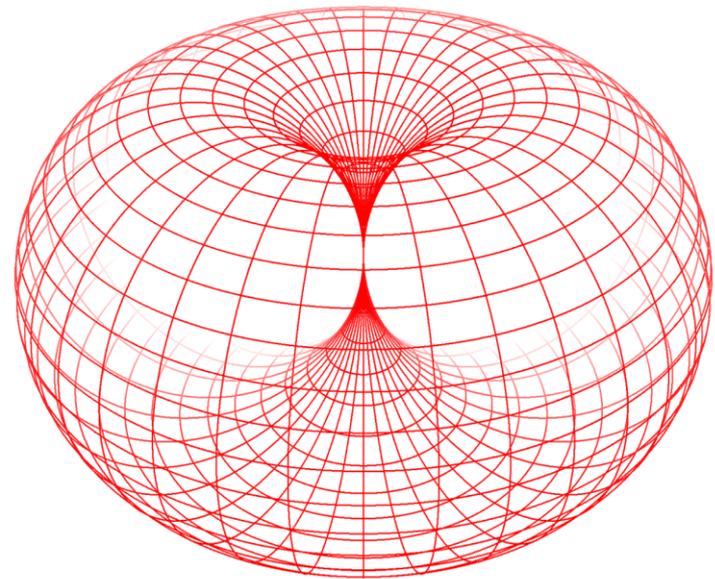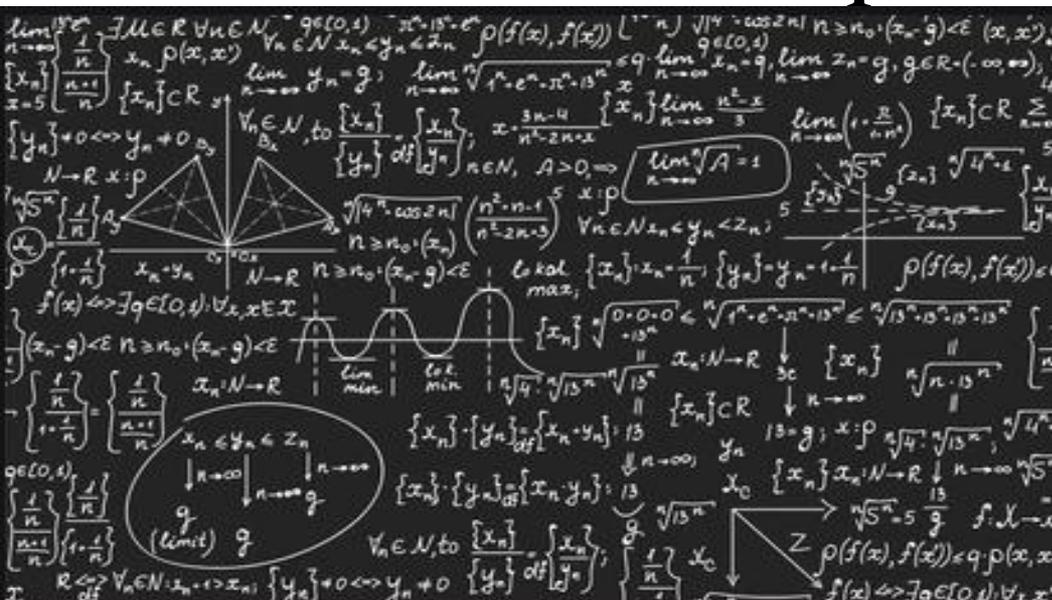# HINGHAM PUBLIC S

Math and Computer Science Department

HPS Math Course Sequence

HPS Most Typical Course Sequences

Sequence	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
Honors	L2 Pre-Algebra	*L2 Algebra 1	L2 Geometry	L2 Algebra 2	L2 Pre-Calculus AP Statistics	AP Calculus AP Statistics L2 Calculus
Accelerated College Prep	L3 Pre-Algebra	*L3 Algebra 1 – Quadratic Emphasis	L3 Geometry Quadratic Emphasis	L3 Algebra 2 with Trigonometry	L3 Pre-Calculus AP Statistics	L2 Calculus L3 Analysis AP Statistics
College Prep ***	L3 Pre-Algebra or L3 Math 7	L3 Math 8 with Algebra	*L3 Algebra 1 – Quadratic Emphasis	L3 Geometry Quadratic Emphasis	L3 Algebra 2 with Trigonometry	L3 Pre-Calculus AP Statistics
Targeted College Prep		L3 Math 8	*L3 Algebra 1 – Linear Emphasis	L3 Geometry – Linear Emphasis	L3 Algebra 2	L3 Topics and Statistics L3 Pre-Calculus

*Students who do not earn a 70% the first time taking **any** Algebra 1 course will repeat the course for a second time.

**Students are required to pass three different mathematics courses in order to graduate. However, please note that the Massachusetts State Colleges and Universities require that students take mathematics in their fourth year (not necessarily four different courses) of high school while attaining a minimum level of Algebra 2.

*** The College Prep Sequence follows the rigorous 2017 Massachusetts Curriculum Framework and should be considered the normal path for the majority of the students

HPS Math Course Sequences

Honors - This sequence of courses is designed for the student with outstanding ability, high interest, and motivation in mathematics. The student must be able to work and study on his/her own. Students are expected to maintain at least a "B" average or better to remain in the sequence. At a bare minimum, a student must earn a grade of 70% in his or her current honors course to take an honors course in the subsequent school year. This sequence of courses requires a student to use logic and deductive and inductive reasoning consistently to solve problems and communicate mathematical understanding in both written and oral form. In order to take AP Calculus BC, a student must receive departmental approval and earn a minimum of 90% in L2 Pre-Calculus. All other students will be appropriately placed in AP Calculus AB or L2 Calculus. Students who may not be quite ready for this sequence in 7th or 8th grade will still have opportunities to move to honors as they progress through the math program.

Accelerated College Preparatory - This sequence of courses is designed for very strong college prep students who are not ready for the honors curriculum but are ready and able to move faster than the 2017 Massachusetts Curriculum Framework. This sequence of courses is the same as the College Preparatory sequence outlined below. However, students in this sequence move 1 year ahead in either 7th or 8th grade by mastering algebra content. Students who have not fully mastered (strong B grade) Algebra 1 by the end of 8th grade will take Algebra 1 - Quadratic Emphasis again in grade 9. No course is more essential to future mathematics success and it is inappropriate for a student to pursue an accelerated sequence of study without complete mastery of Algebra 1. *Note: the majority of College Preparatory students will take the regular sequence prescribed by the 2017 Massachusetts Curriculum Framework that is outlined in the next section.*

College Preparatory - This sequence of courses is designed for the student who has the interest and ability to complete a challenging four-year college preparatory program in mathematics. Mathematics courses required by even the most demanding colleges are offered in this sequence. This sequence is fully aligned with the 2017 Massachusetts Curriculum Framework in Mathematics. This sequence supports students in developing and practicing skills that are used to identify, analyze, and solve problems mathematically. It also supports students in communicating their analysis and solutions symbolically, verbally, graphically, and numerically. It is essential that students gain a strong fundamental understanding of algebra skills before moving forward in these sequences.

Targeted College Preparatory - This sequence of courses is designed for students who have the interest and ability to complete a four-year college preparatory program in mathematics but who may have gaps in knowledge, for a multitude of reasons, or require a more concretely scaffolded approach to problem solving. Consequently, students in this sequence need more review of previously taught mathematics while they also learn new material. The major standards of the 2017 Massachusetts Curriculum Framework in Mathematics are covered, but with an emphasis on the most important ones. It is the intention of Hingham's Mathematics Department that students in this sequence will be well prepared to demonstrate proficiency on state-mandated exit exams, but these courses may not prepare students for a standing that "exceeds" grade level expectations. Students in this sequence will exceed the minimum entrance requirement of Algebra II for Massachusetts State Colleges and Universities. This sequence supports students in developing and practicing skills that are used to identify, analyze, and solve problems mathematically. It also supports students in communicating their analysis and solutions symbolically, verbally, graphically and numerically.
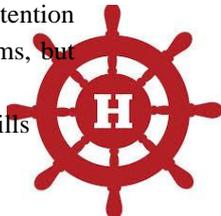
Computer Science Electives HHS

- ## Tech Squad
Grades 9-12 - 2.5 credits

The Hingham Tech Squad is a student-centered solution for school-wide technology integration. Students involved in this program learn how to use existing educational technologies, as well as how to evaluate and make informed selections among the technologies available to complete a task or project. Students not only learn technology skills but also crucial 21st century skills, such as planning and collaboration. They learn how to help teachers integrate technology into classroom lessons, how to use school technology, and how to provide tech support. The Hingham Tech Squad members work with teachers throughout the school to plan tech-infused lesson or provide tech support. The result is an authentic project-based learning experience for the students and sustainable technology support for the teachers. Students who successfully complete this course may enroll in course 651 – TECH SQUAD HELPDESK.

- ## Introduction to Computer Science
Grades 9-12 – 2.5 credits
Level 2 Prerequisite: A- in L3 Algebra I Quadratic Emphasis or B- in L2 Honors Algebra I
Level 3 Prerequisite: B- in L3 Algebra I Quadratic Emphasis or A- in L3 Algebra I Linear Emphasis
      or B- in L3 Algebra II with Trigonometry

This course is to introduce students to concepts in Object Oriented Programming, namely Java programming. Students will leave this course with a conceptual understanding of the hierarchy of classes, structures and methods implemented in a well-designed program. Students will have the opportunity to design mobile based "apps" and simple structured game design. No prior knowledge of computer science is required. Students who are successful in this course have good math and logical thinking skills.

- ## AP Computer Science Coding (Java)
Grades 10-12 - 5 credits - Level 1
Prerequisite: Minimum of 90% in L2 Intro to Computer Programming and Departmental Approval
Students with other extensive programming background can appeal to the Mathematics Department Director for entry

This is a college-level course following the Computer Science A outline as presented by The College Board. The course emphasizes object-oriented programming methodology with a concentration on problem solving and algorithm development. It also includes the study of data structures, design abstraction. At least 5 hours of preparation outside of the classroom are required per week. Students must take the Advanced Placement exam in May. Note: This course requires extensive reading and writing. Students enrolling in this course should also consider their relative strength in ELA.
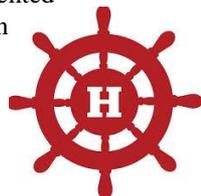
Questions?

- Contact: David Jewett, K-12 Director of Mathematics

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