

# MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

## COURSE OUTLINE

DEPT. AUTO

COURSE NUMBER: 1131

NUMBER OF CREDITS: 3

Lecture: 1 Lab: 2 OJT 0

### Course Title:

Brakes

### Catalog Description:

Brakes explains service of automotive brake systems. Included will be diagnosis of problems, system theory and repair, machine procedures, customer satisfaction and safety.

### Prerequisites or Necessary Entry Skills/Knowledge:

None

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

- Goal 1: Communication: By meeting the following competencies:
- Goal 2: Critical Thinking: By meeting the following competencies:
- Goal 3: Natural Sciences: By meeting the following competencies:
- Goal 4: Mathematics/Logical Reasoning: By meeting the following competencies:
- Goal 5: History and the Social and Behavioral Sciences: By meeting the following competencies:
- Goal 6: The Humanities and Fine Arts: By meeting the following competencies:
- Goal 7: Human Diversity: By meeting the following competencies:
- Goal 8: Global Perspective: By meeting the following competencies:
- Goal 9: Ethical and Civic Responsibility: By meeting the following competencies:
- Goal 10: People and the Environment: By meeting the following competencies:

### Topics to be Covered

Brake system operation

Hydraulic brakes

Drum brakes

Disc brakes

Power boosters

Parking brake systems

Antilock brake systems

### Student Learning Outcomes

Identify brake system components and configuration

Describe, inspect, diagnose, and repair hydraulic brake systems.

Describe, inspect, diagnose, and repair drum brake systems.
Describe, inspect, diagnose, and repair disc brake systems.
Identify components of the brake power assist; and check pedal travel to verify proper power booster operation.
Check parking brake system components for wear, binding, and corrosion; clean, lubricate, adjust and/or replace as needed.
Remove, clean, inspect, repack, and install wheel bearings; replace seals; install hub and adjust bearings.
Identify traction control/vehicle stability control system components and describe operation.
Comply with personal and environmental safety practices associated with clothing; eye protection; hand tools; power equipment; proper ventilation; and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and federal safety and environmental regulations
*The required outcomes follow the Auto Service Technician (AST) model of the Board of the National Institute for Automotive Service Excellence (ASE)

<b>Is this course part of a transfer pathway: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b>
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Revised Date: 04/2022