



Transportation Technology 1 - Introduction to Transportation

Fairfield Ludlowe High School - Fairfield Warde High School

Half Year

COURSE DESCRIPTION

Transportation Technology 1:

This beginning level course offers a general introduction into the processes and repair of the internal combustion engine. Students will be engaged in activities both collaboratively and individually exploring the repair and maintenance of small gas engines. Students will be immersed in lab activities applying engine operational theory, diagnosis and repair while applying standards of shop safety and utilizing tools of the mechanic. Other elements of the course will introduce students to alternate energy resources and vehicles, as well as typical and unique transportation systems. Hands-on practical experiences will be emphasized.

COURSE OBJECTIVES

Students will be able to:

- perform general engine maintenance, diagnosis, service, and repair and develop hands-on experience with the disassembly and reassembly of a small gas engine using proper tools and following proper safety procedures.
- learn how to actively use safety while working in a mechanics shop/lab and be involved in gaining understanding of tools of the mechanic and measuring instruments used in engine rebuilding, explain simple engine operation, develop an understanding of four-stroke cycle and two stroke cycle engines and how they function.
- gain an understanding of energy sources, their uses and how they affect the environment. These will be explored and discussed relative to the future of internal engines and transportation.
- design, build and test model vehicles for performance evaluation.

UNITS OF STUDY

- Unit 1– Introduction and Safety in the Shop, Tools and Measuring Instruments, Alternate Energy, the Environment and the Future of Transportation.
- Unit 2– Engine Construction and Principles of Operation, Two and Four Cycle Engines
- Unit 3– Fuel Systems, Ignition Systems, Engine Cooling and Lubrication
- Unit 4–Practical Engine Experience
- Unit 5– Torque and Gear Design Experience
- Unit 6– Aerodynamics and Vehicle Design Experience

COURSE POLICIES AND REQUIREMENTS

GRADING:

Grading Communication

- Specific grading expectations and practices will be communicated to all students and families at the start of the school year via a consistent format.
- If students or parents have questions about grading practices, they should follow the district's established chain of command structure (see district website) with the first contact being to the teacher and then to the school administration.
- Buildings will send out reminders of the importance of checking students' grades in the Grading Portal with directions.
- Teachers will notify guardians when students fall into the F range after October 1st.
 - See district policy ([Policy 6146.1AR](#))

Grade Reporting

- For a processed piece or "chunked" assignments that are part of a larger task, feedback and the grade shall be shared before the next step in the process, so long as students have submitted their work at those checkpoints, on time.
- Grades for summative assessments shall be entered within 10 school days from the date of submission or the date it was due, whichever is later.
- Grades for formative assessments shall be entered within 5 school days from the date of submission or the date it was due, whichever is later, and prior to any subsequent assessment.
 - See district policy ([Policy 6146.1AR](#))

Guidelines for Late Work (see FPS BOE Policy 6146AR):

- Teachers will accept late work for both summative and formative tasks beyond the due date.
- Teachers will not accept late work beyond the deadline for late work. The deadline is defined as the next class period from the due date of the assignment or the alternative date that the teacher and student may agree upon depending on individual circumstances.
- Teachers may reduce the total points students can achieve as a penalty for late work up to the deadline. Students will earn a zero (0) if the assignment is not submitted or is submitted after the deadline.
- Late work only consists of assignments with an expected due date. Assessments, such as tests, quizzes and in class assignments, must be taken on the scheduled date except in cases of make-up assessments due to an excused absence.
 - See district policy ([Policy 6146.1AR](#))

REASSESSMENT GUIDELINES:

Eligibility of assessments	Teachers of the same course will determine which summative assessments are eligible. Students can select any part of a project to reassess. Reassessments may not be allowed one week before the end of a term.
Process	Students have two class periods in which to indicate they would like to take a reassessment. Teachers will make clear to students their preferred method for students to request reassessment (<i>e.g.</i> email or filling out a simple form/spreadsheet).
Frequency	Students will have the opportunity to reassess on two summatives per year but not more than one per term (quarter).

Assessment Format	Based on discussion between the student and teacher, students will revise portions of the original assessment in which they did not show proficiency.
Gradebook impact	Original and reassessment scores will be averaged in the gradebook.

MATERIALS:

- As provided by the course.

EXPECTATIONS OF STUDENTS:

- Be Tech and Learning Ready: Come prepared with all necessary materials, including your charged device and any required software.
- Prioritize Safety: Follow all safety guidelines and procedures, especially when working with tools, equipment, or hazardous materials.
- Participate Actively: Engage in class discussions, ask questions, and contribute to group projects. Actively participate in lab activities by following instructions, working collaboratively, and cleaning up your workspace.
- Respect the Digital Realm: Treat all digital resources and equipment with care. Avoid actions that could harm or disrupt the learning environment.
- Embrace Digital Citizenship: Use technology ethically and responsibly. Be mindful of copyright laws and online etiquette.

EXTRA HELP:

- Students should seek out extra help when needed. The teacher is available for extra help before and after school as well as during prep periods.