The knowledge and skills students acquire throughout PLTW Engineering come together in EDD as they identify an issue and then research, design, and test a solution, ultimately presenting their solution to a panel of engineers. Students apply the professional skills they have developed to document a design process to standards, ready to take on any post-secondary program or career.

Engineering Design and Development (EDD) is the capstone course in the PLTW high school engineering program.

Since the projects on which students work can vary with student interest and the curriculum focuses on problem solving, EDD is appropriate for students who are interested in any technical career path. EDD should be taken as the final capstone PLTW course since it requires application of the knowledge and skills introduced during the PLTW foundation courses.

The Engineering Design and Development course of study includes:

Engineering Design Processes

- Project Management
- Documenting an Engineering Design Process
- Teamwork and Professional Skills
- Problem Identification and Justification
- Research
- Intellectual Property
- Design Requirements
- Project Proposals
- Design
- Virtual Design and Testing
- Preliminary Design Reviews
- Prototyping
- Testing a Prototype
- Presenting the Process and Results

The structure of Engineering Design and Development is aligned to the Engineering Design Process Portfolio Rubric. Students in this course are encouraged to format their Engineering Design Process Portfolio according to the Components and Elements defined within this rubric.

Student may also wish to capture the Engineering Design Process Portfolio through the online Innovation Portal eportfolio system. This free collaborative tool allows students to share their work securely with key stakeholders and experts in order to receive feedback throughout the design process.

Below is the Engineering Design and Development course structure.

Component 0: Project Management

(α) – The EDD Design Process and Project Management
(β) – Documenting the Engineering Design Process
(γ) – Teams, Timelines, and Contacting Experts

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Element J – Documentation of External Evaluation
Element K – Reflection on the Design Project
Element L – Presentation of Designer's Recommendations

Component 5 – Reflection and Presenting the Design Process
At the conclusion of the design process, students will be asked to present and defend the process and decision.

Element M – Presentation of the Project and Project Portfolio
Element N – Writing Like an Engineer

Component 6 – Going Beyond EDD
Many opportunities exist for students to receive tangible value for their work beyond the classroom walls. These opportunities range from competitions, scholarships, and university admission notoriety, to interest from business representatives to further develop the ideas created in EDD classrooms.

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