What is HS STEM?

GCLI 2019
GCISD STEM Vision

STEM in GCISD provides a rigorous pathway that inspires students to problem solve, innovate, take risks, create, work collaboratively, design, communicate effectively, and take ownership of their learning by making authentic real-world connections through the integration of science, technology, engineering, and mathematics across content areas in preparation for future college and career opportunities that will empower them to envision solutions for global issues.
In GCISD we define STEM -- Science, Technology, Engineering and Math--as a curricular program that integrates the concept of STEM across core content areas and electives where appropriate. Our program has a strong emphasis on engineering and design thinking. Students use the lens of STEM by utilizing an engineering design process in all aspects of learning. As students develop the outcomes outlined in our Portrait of a Graduate, the driving force is STEM.
What’s the Plan? (5x4 plan)

- Math, Science, English, Social Studies
- Career Course Classes (CTE Courses)
- STEM AP Capstone Course will be required for all STEM juniors (Seminar) and seniors (Research).
  - This course allows for a large scale design project, mentorships, and other real world STEM opportunities.

STEM is a highly rigorous pathway, consider it to be similar to an extracurricular activity. However, the plan does allow for students to participate fully in any extracurricular activities that they choose.

- All STEM students will obtain a STEM & Multidisciplinary endorsement on their transcript.
Cohorted Classes

9th Grade Courses

- AP Human Geography
- Pre-AP English I
- Pre-AP Chemistry
- Pre-AP Algebra II
  - Must have credit for Algebra I by the end of the previous school year

10th Grade Courses

- AP Modern World History
- AP Physics I
- Pre-AP English II
- Pre-AP Geometry
11th Grade:
AP Capstone - STEM Seminar
Dual English or AP English 3 (Not cohorted)

12th Grade:
AP Capstone - STEM Research
Dual English or AP English 4 (Not cohorted)
STEM in the Content Areas

Social Studies and History provide our “why”. Without a societal need engineering does not exist. This is where we find our problems through empathy and observation of the world around us, where we have been, and where we are going.

Science and Math provide the what and how of engineering. Without a solid understanding of these disciplines, we cannot solve the problems we have found.

English and Language Arts provides the tools to process and communicate large amounts information. Through ELA we gain a deep understanding of our audience and how to communicate with them.
Elements of Secondary STEM