

# Minnesota State College Southeast

## ABCT 1135: Auto Body Mechanical 1

### A. COURSE DESCRIPTION

Credits: 2

Lecture Hours/Week: 1

Lab Hours/Week: 2

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

Auto Body Mechanical 1 focuses on the mechanical systems that are often involved with the collision event and need to be disassembled or removed from the vehicle for the purpose of replacement or access for repairs. Safety concerns for mechanical system removal is critical to the learning as well as environmental issues. System protection during removal and storage is covered to help insure parts and the vehicle are not damaged or effected by the removal or repairs. Refilling and bleeding of many of the systems are covered so as to ensure proper operation and life of the components in the system. (Prerequisite or concurrent: ABCT1115) (2 credits: 1 lecture/1 lab)

**B. COURSE EFFECTIVE DATES:** 02/10/2015 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Safety practices for various mechanical systems during disassembly of collision damaged vehicles
2. Terminology and nomenclature for automotive mechanical system components
3. Removal of automotive mechanical parts commonly damaged in collision events
4. Installation and hook-up mechanical systems prior to specific recharging, reprogramming, bleeding, and other vehicle and system specific procedures

#### **D. LEARNING OUTCOMES (General)**

1. Identify and demonstrate safe practices for mechanical service procedures
2. Identify automotive mechanical systems
3. Identify and demonstrate vehicle protection procedures during mechanical service procedures
4. Identify environmental concerns and fluid containment procedure for automotive mechanical systems
5. Identify and perform battery disconnect, removal, replacement, and disposal procedures
6. Perform battery testing and charging procedures
7. Inspect, clean, repair, or replace battery cables, connectors and clamps
8. Identified collision damaged mechanical system components
9. Remove and install exhaust system components
10. Remove and install exhaust system heat shields on vehicle underbody area
11. Depressurize fuel system
12. Identify fuel tank removal procedures and remove vehicle fuel tank
13. Remove and reinstall fuel system line and pump assembly from fuel tank
14. Identify cooling system components and function including hybrids
15. Remove and reinstall cooling system components and auxiliary coolers
16. Identify coolant type, capacity, and procedures for specific vehicles
17. Remove and reinstall engine air intake system components
18. Remove and install pulleys and belts
19. Remove damages A/C systems parts after recovery procedures are complete
20. Properly seal up engine components and parts during disassembly and reassembly of mechanical systems
21. Identify suspension system components
22. Identify steering system components
23. Remove and install evap system components
24. Identify base brake system components and condition
25. Identify parking brake system components and adjustment procedures
26. Complete all required assignment, quizzes, and test
27. 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