Dept / Course#: AUTO 128a

Clock Hours: 240

Course Title: Electrical / electronic systems

Course Description: A comprehensive and thorough study of electrical and electronic theory as applied to the automobile. This course will focus on the operation, diagnosis and repair of starting and charging systems, lighting systems, all common accessories and will introduce basic electronically controlled systems.

Course Outline: This course will cover: basic electrical theory, electrical circuits and ohm’s law, DMMs and electrical measurement, wiring diagram interpretation and use in trouble shooting, circuit protection devices, battery theory and diagnosis, starting and charging systems, electronics theory and measurement, generic computer controlled systems, lighting circuits, dash and gauge circuits, and common accessory components operation, diagnosis and repair.

Student Outcomes: Student will demonstrate a thorough understanding of electricity and common electrical systems found on a vehicle. Student will be able to diagnose and repair common/basic electrical/electronic circuit failures. Student will be time efficient in all activities.

Student Performance Objectives (Course competencies): Given a specific task list, student will be able to perform all required NATEF tasks to industry standards in an acceptable time frame.

Methods Of Instruction: Power Point presentation, overheads, CDRom training programs, demonstration on vehicles and equipment, videos, self paced multimedia programs, peer tutoring, live shop work.

Student Assignments/Requirements: Competency in specific NATEF tasks. Attendance of 90% or better is a required task. Refer to grading standards.

Evaluation and Grading Standards: Competency in specific NATEF tasks. Tests are typically ASE style in format. Attendance of 90% or better is a required task. Employability grade will include appropriate dress, attitude, safety, etc...

1/4 grade = Attendance
1/4 grade = Tests
1/4 grade = Exercises
1/4 grade = Employability

90 - 100% = A
80 - 89% = B
70 - 79% = C
60 - 69% = D
59 or below = F

Required Student Supplies & Materials:
Required text, approved shop uniform, approved eye protection