Transportation 2A & 2B Syllabus

This course will cover the following information:

Shop Safety-

Shop safety will be reviewed from previous course work

Automobile computer systems-

This unit focuses on how the vehicle has evolved with the use of computer controlled systems. The students will learn how the system is similar to the way the human body is operated but using technological terminology. They will learn how the computers send and receive information, process information, and perform work operation.

On Board Diagnostics-

This unit focuses on the OBD systems. The students will learn the history of OBD and the different developments with the system. They will learn what the sensors and control modules do to allow the engine to perform with in the specifications from the manufacturer

Data Stream-

This unit focuses on the live data that is available when the vehicle is running and how the interaction between the sensors working together helps the engine to run optimally. They will understand the base line information that the vehicle will put out to be able to understand the changes that the computer makes to get the vehicle to perform as the engineers designed it to.

Diagnostics and Repair of the Lubrication system-

This unit focuses on the diagnosing malfunctions within the lubrication system and the process for repare and or replacement of the malfunctioning parts.

Diagnostics and Repair of the Brake systems-

This unit focuses on the more advanced braking systems on modern vehicles and how the interaction between the multiple sensors and ABS. They will be able to bleed the system after replacing the different parts.

Diagnostics and Repair of the Steering system-

This unit focuses on the variety of Steering systems. They will be able to diagnose and repair the mechanical parts of the steering system with the understanding that there will be the need for an alignment after the repair has been made.

Diagnostics and Repair of the Suspension System-

This unit focuses on the diagnostic of Suspensions. They will have a more complete understanding of how the different types of suspensions work and the need for different types of maintenance.

Diagnostics and Repair of the Exhaust system-

This unit focuses on the different styles of exhaust system and how damage to the system will affect the performance of the engine. They will have a more in-depth understanding of the materials used for exhaust and how to replace individual parts of the system.

Diagnostics and Repair of the Simple Electrical systems-

In this unit the students will understand the basics of the electrical system. They will be able to use a DVOM to diagnose different issues that develop with electrical system.

Individual Projects per Vehicle Using previously learned skills-

Here the students will use previously learned skills to repair or maintain their personal vehicle. There is no set time frame for this. These items will be addressed as the different issues develop over the course of the school year.