HIBBING COMMUNITY COLLEGE
COURSE OUTLINE

COURSE NUMBER & TITLE: ASES 1016: Fuel and Emission Systems
CREDITS: 2 (1 Lec/1 Lab)
PREREQUISITES: Instructor approval

CATALOG DESCRIPTION:
Fuel and Emission Systems covers the operation, diagnosis, and repair of the automotive fuel system. Fuel injections are introduced. Theory, design, diagnosis and service of the vehicles emission system are included.

OUTLINE OF MAJOR CONTENT AREAS:
1. Fuel delivery
   A. Design
   B. Testing
   C. Service
2. Carburation principles and adjustments
3. Fuel injection basics
   A. Operation and diagnosis
   B. Service
4. Emission controls
   A. Emissions systems
   B. Emission component function
   C. Emission testing

COURSE GOALS/OBJECTIVES/OUTCOMES:
1. Students will replace fuel filter(s).
2. Students will inspect, service, or replace air filters, filter housing, and intake ductwork.
3. Students will inspect and test fuel pumps and pump control systems for pressure, regulation, and volume, and perform the necessary action.
4. Students will inspect, test, and service positive crankcase ventilation (PCV) filter/breather cap, valve, tubes, orifices, hoses, and perform the necessary action.
5. Students will inspect and test components and hoses of the evaporative emissions control system, and perform the necessary action.
MNTC GOALS AND COMPETENCIES MET:
N/A

HCC COMPETENCIES MET:
- Working Productively & Cooperatively
- Communicating Clearly & Effectively
- Thinking Creatively & Critically

STUDENT CONTRIBUTIONS:
The student will:
1. Attend all lectures.
2. Participate in class discussions.
3. Perform assigned tasks.
4. Hand in assignments when due.
5. Follow all safety rules.

STUDENT ASSESSMENT SHALL TAKE PLACE USING INSTRUMENTS SELECTED/DEVELOPED BY THE COURSE INSTRUCTOR.

ADDITIONAL INFORMATION:
Students are required to wear safety glasses in the lab.

Curriculum Committee Approval Date: April 3, 2018

AASC APPROVAL DATE: April 18, 2018
REVIEW DATE: April 2023