**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