DEPT: Automotive  
COURSE NO: AUTO 1131

COURSE TITLE: Brakes

CATALOG DESCRIPTION COURSE DESCRIPTION: Establish the goals of this course is to enable the student to properly service automotive brake systems. Included will be diagnosis of problems, system theory and repair, machine procedures, customer satisfaction and safety.

3 Credits 1 Lecture. 2 Lab 80 hours

AUDIENCE: Auto students

FULFILLS MN TRANSFER CURRICULUM AREA(S) (Leave blank if not applicable)

Area : by meeting the following competencies:

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PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE: NA

LENGTH OF COURSE: 20 days @ 4 hours a day = 80 Hours

THIS COURSE IS USUALLY OFFERED:

Every year X Every other year

Fall X Spring Summer Undetermined

Four goals are emphasized in course at Minnesota West Community & Technical College:
ACADEMIC CONTENT: Complete the goals of this course will enable the student to properly service automotive brake systems. Included will be diagnosis of problems, system theory and repair, machine procedures, customer satisfaction and safety.

THINKING SKILLS:
A. To use different situations to diagnose & troubleshoot problems in brake system.
B. To be able to think through how all of the internal parts of the brake system work

COMMUNICATIONS SKILLS:
A. Participation in class discussion.
B. Complete written reports and assignments
C. To improve oral communications skills through class presentations

HUMAN DIVERSITY:
A. To understand the roles of the technician in communicating with a diverse population.
B. To work effectively in teams comprised of diverse backgrounds.
C. To express personal philosophies on diverse issues.

TOPICS TO BE COVERED:
1. Brake system operation.
2. Diagnosis and repair of hydraulic systems.
3. Diagnosis and repair of drum brakes.
4. Diagnosis and repair of disk brakes.
5. Diagnosis of power boosters.
6. Diagnosis and repair of parking brake systems.
7. Basic familiarization with antilock brake systems.
LIST OF EXPECTED COURSE OUTCOMES:

After completing this course, the student should have the knowledge and application to:

1. Maintain brake systems.
2. Replace brake pads.
3. Replace brake shoes.
4. Diagnose and repair modern brake systems.
5. Resurface brake drums and rotors.
6. The required outcomes follow the Auto Service Technician (AST) model of the National Automotive Technical Education Foundation (NATEF) certification program.

LEARNING/TEACHING TECHNIQUES USED IN THIS COURSE:

X Collaborative Learning X Problem Solving
Student Presentations X Interactive Lectures
Creative Projects Individual Coaching
X Lecture X Films/Videos/Slides
X Demonstrations X Other (describe below)
X Lab Periodical Research and Summary

ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:

X Reading X Tests X Individual Projects
X Oral Presentations X Worksheets X Collaborative Projects
X Textbook Problem X Papers Portfolio
X Group Problems Term Paper
X Other: NATEF Tasks

EXPECTED STUDENT LEARNING OUTCOMES:

After completing this class, students should be able to:

1. Maintain brake systems.
2. Replace brake pads.
3. Replace brake shoes.
4. Diagnose and repair modern brake systems.
5. Resurface brake drums and rotors.

This course outline was developed from standards established by the National Technicians Education Foundation (NATEF), January 2013. The complete NATEF task list for A-5 (Brakes) is provided in the following information. Successful completion of this class will include satisfactorily completing at least 37 of the P-1 tasks, at least 8 of the P-2 tasks, and at least 6 of the P-3 tasks. Task completion is documented by the instructor and calculated into the course grade.

"This course will cover the characteristics of hazardous wastes and its safe handling, storage, and disposal."

Veteran Services: Minnesota West is dedicated to assisting veterans and eligible family members in achieving their educational goals efficiently. Active duty and reserve/guard military members should advise their instructor of all regularly scheduled military appointments and duties that conflict with scheduled course requirements. Instructors will make every effort to work with the student to identify adjusted timelines. If you are a veteran, please contact the Minnesota West Veterans Service Office.

To receive reasonable accommodations for a documented disability, please contact the campus Student Services Advisor or campus Disability Coordinator as arrangements must be made in advance. In addition, students are encouraged to notify their instructor.

This document is available in alternative formats to individuals with disabilities by contacting the Student Services Advisor or by calling 800-658-2330 or Minnesota Relay Service at 800-627-3529 or by using your preferred relay service.

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