HIBBING COMMUNITY COLLEGE
COURSE OUTLINE

COURSE NUMBER & TITLE: ASES 1022: Four Wheel/All-Wheel Drive
CREDITS: 1 (0 Lec / 1 Lab)
PREREQUISITES: Instructor approval.

CATALOG DESCRIPTION:
Four Wheel/All-Wheel Drive explains operation, diagnosis and repair of components used in four-wheel drive/all-wheel drive systems. Topics include transfer cases, power transfer units, and axle disconnects.

OUTLINE OF MAJOR CONTENT AREAS:
1. Safety precautions
2. 4WD/AWD systems and applications
3. Transfer case
   A. Conventional - light truck
   B. Power transfer units
   C. Viscous clutches
4. 4WD hub assemblies
   A. Manual locking
   B. Automatic locking
   C. Axle disconnects
5. System operation
6. Repair and replacement

COURSE GOALS/OBJECTIVES/OUTCOMES:
1. Students will diagnose, test, adjust, and replace electrical/electronic components of four-wheel drive systems.
2. Students will disassemble, service, and reassemble transfer case and components.

MNTC GOALS AND COMPETENCIES MET: N/A

HCC COMPETENCIES MET:
Working Productively and Cooperatively
Communicating Clearly and Effectively

STUDENT CONTRIBUTIONS:
A. Be present—if you’re not here you can’t get paid.
B. Participate—you will get out what you are willing to put in.
C. Work safe—it’s hard to fix cars if you cut off your fingers.
C. Take care of yourself—your body is your most valuable tool.
D. Keep your driver’s license—techs without good driving records don’t have jobs.
E. Think outside of the box—there is always a way.
F. Be a Professional—act like it, look like it, smell like it.
G. Communicate—nobody gets fired by asking for help

ADDITIONAL INFORMATION:
- Handouts and other materials will be provided in class.
- Factory and aftermarket service manuals will be used for reference.
- Hazardous Waste Policy: proper handling practices will be used.
- Safety Eyeglass Policy: safety glasses will be worn at all time while working in the labs.
- Shop Safety Policy: safe shop working practices must be followed.

Violations of the above policies will be verbal or documented warnings and will be handled on a case-by-case basis.

METHODS FOR EVALUATING STUDENT LEARNING:
Student assessment shall take place using instruments selected/developed by the course instructor.

Curriculum Committee Approval Date: December 4, 2018

AASC APPROVAL DATE: December 19, 2018
REVIEW DATE: December 2023