

**J. Sargeant Reynolds Community College**  
**Course Content Summary**

**Course Prefix and Number:** AUT 242

**Credits:** 3

**Course Title:** Automotive Electricity II

**Course Description (including lecture hours, lab hours, total contacts)**

Introduces electricity and magnetism, symbols and circuitry as applied to alternators, regulators, starters, lighting systems, instruments and gauges and accessories. Prerequisite: AUT 241. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

**General Course Purpose**

To examine the basic theory, operation and repair of charging, starting, ignition and accessory systems found on various automotive vehicles. Safety will be emphasized.

**Course Prerequisites/Corequisites** (*Entry-level competencies **required** for enrollment*)

AUT 241 - Automotive Electricity I

**Course Objectives** (Each item should complete the following sentence.)

Upon completing the course, the student will be able to:

- a. Identify and locate all vehicle control modules
- b. Identify power distribution centers fuse and relay locations, body grounding locations and junction block locations
- c. Demonstrate removal and replacement of junction blocks and body control modules
- d. Demonstrate diagnostics on the electrical systems using manufacturers service manuals and technical Bulletins
- e. Demonstrate logical electrical system diagnosis and repair
- f. Discuss the various electronic memory savers available
- g. Demonstrate the ability to use of electrical diagrams and schematics

**Major Topics to be Included**

- a. Circuit Components
- b. Switches
- c. Electrical Test Meters
- d. Troubleshooting Circuits
- e. Electronic Features (Audio systems, battery protection, central door locking, memory seats and mirrors, data link connectors, heated seats, ignition off-draw, engine coolant temperature sensors, etc.)
- f. Harness connectors
- g. Interior Lighting and Exterior Lighting
- h. Windshield Wipers (front and rear)
- i. Power Door Locks
- j. Drivers Information Systems

**Effective Date of Course Content Summary (Month, Date Year):** April 1, 2009