Minnesota State College Southeast

ABCT 1303: Auto Body Electrical

A. COURSE DESCRIPTION

   Credits: 3
   Lecture Hours/Week: *.*
   Lab Hours/Week: 6
   OJT Hours/Week: *.*
   Prerequisites: None
   Corequisites: None
   MnTC Goals: None

   This course will give the student basic understanding of DC electricity through theory and hands-on experiments. Using the basic principles of DC theory, the student will use digital multi-meters, and interpret wiring diagrams and flow charts. Application to the automotive electrical system is then applied to trouble shoot and repair lighting systems, power accessories, air bag restraint systems, anti-lock brake systems, wipers, blower fans, and other common automotive body electrical systems and components. (Prerequisite: None) (3 Credits: 0 lec/3 lab)

B. COURSE EFFECTIVE DATES: 12/22/2004 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

   1. Perform required electrical readings on vehicles
   2. Use service procedures and wiring diagrams
   3. Diagnosis of computerized body systems
D. LEARNING OUTCOMES (General)
   1. Demonstrate safe and professional practices
   2. Describe electrical circuits
   3. Operate digital meter
   4. Identify electrical components
   5. Measure voltage, current, and resistance
   6. Identify electrical symbols
   7. Describe electrical terms
   8. Identify series circuits how they work
   9. Identify parallel circuits and how they work
  10. Identify series-parallel circuits and how they work
  11. Locate opens and shorts in circuits
  12. Perform battery service procedures
  13. Demonstrate wiring harness repair
  14. Explain proper wire harness routing
  15. Test electric motors
  16. Test automotive electrical components
  17. Interpret automotive body circuit wiring diagrams
  18. Explain electrical circuit and component operations
  19. Perform vehicle electrical systems check
  20. Develop electric circuit repair plan
  21. Replace electrical system components
  22. Analyze lighting circuits
  23. Analyze power accessory circuits
  24. Describe onboard computer service procedures
  25. Diagnose computer controlled systems
  26. Describe anti-lock brake system operation
  27. Diagnose anti-lock brake system systems
  28. Describe passive restraint system components
  29. Diagnose air bag system faults
  30. Replace air bag system components
  31. Install automotive electrical accessories

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

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted