

# Dakota County Technical College

## ABCT 2240: Emerging Technologies

### A. COURSE DESCRIPTION

Credits: 2

Lecture Hours/Week: 2

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course covers emerging automotive technologies and how they will impact the collision repair field.

**B. COURSE EFFECTIVE DATES:** 12/10/2010 - Present

**C. OUTLINE OF MAJOR CONTENT AREAS**

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

1. Describe vehicle construction design
2. Describe advanced high strength steel
3. Describe boron steel
4. Describe dual phase steel
5. Describe martensitic steel
6. Describe laminated steel
7. Describe aluminum usage in vehicle construction
8. Describe plastic/composite usage in vehicle construction
9. Research future construction methods and materials for vehicle construction
10. Describe alternative fuel vehicle
11. Describe electric/gasoline hybrid vehicle
12. Describe plug in hybrid vehicle
13. Describe hydrogen fuel cell vehicle
14. Describe LNG fuel vehicle
15. Describe biofuels
16. Describe alternative fuel vehicle safety procedures
17. Research future alternative fuel vehicles
18. Describe vehicle electronic systems
19. Describe adaptive cruise control
20. Describe adaptive lighting
21. Describe vehicle self-parking feature
22. Describe collision avoidance feature
23. Describe pedestrian avoidance feature
24. Describe blind spot alert feature
25. Describe inattentive driving feature
26. Describe voice activated control feature
27. Describe onboard GPS/safety/theft feature
28. Describe onboard maintenance monitoring feature
29. Describe stability control feature
30. Describe event data recorder feature
31. Describe onboard entertainment features
32. Describe future government mandated safety standards
33. Describe future government fuel efficiency standards
34. Research how government standards influence automotive design

#### **E. Minnesota Transfer Curriculum Goal Area(s) and Competencies**

None

#### **F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

#### **G. SPECIAL INFORMATION**

None noted