

Minnesota State College Southeast

AUTO 1205: Brake Systems 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 includes principles of hydraulic systems, disc and drum brakes, parking brakes, and power assist units. Emphasis on anti-lock operation, diagnosis, and repair of various types of braking systems. (Prerequisites: AUTO1105, AUTO1106, or instructor approval) (2 Credits: 2 lecture/0 lab)

B. COURSE EFFECTIVE DATES: 04/27/1998 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Safety Procedures
2. Principles of Hydraulic Systems, Disc and Drum Brakes, Parking Brakes, and Power Assist Units
3. Diagnosis and Repair of Various Types of Braking Systems

D. LEARNING OUTCOMES (General)

1. Explain safety procedures
2. Explain brake terms
3. Identify brake related health hazards
4. Identify brake tools
5. Identify braking material
6. Identify required fluid types
7. Identify brake components
8. Explain drum brake parts functions
9. Describe automatic adjuster operation
10. Explain disc brake parts functions
11. Describe 4 wheel disc operations
12. Describe automatic adjuster operation
13. Explain disc brake internal parking brake operation
14. Explain hydraulic operation
15. Describe master cylinder operation
16. Complete mid-course exam
17. Describe automatic release park brake system
18. Describe metering valve operation
19. Describe proportioning valve operation
20. Explain diagonal brake system
21. Identify directional and laminated rotor assemblies
22. Describe car rotor resurfacing operation
23. Identify brake fluid loss
24. Explain vacuum and power assist unit operation
25. Describe anti-skid systems operation
26. Exhibit professionalism
27. 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