

**Virginia Western Community College**  
**AUT 241**  
**Automotive Electricity I**

**Prerequisites**

None

**Course Description**

Introduces electricity and magnetism, symbols and circuitry as applied to the alternators, regulators, starters, lighting systems, instruments, and gauges and accessories. Part I of II.

**Semester Credits: 4 Lecture Hours: 3 Lab/Clinical/Internship Hours: 3**

**Required Materials****Textbook:**

Fundamentals of Automotive Technology, Principles, and Practice, 3rd Edition, ISBN: 978-1-284-23035-2

**Other Required Materials:**

- Safety Glasses
- Closed-toe shoes

**Course Outcomes**

**At the completion of this course, the student should be able to:**

- Explain Shop Safety
- Diagram, Explain, Automotive Electrical Systems
- Identify & Complete Repairs to Auto Electrical Components

- **Topical Description**

Electrical Fundamentals  
Electrical Circuits and Ohm's Law  
Series, Parallel Circuits  
Circuit Testers, Digital Meters ,Oscilloscopes, and Graphing Meters  
Automotive wiring and wire repair  
Schematics and circuit testing  
Capacitance and Capacitors  
Magnetism  
Electronic Fundamentals  
CAN and Network Communications  
Batteries Battery Testing and Service  
Cranking systems, Cranking System Diagnosis and Service  
Charging Systems, Charging System Diagnosis and Service  
Lighting & Signaling Devices