

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

Course Prefix and Number: AUT 282 **Credits:** 4

Course Title: Electrical II - OEM

Course Description:

Studies computer-controlled, multiplexed electrical systems and architecture, properties, operation, diagnostics, and service and repair. Develops diagnostic strategies to locate and repair electrical faults in computer-controlled and multiplexed systems. Focuses on performing voltage drop testing in computer-controlled circuits and digital oscilloscope testing of multiplexed systems. This course is intended for students in an original equipment manufacturer (OEM) training program. Part II of III. Lecture 2 hours. Laboratory 8 hours. Total 10 hours per week. 4 credits

General Course Purpose:

This course is intended for students in an OEM training program to provide specific instruction and hands-on practice of the OEM's vehicle and chassis electrical systems. The course focuses on the tools and equipment, strategies for diagnosis, and repair of OEM-specific advanced-level electrical systems.

Course Prerequisites and Co-requisites:

- **Prerequisite:**
 - Acceptance and good standing in the original equipment manufacturer (OEM) training program.
 - AUT 181 Electrical I - OEM or program head approval.
- **Co-Requirement:**
 - None

Student Learning Outcomes:

Upon completing the course, the student will be able to

- Prepare to sit for the A6 ASE – Electrical and Electronics Certification Examination
- Achieve OEM-level certification as an Electrical Diagnostic Specialist

Major Topics to Be Included:

- Computer Control Fundamentals
 - Computer control system construction, original equipment OEM architecture, and function
 - Output – current and voltage waveforms
- Computer networking and multiplexing
- Chassis Electrical Systems
 - Supplemental restraint systems
 - Keyless entry/smart key, immobilizer and anti-theft devices
 - Comfort and convenience features: back up camera, multi-media, etc.
- Other technologies as required by the OEM's specifications

Effective Date/Updated: January 1, 2023

JSRCC Form No. 05-0002

Revised: March 2020