HIBBING COMMUNITY COLLEGE
COURSE OUTLINE

COURSE NUMBER & TITLE: ASES 1012: Manual Transmission & Drivelines
CREDITS: 3 (1 Lec / 2 Lab)
PREREQUISITES: None

CATALOG DESCRIPTION:
Manual Transmission and Drivelines covers the designs, power flow, inspection, diagnosis, and overhaul of manual transmissions, transaxles, drivelines, and differentials.

OUTLINE OF MAJOR CONTENT AREAS:
1. Clutches
   A. Operation
   B. Diagnosis
   C. Service
2. Manual Transmissions/Transaxles
   A. Design
   B. Operation/Powerflow
   C. Overhaul
3. Drive Axles/Driveshafts
   A. Front-wheel drive
   B. Rear-wheel drive
4. Differentials
   A. Operation
   B. Overhaul

COURSE GOALS/OBJECTIVES/OUTCOMES:
1. Students will diagnose clutch noise, binding, slippage, pulsation, and chatter; determine necessary action.
2. Students will inspect clutch pedal linkage, cables, automatic adjuster mechanisms, brackets, bushings, pivots, and springs; perform necessary action.
3. Students will inspect and replace clutch pressure plate assembly, clutch disc, release (throw-out) bearing and linkage, and pilot bearing/bushing (as applicable).
4. Students will bleed clutch hydraulic system.
5. Students will diagnose noise concerns through the application of transmission/transaxle powerflow principles.

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.
D. Take care of yourself—your body is your most valuable tool.
E. Keep your driver’s license—techs without good driving records don’t have jobs.
F. Think outside of the box—there is always a way.
G. Be a Professional—act like it, look like it, smell like it.
H. Communicate—nobody gets fired by asking for help

ADDITIONAL INFORMATION:
- Educational Training Material by Hunter Engineering Company
- 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