Syllabus: Automotive Technology 1

This course is designed for the students who would like to own and maintain a personal vehicle in more depth than Consumer Auto. This course covers basic car care, under hood inspection (fluids, belts, hoses), removing & replacing items (wiper blades, bulbs, fuses), cooling system maintenance, battery/charging system diagnosis, lubrication system maintenance, tire information, brake inspection, minor ignition system maintenance (spark plug, wires, firing order), car buying, car insurance, and service information.

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<tr>
<th>Department</th>
<th>Instructor:</th>
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<tr>
<td>Technology and Engineering</td>
<td>Mr. Bostic</td>
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<tr>
<th>Course Number:</th>
<th>Office Hours:</th>
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<td>TEC 2030</td>
<td>3rd &amp; 6th</td>
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<tr>
<th>Credits Earned/Length of Course:</th>
<th>Instructor Contact Info:</th>
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<tr>
<td>.5 credit / Semester Course</td>
<td>Phone: (608) 204-1600</td>
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<tr>
<td></td>
<td>Email: <a href="mailto:zrbostic@madison.k12.wi.us">zrbostic@madison.k12.wi.us</a></td>
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Course Standards:
- Common Core State Standards for Literacy in All Subjects
- Common Core State Standards for Mathematics -- Standards for Mathematical Practice
- Wisconsin Common Career Technical Core Standards
- Wisconsin Standards for Technology and Engineering
- National Automotive Technician Education Foundation (NATEF) Automotive Service Technician Maintenance and Light Repair (MLR) Level Standards

Course Assessment(s):
- Summative assessments for each unit, both written and practical quizzes.
- Comprehensive Final written exam
- Completion of sp2 Mechanical Safety units as assigned.
- ASE Student Certification test(s)

Course Outline (including Unit(s) of Time and Essential Questions):

Unit 1 Safety, Tools, and Basic Skills Review (10 days)

- What basic safety information do I need to know to safely perform basic automotive maintenance and repair?
- What are the basic tools do I need to know how to use to perform basic automotive maintenance and repair?
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Unit 2 Basic Internal Combustion Engine Operation (13 days)

- What do I need to know about an internal combustion engine?
- What do I need to know to start an air cooled gas engine
- What do I need to know to identify the 4 strokes of an engine?
- What do I need to know to check proper valve and spark timing?
- What do I need to know to change oil and spark plug and start an air cooled engine?
- What do I need to know to perform cylinder compression test?

Unit 3 Engine Mechanical, Cooling and Lubrication (10 days)

- How do I find service information?
- What do I need to know to change the oil and filter, the drive/serpentine belt and the radiator hose and thermostat and perform a vehicle safety inspection?
- What do I need to know to make common fastener and thread repairs?
- What do I need to know to identify hybrid vehicle internal combustion engine service precautions?

Unit 4 Understanding Automotive Electrical Systems

- What do I need to know about the electrical lighting in the car?
- What do I need to know about the proper way to use jumper cables to start a car?
- What do I need to know to maintain the car battery?
- What do I need to know to read wiring diagrams, wire a car radio and speakers, and test the wiring?
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Texts, Technology, and Resources:
- Safety and Pollution Prevention online safety training www.sp2.org
  - Briggs & Stratton Single Cylinder OHV Repair Manual Briggs & Stratton Inc., Menomonee Falls, WI.

Behavior/Attendance Policy:
Attendance is an integral part of all Applied Technology and Engineering classes. Students who miss class frequently will quickly become behind in their work. Students with excused absences will be allowed 1 day for each day they are excused to make up work. Work not turned in due to an unexcused absence will be considered late and will not be able to receive full credit.

Grading Policy:
Late work will be accepted up to 48 hours after the due date. Students must take it upon themselves to find out what they missed in their absence. Quizzes and Test make-ups will not be allowed for unexcused absences. Any project that is not presented on the scheduled due date with be assessed a 25% late penalty, no exceptions.