SYLLABUS - INTRODUCTION TO ENGINEERING DESIGN 2022-2023

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Course Description

Introduction to Engineering Design (IED) is a foundational engineering course for Project Lead the Way (PLTW). In this course, students are introduced to the engineering design process, applying math, science, and engineering standards to identify and design solutions to a variety of real problems. They work both individually and in collaborative teams to develop and document design solutions using PLTW Engineering Notebooks and 3D modeling software.

Course Goals: The overarching goals of this course is to improve problem-solving and critical thinking skills while exploring:

- The Design Process
- Technical Sketching and Drawing
- Measurements and Statistics
- Computer Modeling Skills
- Reverse Engineering
  Mechanical, Electrical, Hydraulic, and introduction to aerospace engineering
- Engineering Design Challenges

Text: No text is required; however, students will access Google Classroom and be required to maintain an Engineer Notebook.

Required Materials: Some used Engineering notebooks are available in class at no charge or student may opt to purchase their own--this should be a bound (like composite notebook) with ¼" grid paper. Additional equipment includes a dedicated IED folder, pencil, and pen.

Availability: My mission is to help you succeed. I am typically available an hour before and after school hours, during lunch periods, and by appointment. Don't struggle alone. Take responsibility for your learning. Ask for help in a timely manner. I am here to help you succeed.

Policies: Refer to Student Handbook and MCPS policies.

Expectations: In this class, you are expected to model those skills necessary to be a respectful, responsible, and engaged citizen. As such, **be honest and kind**, treat others as you would like to be treated, be on time to class with the appropriate equipment, and participate—you are a member of a team. The use of hats, hoods, earbuds, and cell phones are not permitted in this classroom.

Grading: Standard grading: less than 60% (F), 60-69% (D), 70-79% (C), 80-89% (B), 90-100% (A).

- Projects and Assignments – 70% (*Collaboration, contribution, and participation also scored per rubric)
- Engineer Notebook, notes, and organization – 10%
- Assessments (quizzes and tests)- 20%

Late work: accepted until the end of the quarter for up to 50% credit. Manage your time wisely.

Lab Safety: Our room & build area is a lab where you will engage in many building projects. It is essential all engineers follow lab safety guidelines. Failure to follow instructions will result in removal from lab and zero project credit.

PLTW Engineering | PLTW. (2016, July 14). Retrieved from https://www.pltw.org/our-programs/pltw-engineering