

Farmington Public Schools Math Pathways

Frequently Asked Questions

How do teachers determine the appropriate placement for students as they move to the next grade level?

Careful consideration is given to each student to ensure appropriate placement. This is determined by a body of evidence that includes, but is not limited to:

- student work,
- assessments such as benchmark assessments, unit tests, and
- SBA assessments,
- student work habits, grades, and effort,
- teacher recommendation, and
- parent input.

Teachers communicate placement recommendations during the second half of the school year.

How can my child change pathways?

See here for the [FPS Recommended Math Pathways](#).

Adolescence is a time of rapid, unpredictable and surprising change. This is true in all aspects of students' lives, including their mathematical development. Over time students' math identities grow and change as well as their interests and attitudes change as they mature, and the math courses they elect to take may change as well. As such, Farmington Public Schools seeks to provide flexible and responsive math pathways for all learners.

Students, teachers, parents, and school counselors work together to determine the math course that will provide the optimal level of rigor for each student. *Some* examples of flexible pathways are:

- Student takes Algebra 8 and, based on advanced level mastery of standards and interest, is enrolled in Algebra 2A H in Grade 9.
- Student takes Algebra 8 and, due to lack of mastery on specific course standards, is enrolled in Algebra 1 in Grade 9.
- Student takes Precalculus CP or Precalculus H in Grade 11, and based on lack of mastery and interest, is enrolled in a math elective other than AP Calculus in Grade 12.
- Student takes Precalculus H in Grade 11, and based on success and interest, is enrolled in both AP Calculus BC and AP Statistics in Grade 12.

Will any middle school mathematics courses appear on my child's high school transcript?

Depending on a student's level of mastery on specific content standards in Algebra 8 or Advanced Algebra 8, they may earn high school credit for these courses. If high school credit is earned, the grade earned in Algebra 8 or Advanced Algebra 8 will appear on the high school transcript. However, these grades are not included in the calculation of a student's high school Grade Point Average (GPA). The curricula for these two courses go beyond the Common Core Math expectations for 8th graders. Colleges will be able to see that students completed advanced math curriculum in the middle school along with the grade they earned in the course. Information about other middle school math courses will not appear on the high school transcript.

What are the Farmington High School math requirements for graduation?

In order to graduate from Farmington High School, students must complete 9 credits in Science, Technology, Engineering, and Math (STEM). Three of these credits must be in math. Students must earn a C- or better in 2 credits of math taken at Farmington High School.

What mathematical experiences are colleges expecting of high school graduates?

Colleges often require four years of mathematical study for admission. The [FPS Recommended Math Pathways](#) allow for a high degree of customization for juniors and seniors once the core curriculum is completed. Based on a student's emerging sense of post-high school study, decisions should be based on interest and aptitude in mathematics, as well as consideration of college entrance requirements. Your child's school counselor and math teacher will be very helpful in making these decisions. The following website offers a good synopsis of college math requirements, <http://collegeapps.about.com/od/theartofgettingaccepted/a/HighSchoolMath.htm>

What is the highest level of knowledge required to be successful on the math portion of the SAT?

The SAT tests content from Algebra 1, Geometry, and Algebra 2. The exam is administered to all students in the spring of their junior year during the school day. All students who follow the recommended pathways should have completed this core curriculum by the time they take the SAT exam.

I want my child to take Calculus in Grade 11. Can this happen? Is this a good idea?

The design of the mathematics program allows for many students to have the opportunity for an Advanced Placement experience in senior year. They may choose among AP Calculus AB, AP Calculus BC, and AP Statistics. Some students elect to take AP Calculus and AP Statistics concurrently or to take AP Statistics concurrently with other math course in sophomore or junior year. AP Calculus BC and AP Physics C curriculums are designed for students who are taking the courses concurrently in their senior year and courses beyond AP Calculus BC are not offered at FHS. Therefore, there is no recommended pathway to take AP Calculus BC in the junior year.

Parents often worry that there are certain required courses, without which a student is precluded from competitive college admission. Early completion of Calculus is one example of such a course. From the college perspective, admissions officers are looking for students who have challenged themselves by taking the most rigorous course sequence offered across their entire program of study and have excelled throughout. Many content areas offer their AP courses beginning in junior year. Therefore, rigor is balanced by taking AP mathematics experiences in senior year.

The FHS counseling department has been advised that the completion of Calculus in the senior year exceeds the expectation for a rigorous math course sequence. The following website offers a good synopsis of college math requirements:

<http://collegeapps.about.com/od/theartofgettingaccepted/a/HighSchoolMath.htm>

Most students who take AP math courses in their high school year will take calculus in their freshman year of college. Something to consider is the loss of content knowledge that can occur if a student has not seen calculus material since their junior year of high school.

My child loves math, what are the most advanced math opportunities that Farmington High School offers?

There are many opportunities for your child to engage in mathematical learning at Farmington High School. While every student should complete the core sequence (Algebra, Geometry, Algebra 2 A, and Algebra 2 B) before graduation, there are ample additional courses for those students who have a particular interest in math or related subjects.

Advanced Placement (AP) and **UConn Early College Experience (ECE)** courses offer students the opportunity to take rigorous college-level coursework while still enrolled in high school.

In the field of math, FHS currently offers:

- AP Calculus AB
- AP Calculus BC
- AP Statistics
- UConn ECE Descriptive Statistics and UConn ECE Inferential Statistics
- AP Computer Science with Java

For more information about the College Board's Advanced Placement program:

<https://apstudent.collegeboard.org/apcourse>

For more information about UConn's Early College Experience program:

<https://ece.uconn.edu/students-parents/>

Project Lead The Way (PLTW) is the leading provider of rigorous and innovative Science, Technology, Engineering, and Mathematics (STEM) programs used in middle and high schools across the U.S. These courses offer hands-on, engaging and authentic opportunities for students to develop critical thinking, creativity, innovation and real-world problem-solving skills.

FHS offers four courses through Project Lead the Way:

- Introduction to Engineering Design
- Principles of Engineering
- Digital Electronics
- Engineering Design and Development

For more information about the Project Lead the Way program: <http://www.pltw.org/>

Farmington High School ASPIRE and Capstone Program allows students to pursue individualized projects in areas of their choice, including mathematics. The goal of the ASPIRE/Capstone Program is to provide all students with an opportunity to:

- Design a project in an area of deep personal or academic interest.
- Manage their own time and select their own resources.
- Work with a teacher or advisor who can respond to but not direct their work.
- Make a meaningful connection with an expert in their field of study.
- Communicate their work to an audience beyond the classroom.
- Reflect upon their learning both academic and personal.
- Meet the district's standards as articulated in the Vision of the Graduate

Farmington FIRST Robotics Team, The 2nd Law Enforcers, has a long history of enthusiastic participation at FHS. "The varsity Sport for the Mind," FIRST Robotics Competition combines the excitement of sport with the rigors of science and technology. Under strict rules, limited resources, and time limits, teams of 25 students or more are challenged to raise funds, design a team "brand," hone teamwork skills, and build and program robots to perform prescribed tasks against a field of competitors. It's as close to "real-world engineering" as a student can get. Started in 1997, the FHS First Robotics team is a strong partnership of FHS students, engineering professionals (from sponsors UTC Otis Elevator, ebm-pabst Inc., UTC Sikorsky, and Parker Hannifin), teachers, parents, adult mentors, and alumni mentors.

For more information about the FHS FIRST Robotics Team (the Enforcers):

<http://farmingtonrobotics.org>