

## **AUTOMOTIVE CARE & MAINTENANCE**

Mr. Levi Zuck

Phone number/voice mail: 552-5578

E-mail: lzuck@dbqschools.org

### **COURSE DESCRIPTION**

This course focuses on how to care for, maintain, and purchase an automobile. The course overviews the automobile systems and purposes with extensive time devoted to lubrication and cooling systems. Students will learn how to do routine maintenance and how to deal with emergencies. The class will consist of lectures, videos, worksheets, readings, research, and lab work. You will complete work in both groups and individually.

### **STANDARDS AND BENCHMARKS**

Standard 1: Students will develop an understanding of technology as a system of inputs, processes, outputs, impacts, and feedback. Benchmarks: 1.3, 1.4

Standard 2: Students will develop an understanding of technology as it is applied in communication, construction, manufacturing, and energy and power/transportation contexts. Benchmarks: 2.1, 2.2

Standard 6: Students will demonstrate appropriate and safe applications, and recognize the need for service and repair of common tools and equipment, technological devices and systems. Benchmarks: 6.1, 6.2

Standard 7: Students will develop an understanding of the career opportunities and skill requirements for occupations found with various systems of technology. Benchmarks: 7.1, 7.2, 7.3

### **WHAT ARE WE GOING TO DO IN THIS CLASS?**

#### **COURSE OBJECTIVES**

Upon completion of this course, the student will be able to:

1. Demonstrate safe work habits
2. Diagnose and repair engine and automobile systems
3. Identify fasteners, gaskets, and sealant
4. Understand operation of a four stroke engine
5. Use troubleshooting procedures to locate problems
6. Identify makes and models of automobiles
7. Identify and describe purposes of automobile systems
8. Identify basic engine parts and functions
9. Service, adjust, and maintain automobile systems
10. Work in groups
11. Identify career opportunities
12. Exercise project management skills

#### **Class Calendar: (approximate timeframes)**

Unit 1- Intro to Auto Care (2 weeks)

- History
- Career Exploration
- Vehicle Detailing

Unit 2- Lab Procedures and Safety (2 weeks)

- Tool Identification
- Equipment Training
- Service Information Lookup

Unit 3- Overview of Engine and Powertrain (2 weeks)

- Engine Operation
- Component Identification
- Engine Configurations
- Purpose of Components

The following system units cover 3 main areas:

- Component Identification
- System Operation
- System Diagnosis

Unit 4- Lubrication System (2 weeks)

Unit 5- Cooling and Belt Systems (2 weeks)

Unit 6- Fuel and Emissions (1.5 weeks)

Unit 7- Electrical and Ignition System (1.5 week)

Unit 8- Wheels and Tires (2 weeks)

Unit 9- Brake, Steering, and Suspension Systems (2 weeks)

Unit 10- Exterior, Interior, and Auto Purchasing (1 week)

- Vehicle Options & Features
- Cost to Own Analysis
- Automotive Expenses

### **SUPPLIES**

**Your Textbook** – Automotive Service, by Tim Gilles. You will not be assigned a textbook. All textbooks are a classroom set and will remain in the classroom. Time will be given to complete work in class. If you need to check out a book, you will have to check one out via the library system.

**Notebook & Folder**- Keep your notes and handouts neat and organized. This will especially help with studying for tests and quizzes.

**Pencil or Pen**- You need something to write with.

**Safety Glasses** – Student’s responsibility to bring and keep. Safety glasses must say Z-87.

**Vehicle** – Though not required, we need student vehicles to use for identification, inspection, and testing.

### **INSTRUCTIONAL STRATEGIES**

Instructional strategies that will be used in this course, but are not limited to are: direct instruction, active participation, videos, presentations, cooperative learning, animations, student projects, technology, note taking, demonstrations, and lab activities.

## ASSESSMENTS

**Summative** – These will be unit tests. Tests will always be announced in advance. There will also be lab activities that will be graded for completion for each unit.

**Quizzes** - These may be announced or unannounced.

**Formative** – I will use white boards, discussions, and written assessments that are ungraded to assess student knowledge throughout the units.

**Self** – Homework assignments are sometimes graded but are also a way for students to check their own knowledge. Students are expected to check their own answers and we will have time in class to go over questions.

## GRADING

**Your grade will be based on the following:**

**Tests** – Tests will always be announced in advance. Take the tests seriously and do a good job. Each unit will have a test over all of the information in the unit including component identification and lab activities. Makes up about 25% of your grade.

**Quizzes** – These may be announced or unannounced. Pay attention during demonstrations and presentations, there may be a quiz over it the following day. Makes up about 15% of your grade.

**Homework** – There will be day to day work throughout the semester that you need to complete. In order to learn the material, it is wise to take this work seriously to improve your learning in the class. Makes up about 10% of grade.

**Other assignments or projects** – Other assignments, projects, and lab activities will be assigned throughout the year. Information will be given at the time the assignment. Lab activities do not have late penalties, but don't get behind. Makes up about 50% of your grade.

**Grading Scale:**

93.0 – 100% A	80.0 – 82.99 B-	67.0 – 69.99 D+
90.0 – 92.99 A-	77.0 – 79.99 C+	63.0 – 66.99 D
87.0 – 89.99 B+	73.0 – 76.99 C	60.0 – 62.99 D-
83.0 – 86.99 B	70.0 – 62.99 C-	Below 60% F

Please keep track of your scores so that you can figure your own grade at any time.

## ABSENCES

If you miss class FOR ANY REASON it is your responsibility to get the assignment. Be sure to pick up anything that you may have missed when you were absent.

If you miss class on a test/quiz day, you will be expected to take the test/quiz on the day you return to school. If you miss the day before a previously announced test/quiz, you will be expected to take the

test/quiz with the rest of your class. If you miss more than one day I will work with you to make other arrangements.

Try not to miss this class. Most people find it difficult to make up automotive care and maintenance. If you know you will be gone, be sure to get the assignment before you leave.

Problems with absences (excused or unexcused) or tardies will be handled according to the Senior High School attendance policy.

### **GETTING HELP**

If you are having trouble with automotive technology, you need to get help IMMEDIATELY. I will be available after school most days, and before school on days when we have no meetings scheduled. My prep time is 4th hour and I am available that time most days. Let me know when you want to meet me so I can be sure I'm in my room when you are looking for me. You may also come in without an appointment, but it may take a few minutes to track me down. A lot of what we do in this class is in the lab with vehicles, so you will need to make arrangements to come in to make up work when I am available.

### **BEHAVIOR EXPECTATIONS AND CLASS RULES**

You are in high school, and I expect you to behave as the responsible adult students that you are. Should a problem arise I may contact your parents and/or pursue assistance from the office. If a serious offense occurs, you will be asked to leave the classroom. At no time will I allow a disruption to the educational environment.

Cheating on anything for this class (tests, quizzes, assignments or projects) will not be tolerated. Consequences may include, but are not limited to, a score of zero on the work, contacting your parents and/or Assistant Principal, or an F in the course.

All other rules in regards to Tardies, Cell-phone usage, proper internet usage, etc. We will follow the Senior High School rules which are found in your student handbook.

Cell phones are not allowed in the classroom or lab. Get used to it, employers do not like cell phones either. The only exception is for researching with the instructor's permission.

1. Everyone will wear safety glasses in the lab.
2. Common Sense – THINK- Be kind and respectful to others and don't waste your life.
3. No "horseplay" (running, pushing, wrestling, physical contact, etc.)
4. No swearing, threatening, intimidating or derogatory language at any time.
5. No food, drinks, etc., may be brought to the classroom or lab area.
6. All tools and equipment will be respected and well maintained.
7. If it is not yours and you do not have permission. **Don't touch it!**
8. You must obtain permission from the instructor before bringing a vehicle into the shop.
9. Only the owner of the vehicle is allowed to drive the vehicle.
10. No passengers are allowed in the vehicles to and from the lab or in the lab.

11. Vehicles must be operated in a safe manner no more than human walking speed with the windows down and music off.
12. Instructor must inspect vehicles before they are allowed to leave the shop.
13. You cannot leave school grounds to get your vehicle.
14. Students are to remain in the classroom or lab area unless the instructor gives permission.
15. Tools and equipment should only be used if trained by the instructor and the safety tests have been passed.
16. Instructor must inspect all vehicles before being lifted by the hoist or floor jacks.
17. Vehicle owners are responsible for all parts needed to service the vehicle.
18. All accidents must be reported to the instructor immediately.
19. All students are responsible for cleaning up at the end of class and putting all tools and equipment away.
20. Theft and vandalism will be dealt with severe consequences.

Failure to follow the rules will result in detention, office and/or parent intervention, or a drop from the class depending on severity and/or quantity.

“Actions have consequences,  
Consequences are predictable,  
You are responsible for your actions,  
Therefore, you are responsible for your consequences.”

### **COMMUNICATION**

The best way to contact me with any questions or concerns is via email ([lzuck@dbqschools.org](mailto:lzuck@dbqschools.org)). You may also reach me by phone at 552-5578. Messages left will be returned as soon as possible. I will update your grades on Power School usually within one or two days of the assignment, test, or activity.