

## Jefferson Township High School Academies

### *STEM Pathways*

**\*\*all students entering the STEM Academy in the 25-26 school year and beyond will follow this coursework guide**

Part of the Jefferson Township High School Academy, there are three **STEM Pathways** that students can follow: Pre-med/Science, Engineering, and Computer Science. No matter which option is taken, students will participate in challenging and authentic learning experiences across multiple disciplines. Below, you will find the required courses for each pathway.

Keep in mind that in addition to the required pathway courses, there is a required “**Academy Course**” each year. \*Academy courses are only taken with other academy students. Those are designed to provide critical skills for all academy students and allow faculty to provide thematic units of study, unique to their students' chosen pathways. Academy courses begin with *Fundamentals of Business Honors* (satisfies the FEL graduation requirement) in 9th grade, then progresses to *Communications Honors* in 10th grade and culminates in grades 11 and 12, with *Advanced Placement (AP) Seminar* and *Advanced Placement (AP) Research*. These two courses are when they will create their culminating research project. This will not only provide students with the skills they will need for college, but it also adds additional AP courses to their resume, and affords them an AP Capstone diploma.

Beginning in Junior year, STEM pathway students will be eligible to receive up to 26\* college credits for the following courses: AP Pre-Calculus, AP Calculus AB/BC, AP Physics 1, AP Physics 2, Engineering 2 Honors, AP Computer Science A. Those courses are shown in bold font.

\*The total number of available credits is determined by the pathway followed and the specific courses taken, e.g. if a student takes AP Calculus BC instead of AB.

## Science/Pre-Med Pathway Course Sequence

Freshman Courses	
Biology Honors	5 Credits
Geometry Honors	5 Credits
Sophomore Courses	
Chemistry Honors	5 credits
Algebra 2 Honors	5 credits
AP Biology	5 credits
Junior Courses	
AP Physics 1	5 Credits
AP Precalculus	5 Credits
AP Chemistry or Anatomy and Physiology Honors	5 credits
Senior Courses	
(Science #1) AP Physics 2 or AP Chemistry or Anatomy and Physiology Honors	5 credits
AP Calculus AB or BC	5 Credits
(Science #2) AP Physics 2 or AP Chemistry or Anatomy and Physiology Honors	5 Credits

# Engineering Pathway Course Sequence

Freshman Courses	
Biology Honors	5 Credits
Geometry Honors	5 Credits
Creation and Design Technology Studio Honors	5 credits
Sophomore Courses	
Chemistry Honors	5 credits
Algebra 2 Honors	5 credits
Architecture 1 Honors	5 credits
Junior Courses	
AP Physics 1	5 Credits
AP Precalculus	5 Credits
Engineering 1 H	5 credits
Senior Courses	
AP Physics 2	5 credits
AP Calculus AB or BC	5 Credits
Engineering 2 H	5 Credits

# Computer Science Pathway Course Sequence

Freshman Courses	
Biology Honors	5 Credits
Geometry Honors	5 Credits
Digital Visual Media 1 or Creation and Design Technology Studio Honors	5 credits
Sophomore Courses	
Chemistry Honors	5 credits
Algebra 2 Honors	5 credits
AP Comp Sci Principles	5 credits
Junior Courses	
AP Physics 1	5 Credits
AP Precalculus	5 Credits
AP Comp Sci A	5 credits
Senior Courses	
AP Physics 2 or Computer Science Elective (TBD)	5 credits
AP Calculus AB or BC	5 Credits
Independent Study in Computer Science	5 Credits