



Integrating AP-level concepts, advanced software and hands-on experience, Project Lead the Way is a pre-Engineering program designed to address 21st - century skills merging theory and practice. The program is a part of local, state and national efforts to bring a focus to the areas of Science, Technology, Engineering and Math (STEM).

District 204 PLTW Course Offerings

Introduction to Engineering Design (IED) PLTW2000

Grades 9-12. Year-long. Prerequisite is Algebra I, concurrently enrolled in Geometry and appropriate grade-level science. In this course, students use 3D solid modeling design software to help them design solutions to solve proposed problems. Students will learn how to document their work and communicate solutions to peers and members of the professional community. The major focus of the IED course is to expose students to the design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards and technical documentation.

Principles of Engineering (POE) PLTW2001

Grades 10-12. Year-long. Prerequisite is appropriate grade-level math and science. This survey course of engineering exposes students to some of the major concepts they'll encounter in a postsecondary engineering course of study. Students have an opportunity to investigate engineering and high-tech careers and to develop skills and understanding of course concepts. Students employ engineering and scientific concepts in the solution of engineering design problems. They develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges. Students also learn how to document their work and communicate their solutions to peers and members of the professional community.

Civil Engineering & Architecture (CEA) PLTW2003

Grades 10-12. Year-long. Prerequisite is IED, POE, or Drafting & Design, and appropriate grade-level math and science. The major focus of this course is completing long-term projects that involve the development of property sites. As students learn about various aspects of civil engineering and architecture, they apply what they learn to the design and development of a property. The course provides teachers and students freedom to develop the property as a simulation or for students to model the experiences that civil engineers and architects face. Students work in teams, exploring hands-on activities and projects to learn the characteristics of civil engineering and architecture. In addition, students use 3D design software to help them design solutions to solve major course projects. Students learn about documenting their project, solving problems and communicating their solutions to their peers and members of the professional community of civil engineering and architecture.

Digital Electronics (DE) PLTW2002D

Grades 10-12. Year-long. Prerequisite is IED or POE and appropriate grade-level math and science. This course is the study of electronic circuits that are used to process and control digital signals. Digital electronics is the foundation of all modern electronic devices such as cellular phones, MP3 players, laptop computers, digital cameras and high-definition televisions. The major focus of the DE course is to expose students to the process of combinational and sequential logic design, teamwork, communication methods, engineering standards and technical documentation.

Aerospace Engineering (AE) PLTW2005

Grades 11-12. Year-long. Prerequisite is IED or POE and appropriate grade-level math and science. This course propels students' learning in the fundamentals of atmospheric and space flight. As they explore the physics of flight, students bring the concepts to life by designing an airfoil, propulsion system, and rockets. They learn basic orbital mechanics using industry-standard software. They also explore robot systems through projects such as remotely operated vehicles.

Engineering Design & Development (EDD) PLTW2004

Grade 12. Year-long. Prerequisites include a minimum completion of IED or POE and one other PLTW course, and appropriate grade-level math and science. This capstone course allows students to design a solution to a technical problem of their choosing. They have the chance to eliminate one of the "Don't you hate it when..." statements of the world. This is an engineering research course in which students will work in teams to research, design, test and construct a solution to an open-ended engineering problem. The product development life cycle and a design process are used to guide and help the team to reach a solution to the problem. The team presents and defends their solution to a panel of outside reviewers at the conclusion of the course. The EDD course allows students to apply all the skills and knowledge learned in previous Project Lead The Way courses. The use of 3D design software helps students design solutions to the problem their team has chosen. This course also engages students in time management and teamwork skills, a valuable set for students in the future.

*All courses are honors-level courses and are weighted





Frequently Asked Questions...

This is a four-year program. Can a student begin taking PLTW courses during his/her junior year?

Yes, a student can begin the PLTW program at any point during their high school career.

Is there national recognition of these classes?

Yes, check the PLTW website at pltw.org. There are national end-of-course assessments. College credit is not automatically assigned — individual universities will have their own specific guidelines for accepting the credit. Students/parents should check with specific universities regarding acceptance of PLTW credit.

Are the courses for a semester or year?

Each PLTW course is year-long.

Is there an application process in order to take a PLTW course?

No, there are prerequisites for each PLTW course and student must meet those requirements in order to be eligible. The prerequisites are listed in the course guide found at www.ipdsd.org.

Are there summer PLTW courses available either in our District or outside of the District?

Indian Prairie does not offer summer PLTW courses.

Is there a specific sequence of courses to follow? What is the progression?

IED and POE are the foundation courses and it is required that students begin with one of these two courses. Students will then choose a path for further coursework. EDD is the capstone course and should be taken as a final course during senior year.

Is there AP testing at the end?

There are national PLTW tests administered at the end of each course.

Do we need specific software on our home computer so students can complete homework?

Software-related homework will not be assigned.

Are the PLTW classes weighted?

Yes. All PLTW courses are honors-level courses and are weighted.

Will there be duplication if a student has already completed CAD or Drafting courses?

There will be minimal duplication; however, PLTW will allow students to use these skills in a problem-based team approach.

How will this fit into a student's schedule if they already have music, foreign language, etc.?

PLTW courses are full year courses and count as electives. Choices will have to be made when balancing a schedule. Students and parents will need to determine the plan that best meets the student's needs.

How much is the lab fee?

The lab fee for each PLTW course (except Engineering Design & Development) is \$20. The lab fee for EDD is \$25.

For More Information:

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