

## PROJECT LEAD THE WAY (PLTW)

Subject	Course#	Credits	Grade Level				Prerequisites and related info
			9	10	11	12	
Introduction to Engineering Design (EGT400) – IED	160313 160314	1	X	X	X	X	Algebra I or CT Algebra I <b>3 college credits</b> ♣
Principles of Engineering (EGT410) – POE	162612 162613	1	X	X	X	X	Algebra I or CT Algebra I; Introduction to Engineering Design recommended. <b>3 college credits</b> ♣
Civil Engineering & Architecture (EGT460) – CEA	169521 169522	1	X	X	X	X	Geometry; Introduction to Engineering Design; or recommendation from a Drafting teacher. <b>3 college credits</b> ♣♦
Computer Integrated Manufacturing (EGT450) – CIM	162751 162752	1	X	X	X	X	Introduction to Engineering Design; Principles of Engineering or Physics. Open to all schools but taught at West & Central. <b>3 college credits</b> ♣♦
Digital Electronics (EGT420) – DE	210081 210082	1	X	X	X	X	Algebra I or CT Algebra I; IED or POE. Open to all schools but taught at West & Central. <b>3 college credits</b> ♣♦
Engineering Design & Development (EGT470) - EDD	210071 210072	1	X	X	X	X	Must have passed 3 PLTW classes and Pre-Calculus or AP Statistics (concurrent enrollment) or permission of teacher. Open to all schools but taught at West. <b>3 college credits.</b> ♣♦

### College Credits and Transfer Key

+	Transfers to some state colleges as equivalent course.
♣	Transfers to some state colleges as elective credit.
♦	Nontransferable at some colleges

## PROJECT LEAD THE WAY COURSE DESCRIPTIONS

### Introduction to Engineering Design (EGT400) 160313, 160314 1 credit

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. This course awards college credit.

### Principles of Engineering (EGT410) 162612, 162613 1 credit

Explores the wide variety of careers in engineering and technology and covers various technology systems and manufacturing processes. Using activities and projects, 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. This course awards college credit.

### Civil Engineering & Architecture (EGT460) 169521, 169522 1 credit

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. This course awards college credit.

**Computer Integrated Manufacturing (EGT450)      162751, 162752      1 credit**

Students take the three-dimension 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. This course awards college credit.

**Digital Electronics (EGT420)      210081, 210082      1 credit**

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. This course awards college credit.

**Engineering Design & Development (EGT470)      210071, 210072      1 credit**

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. This course awards college credit.