ELEC 1240: Security & Sensors

A. COURSE DESCRIPTION

Credits: 6
Lecture Hours/Week: 2
Lab Hours/Week: 8
OJT Hours/Week: *
Prerequisites: None
Corequisites: None
MnTC Goals: None

Security and remote start features are one of the fastest growing areas in mobile electronics. This course will cover how to use transistors, diodes, relays, and bypasses necessary for proper installation of a security system. (Prerequisite: None) (6 credits: 2 lecture/4 lab)

B. COURSE EFFECTIVE DATES: 08/27/2004 - Present

C. OUTLINE OF MAJOR CONTENT AREAS
D. LEARNING OUTCOMES (General)
   1. Identify safe working conditions
   2. Demonstrate safety habits
   3. Identify and locate ignition wires
   4. Describe electric window circuits
   5. Describe trunk release circuits
   6. Operate digital meter
   7. Calculate proper wire gauges
   8. Identify electrical components
   9. Identify tach wires
  10. Measure voltage
  11. Measure current
  12. Measure resistance
  13. Determine voltage polarities
  14. Identify airbag circuits
  15. Describe electrical laws & formulas
  16. Identify open and closed circuits
  17. Describe ignition switch operation
  18. Compare door lock circuits
  19. Describe factors affecting alarm operation
  20. Define proper relay operation
  21. Identify true ignition wires
  22. Identify proper routes for wires
  23. Calculate circuit values using Ohm's law
  24. Calculate resistor power dissipation
  25. Identify device limitations
  26. Identify shock sensor circuits
  27. Locate parking light wires
  28. Locate brake wires
  29. Locate door lock wires
  30. Identify positive and negative trigger circuits
  31. Solve for series-parallel circuit parameters
  32. Identify false trigger causes
  33. Identify types of noise problems

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted