. Careers
        i. Salary expectations
        ii. Pay structure
        iii. Skill and physical requirements
    c. Manufacturers
        i. OEM
        ii. Aftermarket
2. Service Equipment Usage, Procedures and Safety
    a. Hand Tools
    b. Vehicle Lifting Apparatus
    c. Pneumatic Tools
    d. Cleaning Equipment
    e. Precision Measuring Tools
    f. Hazardous Materials
    g. Fasteners
    h. Identification
        i. Tool selection
        ii. Repair
        iii. Sealants, gaskets, and seals
3. Service Literature and Vehicle Information
    a. Vehicle Identification Numbers
    b. Vehicle Labels
    c. Specifications
    d. Maintenance Schedules
    e. Technical Service Bulletins
    f. Safety Recalls and Special Service Campaigns
    g. Owner's Manuals
    h. Service and Repair Manuals
    i. Online/Electronic Resources
4. Repair Order Documentation
    a. Write-It-Right
    b. Condition, Cause, and Remedy

Lab Content

1. Service Equipment Usage
    a. Hand Tools
    b. Vehicle Lifting Apparatus
    c. Pneumatic Tools
    d. Cleaning Equipment
    e. Precision Measuring Tools
    f. Hazardous Materials
    g. Fasteners
        i. Identification
        ii. Tool selection
        iii. Repair
        iv. Sealants, gaskets, and seals

2. Usage of Service Literature and Vehicle Information
3. Repair Order Documentation

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