



# PATHWAY: Engineering

Do you want to use math and science to develop solutions to technical problems?

Do you want to be the link between scientific discoveries and commercial applications that meet society's needs?

**COURSES IN YELLOW** are pathway concentrator courses and must be finished with a **C- average or above** to meet Indiana's 3<sup>rd</sup> requirement to graduate.

**COMPLETE ALL COURSES** below with a B- or above to graduate with **Academy recognition**.

COURSE NAME		GRADES AVAILABLE	LENGTH	DUAL (COLLEGE) CREDITS POSSIBLE	FULFILLS CORE 40 CREDITS AS...
<b>PREREQUISITE FOR CONCENTRATOR COURSES</b> PLTW Introduction to Engineering Design		9, 10, 11, 12	Year	3	
<b>PLTW PRINCIPLES OF ENGINEERING</b> (REQUIRED CONCENTRATOR COURSE)		10, 11, 12	YEAR	3	SCIENCE & QUANTITATIVE REASONING
<b>Choose At Least One</b> (REQUIRED CONCENTRATOR COURSE)	<b>PLTW HONORS AEROSPACE ENGINEERING</b>	11, 12	YEAR		SCIENCE & QUANTITATIVE REASONING
	<b>PLTW CIVIL ENGINEERING AND ARCHITECTURE</b>	11, 12	YEAR	3	QUANTITATIVE REASONING
	<b>PLTW HONORS COMPUTER INTEGRATED MANUFACTURING</b> <i>Only offered even graduation years</i>	10, 11, 12	YEAR		QUANTITATIVE REASONING
	<b>PLTW HONORS DIGITAL ELECTRONICS</b> <i>Only offered odd graduation years</i>	10, 11, 12	YEAR		QUANTITATIVE REASONING
PLTW Honors Engineering Design and Development		12	Year		Quantitative Reasoning

Must earn a specified certification or dual credit to graduate with Academy recognition. Apply your senior year.

Check out the list below for more courses related to this pathway - see the Course of Study Guide for details.

- Advanced Manufacturing: Gone Boarding
- AP Physics C Mechanics
- Calculus
- Digital Applications and Responsibility A
- Digital Applications and Responsibility B

- Pre-Calculus
- PLTW Honors Intro to Coding (Computer Science I)
- **Robotics Club**
- Technology Sandbox
- Work-Based Learning Capstone

Possible Careers Requiring 0-4 Years of Additional Training or Education	
<ul style="list-style-type: none"> <li>• CAD Technician</li> <li>• Electrical Engineering Technician</li> <li>• Engineering Designer</li> </ul>	<ul style="list-style-type: none"> <li>• Land Surveyor</li> <li>• Manufacturing Technician</li> <li>• Non-Destructive Testing Inspector</li> </ul>

Possible Careers Requiring 4+ Years of Additional Training or Education	
<ul style="list-style-type: none"> <li>• Aerospace Engineer</li> <li>• Automotive Engineer</li> <li>• Biomedical Engineer</li> </ul>	<ul style="list-style-type: none"> <li>• Computer Engineer</li> <li>• Electrical Engineer</li> <li>• Mechanical Engineer</li> </ul>

Local Industry Partners			
Core Mechanical Services, INC Depuy Clinical Research	Ignite Orthopedics Ivy Tech Community College	Nextremity Solutions Precision Medical Technologies	Tecomet Zimmer-Biomet Engineering

THREE GRADUATION REQUIREMENTS	
THREE REQUIREMENTS	OPTIONS (Pick <u>at least one</u> in <b>EACH</b> box)
<p><b>1</b></p> <p><b>HIGH SCHOOL DIPLOMA</b></p> <p>Must complete <u>at least one</u> item Check all that apply</p>	<input type="checkbox"/> Core 40 <input type="checkbox"/> Core 40 with Academic Honors <input type="checkbox"/> Core 40 with Technical Honors
<p><b>2</b></p> <p><b>EMPLOYABILITY SKILLS</b></p> <p>Must complete <u>at least one</u> item Check all that apply</p>	<input type="checkbox"/> Project-Based Learning Experience <input type="checkbox"/> Service-Based Learning Experience <input type="checkbox"/> Work-Based Learning Experience
<p><b>3</b></p> <p><b>POSTSECONDARY-READY COMPETENCIES</b></p> <p>Must complete <u>at least one</u> item Check all that apply</p>	<input type="checkbox"/> Complete: Concentrator courses and their prerequisite courses (in <b>YELLOW</b> ) from a pathway Maintain a C- average minimum in the <b>CONCENTRATOR COURSES</b> for that pathway Chosen pathway: _____ <input type="checkbox"/> Core 40 with Technical Honors diploma <input type="checkbox"/> Core 40 with Academic Honors diploma <input type="checkbox"/> AP/Dual Credit: Must earn a C- <u>average</u> or higher in at least three courses <input type="checkbox"/> ACT with college-ready benchmarks <input type="checkbox"/> SAT with college-ready benchmarks <input type="checkbox"/> ASVAB with minimum AFQT score to qualify for placement into one of the branches of the US military <input type="checkbox"/> State- and Industry-recognized credential or certification <input type="checkbox"/> State-, Federal-, or Industry-recognized apprenticeship

# \_\_\_\_\_ 's Four-Year Plan

GRAD	English	Math	Science	Social Studies	Physical Education/ Health or 3 FACS	Elective Courses	Pathway and Academy Courses	Summer School Credits
		Fill blanks with electives	Fill blanks with electives	Fill blanks with electives	Fill blanks with electives		Fill blanks with electives	
7/8	Any middle school credits							
9	English 9	Algebra I	Biology I	World History Civ. A or B (9-10th grade)	Preparing for College & Careers			Session A before 9 <sup>th</sup> grade
	(continued)	(continued)	(continued)	World History Civ. A or B (9-10th grade)	PE credit			Session B before 9 <sup>th</sup> grade
10	English 10	Geometry	Chemistry I, or ICP, or Physics I		PE credit or waiver			Session A before 10 <sup>th</sup> grade
	(continued)	(continued)	(continued)		Health or 2 other qualifying FACS credits			Session B before 10 <sup>th</sup> grade
11	English 11	Algebra II	Qualifying Core 40 science of your choice	U.S. History				Session A before 11 <sup>th</sup> grade
	(continued)	(continued)	(continued)	(continued)				Session B before 11 <sup>th</sup> grade
12	English 12	Quantitative reasoning or math recommended		Government				Session A before 12 <sup>th</sup> grade
	(continued)			Economics (fulfills requirement for quantitative reasoning)				Session B before 12 <sup>th</sup> grade