

NC 645: INTRODUCTION TO AUTOMOTIVE SERVICE II

Citrus College Course Outline of Record

Heading	Value
Effective Term:	Summer 2022
Credits:	0
Total Contact Hours:	24
Lecture Hours :	9
Lab Hours:	15
Hours Arranged:	0
Outside of Class Hours:	18
Strongly Recommended:	Intermediate English language skills; basic computer skills.
Transferable to CSU:	No
Transferable to UC:	No
Grading Method:	Non-Credit Course

Catalog Course Description

This course will introduce students to the basics of professional automotive service and repair. Students will be familiarized with industry fasteners and hardware, precision measuring tools, and vehicle lifting equipment and techniques. Students will be introduced to industry standard inspection, maintenance, and light repair of the following systems: engines, automatic and manual transmissions, steering and suspension, brakes, basic engine performance/computer controls, body, electrical, heating, ventilation, and air conditioning. Intermediate service writing and repair order documentation will be utilized throughout the course lessons. 9 lecture hours, 15 lab hours.

Course Objectives

- Develop inspection and service skills necessary for entry level employment.
- Perform entry level automobile system inspections and their associated service procedures.
- Utilize professional service literature to determine proper service procedures.
- Properly identify and use vehicle lifting equipment.
- Demonstrate ability to properly prepare a repair order for the consumer.
- Demonstrate ability to identify, measure, and properly torque fasteners and hardware.
- Perform industry standard service procedures per manufacturers specified intervals.
- Demonstrate ability to properly use precision measurement tools.

Major Course Content

1. Introduction to entry level automotive service
 - a. Fluids, gaskets, and sealants
 - b. Industry standard service procedures and intervals
2. Measuring systems and tools
 - a. Dial calipers, micrometers, rulers, tape measures
 - b. Fasteners and hardware

3. Vehicle lifting and hoisting
 - a. Automotive lifts, hoists, and floor jacks
 - b. Automobile frames and lifting points
 - c. Safety stands, inspection of lift equipment
4. Under-hood vehicle inspection
 - a. Preventative maintenance
 - b. Windshield wiper and washer fluid service
 - c. Filter replacement
 - d. Brake fluid
 - e. Engine oil service
 - f. Transmission fluids and inspection
 - g. Cooling system inspection and service
 - h. Accessory drive belt(s) inspection and service
 - i. Power steering fluid inspection and service
5. Vehicle electrical fundamentals
 - a. Basic electrical theory
 - b. Batteries
 - c. Starting/cranking system
 - d. Charging system
 - e. Lighting and signaling circuits
6. Heating and air conditioning inspection
 - a. Heating system
 - b. Air conditioning
7. Ignition, fuel, and emissions system inspection
 - a. Ignition system maintenance
 - b. Fuel system maintenance
 - c. Emissions system inspection
8. Tires and wheels
 - a. Tire and wheel maintenance
 - b. Tire pressure monitoring systems (TPMS)
9. Suspension inspection and light repair
 - a. Front end inspection
 - b. Rear end inspection
 - c. Basic maintenance procedures
10. Brake systems
 - a. Disc brakes
 - b. Drum brakes
 - c. Parking brakes
11. Starting a career in the automotive industry
 - a. Preparing for an automotive career
 - b. Developing an employment plan
 - c. Interview preparation
 - d. After the interview

Suggested Reading Other Than Required Textbook

Materials supplied and/or created by the instructor (i.e. Power Point and Voice Thread presentations, videos, websites, and documents)

Examples of Required Writing Assignments

Written technical articles analyzing an automotive technology or service procedure

Instruction Type(s)

Lab, Lecture, Online Education Lecture