

ATEC 203: AUTOMOTIVE ELECTRICAL SYSTEMS III

Continuation of ATEC 202 with emphasis on computer-controlled systems in modern automobiles and light-duty trucks. Review of electricity theory; advanced wiring diagnosis; modern ignitions systems; theory and diagnosis of modern computer-controlled systems, such as antilock brakes, safety restraint systems, ride control and air suspension; climate control, electronic four-wheel drive; OBD I and OBD II engine-control computers; and GEM modules.

Course Student Learning Outcomes

1. Identify the various computerized electrical systems, components, and component parts relating to automotive starting, charging, ignition systems, antilock brakes, safety restraint systems, ride control and air suspension, climate control, electronic 4 wheel drive and OBD I and OBD II Systems.
2. Demonstrate the proper use of electrical test equipment to determine serviceability and repair necessary to automotive computer electrical components and systems.
3. Describe the theory of automotive computer electrical fundamentals and the application of those fundamentals.
4. Show knowledge of how an automotive computer uses electricity and Ohm's Law to process sensor inputs and outputs.
5. Describe the theory and design of transistors as it applies to vehicle computer controls.
6. Show knowledge of vehicle computers use of logic gates.
7. Demonstrate knowledge and proper diagnostic techniques of CAN systems used in modern automobiles.
8. Read with understanding in order to perform competently as an Automotive Technician.
9. Convey ideas in writing in order to perform competently as an Automotive Technician.
10. Communicate effectively to perform competently as an Automotive Technician.
11. Use math to solve problems and communicate to fulfill responsibilities of an Automotive Technician.
12. Understand the expectations of the workplace, the responsibilities of an Automotive Technician and the methods of securing employment within the field.
13. Demonstrate the ability to use technology effectively in the workplace.
14. Demonstrate professionalism in workplace appropriate dress and conduct.
15. Demonstrate the ability to work as a productive member of a team.

Credits: 6

Prerequisites: 2.0 or higher in ATEC 100, 201, and 202.

Program: [Automotive Technology](#)