

PROJECT LEAD THE WAY (PLTW)

Subject	Course Numbers	Units per course	Grade level offered				Prerequisites and related information
			9	10	11	12	
<i>Introduction to Engineering Design (IED) EGT 400</i>	160313 /160314	1	X	X	X	X	Algebra I or CT Algebra I ACT or COMPASS Test -See page 1 3 college credits
<i>Principles of Engineering (POE) EGT 410</i>	162612 /162613	1	X	X	X	X	Algebra I or CT Algebra I; Introduction to Engineering Design recommended ACT or COMPASS Test See page 1 3 college credits
<i>Civil Engineering & Architecture (CEA) EGT 460</i>	169521 /169522	1	X	X	X	X	Geometry; Introduction to Engineering Design or recommendation from a drafting teacher ACT or COMPASS Test -See page 1 3 college credits
<i>Computer Integrated Manufacturing (CIM) EGT 450</i>	162751 /162752	1	X	X	X	X	Introduction to Engineering Design; Principles of Engineering or Physics ACT or COMPASS Test -See page 1 3 college credits
<i>Digital Electronics (DE) EGT 420</i>	210081/ 210082	1	X	X	X	X	Algebra 1 or CT Algebra I; IED and/or POE ACT or COMPASS Test -See page 1 3 college credits Open to all schools but taught at West
<i>Engineering Design & Development (EDD) EGT 470</i>	210071/ 210072	1	X	X	X	X	Must have passed 3 PLTW classes and Pre-Calc or AP Stats (concurrent enrollment) or permission of teacher Open to all schools but taught at West ACT or COMPASS Test -See page 1 3 college credits

Introduction to Engineering Design (IED) EGT 400 (160313/160314) Students use a problem-solving model to improve existing products and invent new ones. They learn how to apply this model to solve problems in and out of the classroom. Using sophisticated three-dimensional modeling software, students communicate the details of the products. Emphasis is placed on analyzing potential solutions and communicating ideas to others. **Students have the opportunity to receive 3 credit hours at the U of I, ISU, or Iowa Community Colleges, etc. with programs that accept these credits.**

Principles of Engineering (POE) EGT 410 (162612/162613) Explores the wide variety of careers in engineering and technology and covers various technology systems and manufacturing processes. Using activities, projects, and problems, students learn first-hand how engineers and technicians use math, science, and technology in an engineering problem-solving process to benefit people. The course also addresses concerns about social and political consequences of technological change. **Students have the opportunity to receive 3 credit hours at the U of I, ISU, or Iowa Community Colleges, etc. with programs that accept these credits.**

Civil Engineering & Architecture (CEA) EGT 460 (169521/169522) An overview of civil engineering and architecture emphasizing the inter-relationship and mutual dependence of both fields. Students use state-of-the-art software to solve real world problems and apply knowledge to hands-on projects and activities. By developing and implementing plans for a playground/park or vacation home, for example, students experience first-hand the job responsibilities of architects and civil engineers. By the end of the course, students are able to give a complete presentation to the client, including three-dimensional renderings of buildings and improvements, zoning and ordinance constraints, infrastructure requirements, and other essential project plans. **Students have the opportunity to receive 3 credit hours at the U of I, ISU, or Iowa Community Colleges, etc. with programs that accept these credits.**

Computer Integrated Manufacturing (CIM) EGT 450 (162751/162752) Students take the three-dimensional modeling software skills learned in Introduction to Engineering Design to a whole new level. Using a three-dimensional model, students use automation, control systems, sensing devices, computer programming and robotics to efficiently mass produce products. Trouble-shooting is emphasized throughout the course. **Students have the opportunity to receive 3 credit hours at the U of I, ISU, or Iowa Community Colleges, etc. with programs that accept these credits.**

Digital Electronics EGT 420 (210081/210082) Teaches students how to use applied logic in the development of electronic circuits and devices. Computer simulation software is used to design to test digital circuitry prior to the actual construction of circuits and devices. **Students have the opportunity to receive 3 college credits at U of I, ISU, or other Iowa Community Colleges, etc. with a program that accepts these credits.**

Engineering Design & Development (EDD) EGT 470 (210071/210072) In this capstone course, teams of students spend the year solving problems of their own choosing. The teams apply principles developed in the four preceding PLTW core courses and are guided by a community mentor. They brainstorm possibilities, research current patents and regulations, construct a working model, test the model in real life situations (or simulation), document their designs, and present and defend the design to a panel of experts. **Students have the opportunity to receive 3 college credits at U of I, ISU, or other Iowa Community Colleges, etc with a program that accepts these credits**