

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

**Course Prefix and Number:** AUT 242

**Credits:** 3

**Course Title:** Automotive Electricity II

**Course Description:** Introduces electricity and magnetism, symbols and circuitry as applied to alternators, regulators, starters, lighting systems, instruments and gauges, and accessories. Part II of II. 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 and Co-requisites:**

**Prerequisite:** AUT 241

**Student Learning Outcomes:**

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; and
- g. Demonstrate the ability to use 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

**Date Created/Updated (Month, Day, and Year):** January 24, 2019