

Course Objectives/Course Outline
Spokane Community College

Course Title: Electrical Circuitry Theory

Prefix and Course Number: Auto 101

Course Learning Outcomes:

By the end of this course, a student should be able to:

- Differentiate between ammeter, voltmeter, and ohmmeter.
- Identify the essential electrical components needed to identify and troubleshoot specific electrical circuits
- List some common electrical/electronic components found in new Toyota cars.
- Use a digital multi-meter to measure voltage, current, and resistance.
- Explain the function and proper selection of meter value ranges

Course Outline

- I. Essential Electronic Concepts
 - A. Meters
 - B. Voltage
 - C. Current
 - D. Resistance
 - E. Power
- II. Electrical Circuits
 - A. Types of Circuits
 - B. Ohm's Law
 - C. Parallel Circuit Elements
 - D. Series-Parallel
 - E. Electrical Symbols
 - F. Inducers
 - G. Conductor Repairs
- III. Batteries
 - A. Functions
 - B. Types
 - C. Construction
- IV. The Starting Systems
 - A. Starting System Components
 - B. Starter Motor
 - C. Visual Inspection

V. Charging Systems

- A. Charging System Components
- B. Charging
- C. Voltage
- D. Voltage Regulators
- E. Charging Indicators
- F. Troubleshooting