

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

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

Course Title: Drivability and Emissions – OEM

Course Description:

Studies operation, inspection, diagnosis, service and repair of engine management concerns. Continues instruction of the fuel management system emphasizing fuel trim diagnosis, misfire diagnosis, and all levels of emissions control systems. This course is intended for students in an original equipment manufacturer (OEM) training program. Prerequisites: acceptance and good standing in the original equipment manufacturer (OEM) training program and AUT 181 and AUT 184 or program head approval. 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-Requisite:**
 - 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