

MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

COURSE OUTLINE

DEPT. AUTO

COURSE NUMBER: 1126

NUMBER OF CREDITS: 3

Lecture: 1 Lab: 2 OJT 0

Course Title:
Steering/Suspension/Alignment

Catalog Description:
Steering/Suspension/Alignment identifies the skills necessary to diagnose and repair steering and suspension systems. The course teaches suspension systems using leaf springs, coil springs, MacPherson struts, torsion bars and wheel balance. The course also covers the principles of operation, disassembly, checks and adjustments of power and manual steering gears, and manual and power rack and pinion systems. The procedures required for checking and adjusting wheel alignment will also be covered.

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
Steering system operation
Diagnosis and repair of steering systems
Hydraulic assisted steering
Diagnosis and repair of hydraulic assisted steering systems
Suspension system operation
Diagnosis and repair of suspension systems
Alignment geometry
Basic alignment performance

Tire and wheel relationship to steering and alignment
Tire maintenance and repair

Student Learning Outcomes
Perform a basic alignment
Replace common hydraulic steering components
Replace common steering components
Replace common suspension components
Repair and replace tires
Diagnose and repair basic steering problems
Diagnose and repair basic suspension problems
Comply with personal and environmental safety practices associated with clothing, eye protection, hand tools, power equipment, and proper ventilation
Demonstrate safe 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)

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

Revised Date: 04/2022