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 troubleshoot 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