

AUTOMOTIVE SYSTEMS
GRADE 10
(1 Semester - Prerequisite: Energy and Transportation Systems)

COURSE OVERVIEW:

Automotive Systems is a one semester course providing hands on experiences and theoretical knowledge of both small engines and automotive engines. Each automotive system will be explored from both the practical and scientific point of view. Lab exercises emphasizing preventive and routine maintenance of automotive systems are included and extensive study of small engines and automotive engines is involved.

UNITS OF INSTRUCTION:

- UNIT I - 4 Cycle Engine Fundamentals

- UNIT II - Vehicle Maintenance

- UNIT III - Automotive Systems
 - a. Electrical Systems
 - b. Fuel Systems
 - c. Computer Control Systems
 - d. Emission Systems
 - e. Suspension Systems

STUDENT OUTCOMES:

1. Acquaint students with troubleshooting and use of repair manuals.
2. Have students perform preventive maintenance procedures on small engines.
3. Acquaint students with the automobile electrical system including the battery, ignition system, starting system, charging system, and the computer control of the engine and other functions.
Have students use various test equipment while performing diagnostic procedures on small engines
4. and on an automobile.
Acquaint students with careers available in the automotive field.
5. Acquaint students with four and two cycle engine operation.
6. Have Students perform engine disassembly and assembly of an automotive engine.
- 7.

MAJOR LEARNING EXPERIENCES TO ACHIEVE OUTCOMES:

1. Perform lab activities on shop vehicles such as change, patch, balance tires; replace disk pads and drum brakes; perform fluid checks on vehicles; change transmission fluid and engine oil; partially disassemble, check for wear and reassemble a GM 3.8L V6 engine; and other lab activities

	related to small engine operation.
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ADOPTED TEXT OR PRINCIPAL MATERIALS USED:

Crouse, William H. <i>Automotive Mechanics</i> . McGraw Hill, 1981.

(05/09/00)