AUTO 1203: Drive Train and Axle Theory

A. COURSE DESCRIPTION
   Credits: 2  
   Lecture Hours/Week: 2  
   Lab Hours/Week: *.*  
   OJT Hours/Week: *.*  
   Prerequisites: None  
   Corequisites: None  
   MnTC Goals: None  
   This course will instruct the student in repair procedures of manual transmission, four wheel drive, all wheel drive, and front/rear differential. Emphasis will be placed on all components needed for engagement and operation of the above detailed. (Prerequisites: AUTO1105, AUTO1106, or instructor approval) (2 Credits: 2 lecture/0 lab)

B. COURSE EFFECTIVE DATES:  10/06/1998 - Present

C. OUTLINE OF MAJOR CONTENT AREAS
   1. Safety Precautions  
   2. Manual Transmission, Four-wheel Drive, All-wheel Drive, and Front/Rear Differential Repair Procedures
D. LEARNING OUTCOMES (General)
   1. Identify manual transaxle
   2. Identify shop safety precautions
   3. Identify manual transaxle components
   4. Identify manual transaxle fluids
   5. Describe steering/suspension removal
   6. Describe axle shaft removal
   7. Describe transaxle removal procedure
   8. Describe manual transaxle power flow
   9. Calculate manual transaxle gear ratio
  10. Analyze manual transaxle operation
  11. Describe manual transaxle problems
  12. Analyze speedometer operation
  13. Identify manual transmission
  14. Describe manual transmission problems
  15. Complete mid-course exam
  16. Define clutch terms
  17. Identify clutch components
  18. Analyze clutch operation
  19. Describe driveline service precautions
  20. Define driveline terms
  21. Examine transfer case operations
  22. Identify transfer case lubricants
  23. Describe (full time) transfer case powerflow
  24. Describe (part time) transfer case powerflow
  25. Explain electronic, manual, vacuum shift mechanisms
  26. Examine differential designs
  27. Identify differential components and types
  28. Describe differential powerflow
  29. Calculate drive axle ratios
  30. Exhibit professionalism
  31. Complete final exam

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

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted