

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

Course Prefix and Number: AUT 182 **Credits:** 4

Course Title: Brake Systems - OEM

Course Description:

Presents brakes and brake-based systems. Studies diagnostic procedures emphasizing performing basic brake service and developing diagnostic strategies to locate and repair faults in brake-based systems (anti-lock, traction control, vehicle stability control, automatic braking, and others). This course is intended for students in an original equipment manufacturer (OEM) training program. 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 brakes and brake-based systems with a focus on developing appropriate diagnostic strategies following OEM-specific repair procedures. The course focuses on the tools and equipment, strategies for inspection, service, and repair of OEM-specific vehicles.

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 A5 – Brake Systems ASE examination
- Inspect, service, diagnose and repair disc and/or drum brake systems, including hydraulics
- Inspect, service, diagnose and repair power brake and parking brake systems
- Inspect, service, diagnose and repair brake-based systems

Major Topics to Be Included:

- Disc brake system construction, service, diagnosis and repair
- Drum brake system construction, service, diagnosis and repair
- Brake hydraulic system construction, principles, service, diagnosis and repair
- Power assist systems construction, service, diagnosis and repair
- ABS, traction control and other brake-based systems construction, service, diagnosis and repair
- Other technologies as required by the OEM's specifications

Effective Date/Updated: January 1, 2023