



Approved Innovative Course

- Districts must have local board approval to implement innovative courses
- Innovative courses may meet state elective credit only
- CTE Innovative courses may not be the final course in a coherent sequence for an endorsement
- Course requirements must be met without modification

Course: *Engineering Design and Development*

PEIMS Code: *N1303749*

Abbreviation: *EDD*

Grade Level(s): *11-12*

Number of Credits: *1.0*

Course description:

Engineering Design and Development is the capstone course in the PLTW high school engineering program. It is an open-ended engineering research course in which students design and develop an original solution to a well-defined and justified open-ended problem by applying an engineering design process.

Students perform research to select, define, and justify a problem. After carefully defining the design requirements and creating multiple solutions, students select an approach, create, and test the solution prototype. Students present and defend their solution to an outside panel. While progressing through the engineering design process, students work closely with experts and continually hone their organizational, communication and interpersonal skills, and their creative and problem solving abilities.

Engineering Design and Development is appropriate for 11th and 12th grade students and should be taken as the capstone PLTW course since it requires application of the knowledge and skills learned in the PLTW foundation courses.

Teacher qualifications:

An assignment for Engineering Design and Development is allowed with one of the following certificates as well as successful completion of the Project Lead The Way's Core Training requirements for Engineering Design and Development.

PLTW Core Training:

PLTW's Core Training requires approximately 90 hours of instruction led by PLTW approved Master Teachers. Course mastery is demonstrated by the submission and approval of a course portfolio that meet's PLTW's requirements. After successful completion of Core Training, teachers receive access to the National PLTW Engineering Professional Learning Community, course-specific student and classroom instructional resources, and Ongoing Training resources



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through the PLTW Content Management System.

- Master Science Teacher (Grades 8-12).
- Mathematics/Physical Science/Engineering: Grades 6-12.
- Mathematics/Physical Science/Engineering: Grades 8-12.
- Physical Science: Grades 6-12.
- Physical Science: Grades 8-12.
- Physics/Mathematics: Grades 7-12.
- Physics/Mathematics: Grades 8-12.
- Science: Grades 7-12.
- Science: Grades 8-12.
- Science, Technology, Engineering, and Mathematics: Grades 6-12.
- Secondary Industrial Arts (Grades 6-12).
- Secondary Industrial Technology (Grades 6-12).
- Secondary Physics (Grades 6-12).
- Secondary Science (Grades 6-12).
- Secondary Science, Composite (Grades 6-12).
- Technology Education: Grades 6-12.
- Master Mathematics Teacher (Grades 8-12).
- Mathematics: Grades 7-12.
- Mathematics: Grades 8-12.
- Secondary Mathematics: Grades 6-12
- Secondary Physical Science (Grades 6-12)
- Technology Applications: Grades EC-12
- Technology Applications: Grades 8-12
- Trade and Industrial Education: Grades 6-12. This assignment requires appropriate work approval.
- Trade and Industrial Education: Grades 8-12. This assignment requires appropriate work approval.
- Vocational Trades and Industry (Grades 6-12). This assignment requires appropriate work approval.
- Vocational Trades and Industry Pre-Employment Laboratory (Grades 6-12). This assignment requires appropriate work approval.
- Vocational Trades and Industry Co-op (Grades 6-12). This assignment requires appropriate work approval.



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Additional information:

Districts may use these courses only with the approval of Project Lead The Way. All requirements of Project Lead The Way must be met. Please contact Project Lead The Way directly for these requirements:

Project Lead The Way
Solution Center
Toll Free: 877.335.PLTW (7589)
solutioncenter@pltw.org