

**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 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 entry-level students who are interested in learning about the major systems of an automobile. It is designed to offer students the theory of each system and enable them to perform basic lab skills on each system.

**Course Prerequisites and Co-requisites:**

None

**Student Learning Outcomes:**

Upon completing the course, the student will be able to

- a. Describe the theory, function, and demonstrate the operation of internal combustion engine operation, including the servicing of the lubrication and cooling systems;
- b. Describe the theory, function, and demonstrate the operation of the fuel system;
- c. Describe the theory and function of the operation of the exhaust system;
- d. Describe the theory, function, and demonstrate the operation of the lighting, charging, starting and ignition systems and how to perform basic maintenance on each system;
- e. Describe the theory, function, and demonstrate the operation of the manual and automatic transmissions, including manufacturer recommended servicing; and
- f. Describe the theory, function, and demonstrate the operation of the steering, brake, and suspension systems including manufacturer recommended servicing.

**Major Topics to Be Included:**

- a. The theory and function of internal combustion engine operation, including the servicing of the lubrication and cooling systems
- b. The theory and function of fuel system operation
- c. The theory and function of exhaust system construction and operation
- d. The theory and function of operation of the lighting, charging, starting, and ignition systems, and how to perform basic maintenance on each system
- e. The theory and function of servicing of the manual and automatic transmissions, including manufacturer recommended servicing
- f. The theory and function of the steering, brake, and suspension systems

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