



Chadwick STEM

Frequently Asked Questions

STEM: Science, Technology, Engineering and Math

What does STEM look like at Chadwick?

- STEM is part of Chadwick’s broader emphasis on Research and Innovation.
- STEM has a strong foundation in our discipline-centered Math and Science programs from Village science and numeracy, to courses such as AP Calculus, Integrated Science and AP Chemistry.
- STEM expands beyond traditional curriculum into technological, innovative programs that connect disciplines and connect people, such as coding, engineering, environmental initiatives, mentorships and internships.

What are the goals of Chadwick’s STEM program?

- To inspire future STEM professionals
- To prepare students for excellent STEM undergraduate programs
- To educate all students as citizens of a STEM-based world

How does Chadwick go beyond a traditional science/math program?

Upper School:

- Interdisciplinary courses connecting students with “the real world,” such as PCB, Forensics and Marine Biology
- A STEM coordinator who connects our most enthusiastic STEM students with opportunities beyond the school such as competitions and internships
- Online “[MSON](#)” courses available to challenge students even further

Middle School:

- Electives in coding and STEM, including partnerships with major universities' research programs
- Pilot programs integrating coding into mainstream math and science classes
- Resources such as Young Entrepreneurs Academy, Robotics, 3-D printing, etc. for students who want to go into depth with STEM

Village School:

- Dedicated Makerspace with 3-D printers and opportunities for all grades
- Coding and iPads introduced in Kindergarten; all have iPads from 3rd grade
- Outstanding lab science program integrating engineering and technology

Frequently asked questions about STEM:

Science:

Which science APs do students need in order to apply to the strongest STEM colleges?

- To major in STEM at a very strong college, we recommend at least one AP science.
- For the most intensively focused STEM students, we recommend any two of AP Physics, Chemistry, and Biology. There is no need to take all three.
- We work closely with the admissions officers of top STEM colleges to ensure our students are prepared for undergraduate work in STEM.

Technology:

What does Chadwick offer in computer science?

- MS/US students can take coding electives, through AP and two levels beyond.
- Coding activities in core academic classes are happening in K-7.
- As these younger students rise up through our system, we are opening up more computer science opportunities to match their skill levels.

Engineering:

What opportunities are available for students to build things, hands-on? Is it essential that students participate in any particular program?

1. We integrate some engineering into science K-8 and into some of our Upper School science courses. Engineering electives are available in the Middle and Upper Schools.
2. We have a Makerspace designed for K-6 students and a separate Robotics Engineering lab with machine tools available for older students. Both areas have 3-D printers.
3. There are many great STEM clubs and competitions around the nation. We have selected Robotics as our main co-curricular activity in the engineering field.

Math:

What math level do students need to reach in order to apply to the strongest STEM colleges? Is it essential that students interested in STEM complete AP Calculus BC?

- Our regular track, with Calculus in the 12th grade, is designed for strong STEM students who aim for STEM majors at selective liberal arts colleges.
- Aspiring math majors aiming for a STEM-oriented university such as Stanford or MIT would be advised to take AP Calculus AB during high school. More advanced courses are available at Chadwick, but are not needed to ensure a future in STEM.

Great facts about Chadwick STEM:

- Coding, engineering and research are built into our core academic curriculum K-12.
- Most years, 1-3 Chadwick students take Multivariable Calculus, the level beyond AP.
- Of our twelve K-12 science teachers, three have Ph.D.s in the fields they teach, and six have Masters degrees.
- Our AP Computer Science students mentor Village students as young as Kindergarten to share their enjoyment of coding