Class: 8th Grade Pre-Engineering by PLTW   **SYLLABUS**
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INTRODUCTION

Thank you for taking the time to read through this class syllabus. I am excited for the experiences that this class will provide all participants. During this time, students will have the opportunity to creatively use the skills learned in other classes. For this time to be most meaningful, it is imperative that all students follow expectations as outlined on the second page. If questions or concerns should arise, please refer to the contact information above.

COURSE RATIONALE

Project Lead the Way (PLTW) is the leading provider of rigorous and innovative STEM (science, technology, engineering, and math) education curricular programs used in schools. As a charitable organization, PLTW exists to prepare students for the global economy through its world-class curriculum, high-quality comprehensive development, and an engaged network of educators, students, universities, and professionals. PLTW's comprehensive curriculum has been designed by PLTW teachers, university educators, engineering and biomedical professionals, and school administrators to promote critical thinking, creativity, innovation, and real-world problem solving skills in students. The hands-on, project-based program engages students on multiple levels, exposes them to areas of study that they typically do not pursue, and provides them with a foundation and proven path to college and career success.

MAJOR TOPICS

This class is essentially two different courses:
1. Design & Modeling
    Students apply the design process to solve problems and understand the influence of creativity and innovation in their lives. During this portion of the class, students will be provided an overview of the engineering field, the engineering design process, measurement skills, sketching techniques, and 3-D computer modeling. Projects that will reinforce these topics include the catapult and cabin challenge.
2. Automation & Robotics
    Students trace the history, development, and influence of automation and robotics as they learn about mechanical systems, energy transfer, machine automation, and computer control systems. Students use the VEX Robotics® platform to design, build, and program real-world objects such as a mechanical pull toy and an automated dragster.

REQUIRED MATERIALS

All required materials needed for this course will be provided.

COMMUNICATION

For this class, academic and behavioral feedback is provided for all students on a weekly basis. This information is located in Powerschool and is my most valuable communication tool. For it to be effective, I highly encourage that all parents and students check Powerschool at least once a week. Beyond this, if concerns or questions should arise, please contact me in a timely manner.

EXPECTATIONS

It is a school-wide policy that students follow the PRIDE guidelines. This says that all students will demonstrate **P**erseverance, **R**esponsibility, **I**ntegrity, **D**etermination, and **E**xcellence. In class, I do my best to encourage and ensure students are following these expectations. However, outside of class, I ask that parents or guardians please join with me to uphold these same character traits.

While this class is an elective, it is rigorous and requires focus, dedication, and hard work. It is expected that all students will give 100% during class. There are a multitude of ways for students to continue practicing, researching, and exploring the world of engineering at home as well, but homework is minimal.

The concepts that we will be discussing, learning, and applying are not simple and require a serious investment of mental energy and focus. In order for us to have fun building something, we must first understand the concepts behind its creation. This means that students will be recording evidence, keeping an organized engineering notebook, and will held accountable for all parts of the Design Process.

In addition to the seriousness of the curriculum, it is important that students understand that the tools, materials, and computer software we will be working with are expensive. Horseplay, misuse of tools/machinery, computers and/or theft will not be tolerated. Furthermore, to keep a safe and clean environment, food, drinks, and earbuds/headphones will not be allowed in this classroom and will be confiscated if present. Confiscated items will need to be picked up by the student at the *end of the school day*.

Lastly, due to the specialized tools and materials of this class, students cannot simply complete unfinished work at home. Instead, they will need to come in during lunch or after school to get caught up. Students are responsible for setting up these times in advance. If a student sets up a time to stay after school, they are also responsible for notifying their parent/guardian.

GRADES

Grades will be updated in Power School at least once a week. Included are the following categories:

Classwork	Handouts, drawings, and daily warmups	70%
Projects	Final products from each challenge (aka builds)	20%
Assessments	Quizzes and final exam	10%

Additionally, a "Citizenship Grade" will be included. The citizenship grade does NOT count toward the final grade. It is simply included to communicate the efforts and behaviors of the student.

    4=Great week—no issues!
    3=One or two minor issues throughout the week.
    2=Student needed redirection an average of once a day—hopeful for improvement.
    1=Average of 2 or more issues per day. Student will lose privileges if next week is also a "1" or a zero. Parent, please contact me for more information
    0=One major issue this week and/or absolute unwillingness to work despite frequent redirection. Student has lost privileges. Parent has been contacted.

ATTENDANCE POLICY

It is important that students are in class and on time. If a student is absent, **they** are responsible for seeking and completing any missing assignments, assessments, or project work during lunch or after school.

As for tardies, please see the policy below.

    Tardy 1— Student notified and recorded in Powerschool for parent viewing
    Tardy 2— Student notified and recorded in Powerschool for parent viewing
    Tardy 3—Notify student and parent, plus one lunch detention.
    Tardy 4—Notify student and parent, plus three lunch detentions.
    Tardy 5—Office referral

Note: Students are considered tardy if they are not "ready to work" and in their seat when the bell rings.