

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

Course Prefix and Number: AUT 101 **Credits:** 3

Course Title: Introduction to Automotive Systems

Course Description:

Introduces fundamental systems of the automobile, the engine fuel, exhaust, electric, ignition, lubrication, cooling, transmission, steering, brake, and suspension systems. Teaches theory and function of each system. Demonstrates operation. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

General Course Purpose:

This course is designed for beginning automotive students who desire to learn about major automotive systems, as well as what it takes to work in an automotive service facility.

Course Prerequisites and Co-requisites:

None

Student Learning Outcomes:

Upon completing the course, the student will be able to

- Recognize Professional Credentials and Certifications used by Automotive Professionals
- Project and practice Safety Awareness in all aspects of shop operations
- Recognize and interpret vehicle identifying labels
- Describe operations of automotive systems
- Perform detailed multipoint inspections
- Perform basic automotive maintenance and repair services

Major Topics to Be Included:

- Building a Technician Portfolio
- ASE and Other Certifications
- Safety and Environmental Impacts
 - Safe operation of vehicle lifting equipment
 - Shop safety practices
 - Tools usage and safety
 - Hybrid vehicle safety procedures
- Vehicle Identification Labels
- High-Level Vehicle Operations
 - Cover high level operation and correct terminology
- Multipoint Inspection
 - Interior/Exterior
 - Underhood
 - Undercar

- **Basic Services**
 - Fluid maintenance including flush machines
 - Tire rotation and lug nut torque
 - Tire pressure monitor systems (TPMS) relearn procedures
 - Introduction to tire service
 - Battery testing and servicing
 - Basic thread repair techniques

Effective Date/Updated: January 19, 2023