

COCONINO COMMUNITY COLLEGE

COURSE OUTLINE

Prepared by: Joseph M. Costion
Status: Permanent

Date: Sept. 2, 2004

A. Identification:

1. Subject Area: Automotive Technology
2. Course Number: AUT 111
3. Course Title: Automotive Electrical and Electronic Systems
4. Credit Hrs: 3
5. Catalog Description:
Emphasizes service of automotive and light truck starting and charging systems. Topics will include: Starting System Diagnosis and Repair, Charging System Diagnosis and Repair. Prerequisites: AUT 110. One lecture. Three lab. May be taken for S/U credit.

B. Course Goals:

To introduce students through hands-on on applications to the Principles of Electrical/Electronic Systems, Starting System Diagnosis and Repair, and Charging System Diagnosis and Repair.

C. Course Outcomes:

Students will:

1. Perform starter current draw tests; determine necessary action.
2. Perform starter circuit voltage drop tests; determine necessary action.
3. Inspect and test starter relays and solenoids; determine necessary action.
4. Remove and install starter in a vehicle.
5. Inspect and test switches, connectors, and wires of starter control circuits; perform necessary action.
6. Differentiate between electrical and engine mechanical problems that cause a slow-crank or no-crank condition.
7. Perform charging system output test; determine necessary action.
8. Diagnose charging system for the cause of undercharge, no-charge, and overcharge conditions.
9. Inspect, adjust, or replace generator (alternator) drive belts, pulleys, and tensioners; check pulley and belt alignment.
10. Remove, inspect, and install generator (alternator).
11. Perform charging circuit voltage drop tests; determine necessary action.
12. Locate and interpret vehicle and major component identification numbers (VIN, vehicle certification labels, and calibration decals).

D. Course Content:

Will include:

1. Starting System Diagnosis and Repair
2. Charging System Diagnosis and Repair