Minnesota State College Southeast

ABCT 1335: Auto Body Mechanical 2

A. COURSE DESCRIPTION

Credits: 3
Lecture Hours/Week: 2
Lab Hours/Week: 2
OJT Hours/Week: *.*
Prerequisites: None
Corequisites: None
MnTC Goals: None

The second mechanical course in the auto body program advances the knowledge base and hands on of many systems introduced in Auto Body Mechanical 1. Air conditioning, cooling systems, steering and suspension, brakes, and computerized body and mechanical systems are worked with from a collision damaged perspective. Hands-on assignments are involved in addition to the theory of the systems physics. Scan tools are used in the diagnostics of many of the systems as well as other specialized tools. Utilization of service procedures and service data bases are significant part of the experiences in this course as well. (Prerequisites or concurrent: ABCT1135, ABCT1115, ABCT1125, ABCT1315) (3 credits: 2 lecture/1 lab)

B. COURSE EFFECTIVE DATES: 02/23/2015 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Use of proper safety and service procedures for mechanical systems
2. Servicing of collision damaged air conditioning and cooling systems
3. Servicing of collision damaged steering, suspension, and brake systems
4. Servicing of air intake, fuel, exhaust, and emission systems
5. Use of scan tools for mechanical and body systems following a collision event
6. Perform wheel alignment and
D. LEARNING OUTCOMES (General)
   1. Demonstrate safe procedures for mechanical system procedures
   2. Secure mechanical service procedures for specific vehicles and system
   3. Explain air conditioning system physics
   4. Discharge and recover air conditioning system refrigerant
   5. Replace air conditioning systems components
   6. Identify A/C system capacities and type for refrigerant and oil
   7. Recharge A/C system including adding of refrigerant oil
   8. Performance test A/C system and leak test system
   9. Perform steering column inspection and service procedures
  10. Perform steering system inspection and service procedures
  11. Identify brake system components and functions
  12. Identify brake system collision damage and damage due to normal wear
  13. Remove and reinstall collision damaged brake components
  14. Perform drive line mount inspection and service procedures
  15. Identify major driveline components and removal and installation procedures
  16. Perform major driveline component removal and installation procedures
  17. Perform suspension system inspection, component replacement and service procedures
  18. Identify wheel alignment angles and determine procedures required following steering and suspension component replacement
  19. Identify intake, fuel, exhaust, and emission system relationships and service procedures
  20. Demonstrate scan tool procedures for mechanical and body systems
  21. Identify service procedures and test for specific mechanical and body codes identified
  22. Perform tire pressure monitor procedures
  23. Identify hybrid electrical service procedures for high voltage system
  24. Complete required course assignments, quizzes, and tests
  25. Demonstrate professionalism

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

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted