

Pelham High School

Engineering, Engineering Technologies, and Pre-Engineering STEM Pathway

Why choose the Engineering, Engineering Technologies, and Pre-Engineering Pathway?

Students should participate in the Engineering, Engineering Technologies and Pre-Engineering Pathway if they like to design products and systems and have an interest in solving problems. The pathway is designed to place a focus on science, math, and engineering-related course work. In addition, students are encouraged to participate on the FIRST Robotics Team. Students should select one of the following engineering pathways to increase their knowledge in courses that are typically required in college:

Why should I sign-up for the Engineering, Engineering Tech & Pre-Engineering Pathway?

The Engineering, Engineering Tech & Pre-Engineering Pathway will provide you with the following benefits:

- ✓ Opportunity to take courses and earn early college credits.
- ✓ Exposure to Engineering, Engineering Tech & Pre-Engineering field trips and guest speakers.
- ✓ Assist you defining your educational and career goals prior to high school graduation.

...It is never too early to think about your future!

The Engineering, Engineering Tech & Pre-Engineering Pathway at Pelham High School prepares students for College and Careers in education-related occupations such as:

- Civil Engineers, Quality Control Inspectors, Mechanical Engineers
- Electrical Engineers, Machine Operators
- Industrial Engineers, Mechanical Engineers

What courses am I required to take?

Students in the Engineering, Engineering Technologies and Pre-Engineering Pathway will follow a sequence of three (3) required academic courses that must include the following:

Choose Three (3) Required Courses

STEM Pathway Requirements	Recommended Year			
	9	10	11	12
Introduction to STEAM (.5 credit)	X	X		
Excel (<i>College Credits Available</i>)			X	X
Statistics (<i>College Credits Available</i>)*			X	X
Pre-Calculus			X	X
Physics			X	X

* *Indicates that students have the option to sign up for either the college course or the non-leveled course.*

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In addition to the three (3) required core courses, students will be studying either the associate degree pathway or one of the two bachelor degree pathways. Each pathway is designed to provide students with experience in courses that are typically required in college.

Pre-Engineering or 2-Year Associate Degree Pathway

Four (4) Required Courses	Recommended Year			
	9	10	11	12
Engineering and Design I (.5 credit)		X	X	X
Manufacturing Processes (<i>College Credits Available</i>)		X	X	X
CADD I (<i>College Credits Available</i>)			X	X
Physics			X	X

Mechanical and Electrical Engineering 4-Year Bachelor Degree Pathway

Five (5) Required Courses	Recommended Year			
	9	10	11	12
Engineering and Design I (.5 credit)		X	X	X
Manufacturing Processes (<i>College Credits Available</i>)		X	X	X
CADD (<i>College Credits Available</i>)			X	X
Physics (Level 1)			X	X
Calculus (<i>College Credits Available</i>)			X	X

Chemical and Bio-Medical Engineering 4-Year Bachelor Degree Pathway

Choose Four (4) Elective Courses	Recommended Year			
	9	10	11	12
Engineering and Design I (.5 credit)		X	X	X
Manufacturing Processes (<i>College Credits Available</i>)		X	X	X
Physics (Level 1)			X	X
Calculus (<i>College Credits Available</i>)			X	X
AP Chemistry or Biochemistry			X	X

What are the honor cord requirements for the STEM pathway?

An honor cord signifying your academic achievement in the STEM Pathway will be awarded to students who complete the following requirements:

- Completion of required and elective courses in the STEM Pathway with an overall 3.0 GPA
- Minimum overall 2.5 GPA in all high school courses
- Active participation on the PHS FIRST Robotics Team or participate in an approved extended learning opportunity

