

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

**Course Prefix and Number: AUB 293**

**Credits: 3**

**Course Title:** Studies in Auto Body - Auto Body Electronics

**Course Description (including lecture hours, lab hours, total contacts)**

Introduces the field of electronics as it applies to the contemporary automobile. Emphasizes basic circuit operation, diagnosis, and repair of digital indicators and warning systems. Explores the ramifications of high impact forces on vehicle on board computer systems and other electronic components. Introduces the students to safe working disciplines regarding the unique challenges associated with collision repair from an electronics perspective. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

**General Course Purpose**

This course is designed to give the Auto Body program students the unique insight and skill sets that are required from an electronics perspective when conducting collision repairs. The emphasis will be on safety, diagnosis and the common areas of concern when a vehicle has been involved in a collision.

**Course Prerequisites/Corequisites** (*Entry-level competencies **required** for enrollment*)

Must be enrolled as an Auto Body student and be currently declared as such.

**Course Objectives**

Upon completing the course, the student will be able to:

- Describe how semiconductors, diodes and transistors work
- Explain the principles of operation for common electronic circuits
- Explain the principle of multiplexing
- Describe the basic function of the central processing unit or CPU
- Safely work around and with air bags including disarmament.
- Understand the unique demands of collision repair from an electronics perspective.
- Summarize the function of a binary code
- Name the various memory systems used in automobile microprocessors.

**Major Topics to be Included**

- Semiconductors
- Diodes and transistors
- Semiconductor circuits
- Sensors (feedback, Vref, NTC, PTC, etc.)
- Communication signals
- Logic gates
- Multiplexer and Demultiplexer
- Actuators
- Testing circuits and systems