

## **PROJECT LEAD THE WAY – ENGINEERING ACADEMY**

Greenfield-Central has joined with a national pre-engineering program to offer college credit courses that are designed to better prepare students for college engineering coursework. Project Lead The Way, “PLTW”, is a collaborative effort of the math, science, and technology departments. Implementation of these courses began in 2003-04.

Project Lead The Way has developed a four year sequence of courses which, when combined with college preparatory mathematics and science courses in high school, introduces students to the scope, rigor, and discipline of engineering and engineering technology prior to entering college.

It is recommended that students who wish to participate in the program successfully complete Algebra in 8<sup>th</sup> grade.

The courses are counted as Core 40 directed electives. These can be applied to the Academic Honors Diploma or Technical Honors Diploma. The competencies are defined by Project Lead The Way, Inc. All PLTW courses except Introduction to Engineering (freshman year) are “weighted grades.”

Upon successful completion of each PLTW course and the exit exam, students may receive credits at no cost from the following universities: Purdue, Indiana State, IUPUI, University of Southern Indiana, Ivy Tech (dual credit) and Rochester Institute of Technology. See the guidance department for details.

**Students must earn a B- or better in all PLTW - Engineering courses to continue in the program.**

### **Required courses:**

9<sup>th</sup> Grade: IED – Introduction to Engineering Design

10<sup>th</sup> Grade: POE – Principles of Engineering

11<sup>th</sup> Grade: DE – Digital Electronics and one of the following:

AE – Aerospace Engineering

CEA – Civil Engineering and Architecture

BE – Biotech Engineering

CIM – Computer Integrated Manufacturing (not offered at this time)

12<sup>th</sup> Grade: EDD – Engineering Design and Development

Descriptions of these courses are found in the Technology Education Department section of this guide.



## Engineering Academy Curriculum

<b>RECOMMENDED PREREQUISITES</b>	
Algebra I	2 semesters
<b>CORE COURSES</b>	
IED – Introduction to Engineering Design	Freshman year, 2 semesters
POE – Principles of Engineering	Sophomore year, 2 semesters
DE – Digital Electronics	Junior year, 2 semesters
+ 1 Elective from next section	Junior year, (1 elective course) 2 semesters
EDD – Engineering Design & Development	Senior year, 2 semesters
<b>ELECTIVE ENGINEERING COURSES</b>	
For students interested in the following careers	
BE – Biotech Engineering	Biotechnology, biomedical, bioengineering
CEA – Civil Engineering & Architecture	Architecture, Landscape Architecture, Civil Engineering
AE – Aerospace Engineering	Aerospace, Aeronautics, Commercial Pilot, Astronaut
<b>SUGGESTED ELECTIVE COURSE</b>	
CADD – Computers in Design & Production	Sophomore, Junior or Senior year, 2 semesters
<b>SUGGESTED EXTRACURRICULAR ACTIVITIES</b>	
VEX Robotics team	Freshman or Sophomore year
F1 in Schools team	Freshman or Sophomore year
Super Mileage team	Freshman, Sophomore, Junior or Senior year
Women in Engineering	Freshman, Sophomore, Junior or Senior year (females only)

Nick Kerkhof, PLTW - Engineering Director, Greenfield-Central High School  
nkerkhof@gcsc.k12.in.us