UNIVERSITY HIGH SCHOOL
Mathematics

The Math curriculum at U-High has breadth and depth. We prepare students for calculus, to be taken in either high school or college. We prepare students to analyze data, to understand probability, and other topics that prepare students for future study in the social sciences, computer science, and humanities. We help students discover why things are true while also teaching them the necessary algorithms for solving problems. We expect our students to communicate the mathematics they are learning by using correct notation and vocabulary, and by using the needed words to help answer questions that are asked. Generally, our philosophy is to expect students to learn to do problems “by hand” without the use of technology, at least on a small scale. We then extend the concepts to learning to do larger scale problems with technology.

University High School requires that every student successfully complete at least three years of mathematics while in high school. Students who have questions about the mathematics requirements or problems concerning prerequisites and placement are urged to see their mathematics teacher or the chairperson of the Mathematics Department. The Mathematics Department is careful to place each student in a course appropriate to the student’s background and interests.

Credit And Placement

The normal policy of the Mathematics Department is not to award partial credit (credit of less than one unit) for work in mathematics of less than one year. Seniors who leave school early for May Project will receive one credit for AP Calculus or AP Statistics and 7/8 of a credit for any other mathematics course.

In general, for questions about placement we encourage students and their families to contact the Mathematics Department.

Equipment

Graphing calculators are required in all courses and are used extensively starting at Advanced Algebra or Accelerated Advanced Algebra/Trigonometry. Students purchasing calculators should choose one of the TI-84 models.

Depending on their previous math classes, students entering ninth grade are generally placed in one of the following courses: Algebra, Geometry, Advanced Algebra, or Accelerated Advanced Algebra and Trigonometry. Typically students take one math course per year. Students who wish to do something different should discuss their options with their mathematics teacher and the mathematics department chair.

Courses

- Algebra I
- Summer School Geometry
- Geometry
- Advanced Algebra
- Accelerated Advanced Algebra/Trigonometry
- Discrete Mathematics and Statistics
- Trigonometry, Statistics, and Discrete Math Topics
- Precalculus
- Precalculus / Intro to Calculus
- Accelerated Precalculus
- AP Calculus AB
- AP Calculus BC
- Linear Algebra and Calculus of Several Variables
- AP Statistics
Notes on the Sequential Flow Chart

**Note 1:** Solid lines indicate the traditional sequence of courses. Dotted lines indicate possible alternate sequences for students wishing to be in classes that move at a different pace. Students electing to move from Trigonometry, Statistics and Discrete Math Topics to Accelerated Precalculus/Calculus A may be required to do independent work in preparation for the next course.

**Note 2:** Students who complete Algebra in eighth grade at Lab Middle School with at least a grade of 70% average take Geometry in ninth grade. Students who complete Algebra in eighth grade at Lab Middle School with an average of at least 90% are eligible to take summer Geometry at U-High between eighth and ninth grades.

**Note 3:** Placement into mathematics courses at the University of Chicago is at the discretion of the Mathematics Department at the University. It is based on the results of the University of Chicago’s mathematics placement test, which is administered by the Office of the Dean of Students in late spring and early summer. To be eligible to take the mathematics placement test, students must have successfully completed the AP Calculus BC course offered by the Mathematics Department at the Lab Schools, and earned a score of five on the actual AP exam (or be deemed by the instructor of the course to have a strong expectation of doing so). Registration for the mathematics placement test for Lab students is through the Mathematics Department at the Lab Schools. Qualified students interested in sitting for the mathematics placement test should contact their BC Calculus teacher or the chair of the Mathematics Department at the Lab Schools in early spring of the year in which they plan to take the exam. Students who are permitted to enroll in University math are also permitted to miss Advisory if the university course is scheduled at the same time as the high school advisory program.

**Note 4:** See course descriptions in the University High School Program of Studies for prerequisites for these courses.