COURSE NUMBER & TITLE:  ASES 2020: Advanced Ignition Systems
CREDITS:  2 (1 Lec / 1 Lab)
PREREQUISITES:  Instructor Approval

CATALOG DESCRIPTION:  Advanced Ignition Systems covers the ignition systems that are not distributor based. The systems taught will be EI (Electronic Ignition) and the COP (coil on plug) system. Theory of operation and the proper diagnostic and repair procedures will be covered.

OUTLINE OF MAJOR CONTENT AREAS:
1. Review of basic ignition theory
2. Waste-Spark system theory including diagnosis and repair
3. EI ignition systems
   A. GM
   B. Ford
   C. Chrysler
   D. Import
4. Coil On Plug theory including diagnosis and repair
   A. GM
   B. Ford
   C. Daimler Chrysler
   D. Import

COURSE GOALS/OBJECTIVES/OUTCOMES:
1. Students will check electrical/electronic circuit waveforms; interpret readings and determine needed repairs.
2. Students will diagnose (troubleshoot) ignition system related problems such as no-starting, hard starting, engine misfire, poor drivability, spark knock, power loss, poor mileage, emissions concerns and determine necessary action.
3. Students will inspect, test, and/or replace ignition control module, powertrain/engine control module, and reprogram if necessary.

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 class sessions.
2. Participate in class activities and discussions.
3. Request assistance when needed.
4. Complete and hand in assigned work when due.

Attendance is critical: if the student is not present, they cannot participate in or contribute to the learning process.

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

ADDITIONAL INFORMATION:
Tasks lists, handouts, and other materials will be provided.
Safety glasses are required in the lab.

Curriculum Committee Approval Date: April 3, 2018

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