

COURSE OUTLINE

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DEPARTMENT: Automotive Technology

CURRICULUM: Automotive Technology

COURSE TITLE: Basic Power Accessories

COURSE NUMBER: AUT 106

TYPE OF COURSE: Vocational Preparatory

COURSE LENGTH: Normally 2 weeks

CREDIT HOURS: 3

LECTURE HOURS: 10 hours

LAB HOURS: 40 hours

CLASS SIZE: 20 maximum

PREREQUISITES: MVM 100 (Introduction to Automotive Technology I), MVM 102 (Introduction to Automotive Technology II), AUT 100 (Introduction to Electricity), AUT 102 (Advanced Electrical Systems), AUT 104 (Automotive Electronics), basic math skills, and 9<sup>th</sup> grade or higher reading level (as evidence by appropriate placement test scores), and/or instructor permission.

COURSE DESCRIPTION:

Contents include: safety, computer inputs analog and digital, computer operation, computer controlled components, networking. Computer systems include driver information center, SRS, BCM, HVAC, Entertainment systems and many other systems. In addition the function and construction of each component, their diagnosis and service procedures will be covered. Instruction in safety, environmental awareness, human relations and leadership are taught as an integral part of this unit.

## STUDENT LEARNING OUTCOMES ADDRESSED:

1. Critical Thinking – Use problem solving skills to diagnose and repair automotive electrical problems. (SLO 4.1)
2. Technology - Proper use and care of automotive electrical repair tools and equipment. (SLO 5.1)

## PROGRAM OUTCOMES:

1. Inspect, diagnose, disassemble, repair, replace and service each of the major systems in various types of vehicles. (SLO 4.1)
2. Locate sources, make parts write-ups, calculate costs and explain repair or service. (SLO 2.1, 2.2 & 7.1)
3. Handle customer needs, complaints, questions and special challenges. (SLO 3.1 & 3.2)
4. Access and apply manufacturer's specifications in repair and replacement. (SLO 7.1)
5. Work safely and responsibly within all shop safety and environmental guidelines and standards. (SLO 6.4 & 6.5)
6. Demonstrate ability to pass the ASE test required for NATEF certification. (SLO 1.1, 1.2 & 7.1)
7. Communicate and document service records. (SLO 2.1)
8. Compute costs, time and measurements. (SLO 2.1, 2.2 & 7.1)
9. Work independently and in groups to service, repair, test and maintain vehicles. (SLO 3.1 & 6.3)
10. Use technology to test vehicles. (SLO 5.1)
11. Work with accuracy, dependability, proficiency and in a timely manner, when servicing equipment. (SLO 6.3 & 6.4)

## GENERAL COURSE OBJECTIVES:

At the end of the course the student will:

1. Explain and demonstrate safety as it applies to the automotive industry.
2. Explain analog and digital inputs.
3. Explain internal computer components emphasizing RAM and PROM.
4. Diagnose computer controls of the automotive systems.
5. Understand the use and importance of good diagnostic equipment.
6. Explain, identify, and service driver information centers found on automobiles and light trucks.
7. Diagnose and repair SRS and ABS systems.
8. Understand the complexity of computer networking on the vehicles.
9. Demonstrate proficiency in NATEF competencies.

## TOPICAL OUTLINE:

	APPROX. HOURS
1. Automotive safety	5
2. Analog and digital signals	5
3. Computer operation	10
4. Computer controlled components	10

5. Heads-up display	5
6. Driver information center	5
7. Air bags	5
8. Fiber optics	<u>5</u>
Total	50