

**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. 3 credits

**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

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

**Major Topics to Be Included:**

- Circuit components
- Switches
- Electrical test meters
- Troubleshooting circuits
- 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.)
- Harness connectors
- Interior lighting and exterior lighting
- Windshield wipers (front and rear)
- Power door locks
- Drivers information systems

**Effective Date/Updated:** January 24, 2019