



Kell STEM Academy



Kell STEM Academy Program Description

Kell STEM Academy Mission Statement

A program of excellence where students explore and master STEM content.

What is a STEM Academy?

A STEM Academy is a program within a school that allows students who are interested to do in-depth study in the STEM fields. The curriculum for a STEM Academy generally integrates STEM throughout the curriculum.

How is the STEM Academy different than a traditional high school experience?

The Kell STEM Academy is designed to give students the opportunity to pursue advanced opportunities in the STEM fields while still in high school. By taking additional STEM courses, students will be able to begin narrowing down their areas of interest for college and career before leaving high school. STEM Academy students will be given the opportunity to double up in their science courses yearly, and the curriculum for the program will allow students to understand the interconnections between the four broad areas of STEM – Science, Technology, Engineering, and Math. Students will understand what type of work is done in the STEM fields and how the content overlaps significantly.

How does the admissions process work?

Kell STEM Academy will have a competitive admissions process. Criteria that will be evaluated will include the following:

- ✦ Standardized test scores, with emphasis on Math and Science scores
- ✦ Middle school grades, with emphasis on 7th and 8th grade
- ✦ Curriculum taken in middle school, with favor given to students taking Algebra I or higher in math and Physical Science.

How are students exposed to STEM careers?

The Kell STEM Academy will work to develop a network of STEM professionals in order to host regular presentations wherein those STEM professionals can share their work experiences and opportunities in their fields.

Kell STEM Academy Staffing

The Kell STEM Academy will have a STEM Academy Coordinator who oversees all the program's needs. We will have staff assigned to each of the following roles as well. Some of these roles will be implemented in coming years as the program develops and has multiple classes:

- ✦ STEM Academy Homeroom teachers
- ✦ STEM Academy Career Connections Coordinator
- ✦ STEM Academy Research Coordinator
- ✦ STEM Academy Internship Coordinator
- ✦ STEM Academy Science Advisor
- ✦ STEM Academy Technology/Engineering Advisor
- ✦ STEM Academy Math Advisor



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Curriculum

Below is the breakdown of the STEM Academy curriculum by grade level

	9 th Grade	10 th Grade	11 th Grade	12 th Grade
Science	STEM Biology (F) STEM Chem (Sp)	AP Physics I Science Elective	AP Science	Adv Sci Internship Adv Sci Research
Technology/ Engineering	Pathway course 1	Pathway course 2	Pathway course 3	Pathway course 4 (optional)
Math *Must complete calculus or AP Stat	Scenario 1 Algebra 1	Geometry	Alg 2 & Pre-calc	AP Calc AB/BC or AP Stat
	Scenario 2 Geometry	Algebra 2	Pre-calc	AP Calc AB/BC or AP Stat
	Scenario 3 Geometry/Alg 2	Pre-calc	AP Calc AB/BC	GT Calc or AP Stat
	Scenario 4 Geometry	Algebra 2/Pre-calc	AP Calc AB/BC	GT Calc or AP Stat
English	H 9 th Lit "Foundations" course (Fall)	World Lit	American Lit OR AP Lang	Senior Lit OR AP Lit
Social Studies	Humanities (optional)	World History	US History	Gov/Econ
World Language	Language 1 OR 2	Language 2 OR 3	Language 3	
Health/Pers Fit				Health/Pers Fit

Pathways

	PLTW Engineering	PLTW Biomedical Science	Architecture	Engineering Drawing	Video Productions	Potential new Healthcare Pathway
Course 1	PLTW Intro to Engineering Design	PLTW Principles of Biomedical Science	Intro to Drafting Design	Intro to Drafting Design	Audio Video Technology & Film	Intro to Healthcare Science
Course 2	PLTW Principles of Engineering	PLTW Human Body Systems	Arch Draw/Des 1	Survey of Eng Graphics	Audio Video Technology & Film II	Essentials of Healthcare
Course 3	PLTW Eng Design and Development	PLTW Medical Interventions	Arch Draw/Des 2	3D Modeling & Analysis	Audio Video Technology & Film III	Gen Med or Em Med Responder
Course 4	Eng R&D or WBL TBD	PLTW Biomedical Innovation	Eng R&D or WBL TBD	Eng R&D or WBL TBD	Video Lab/Apps/Res	TBD