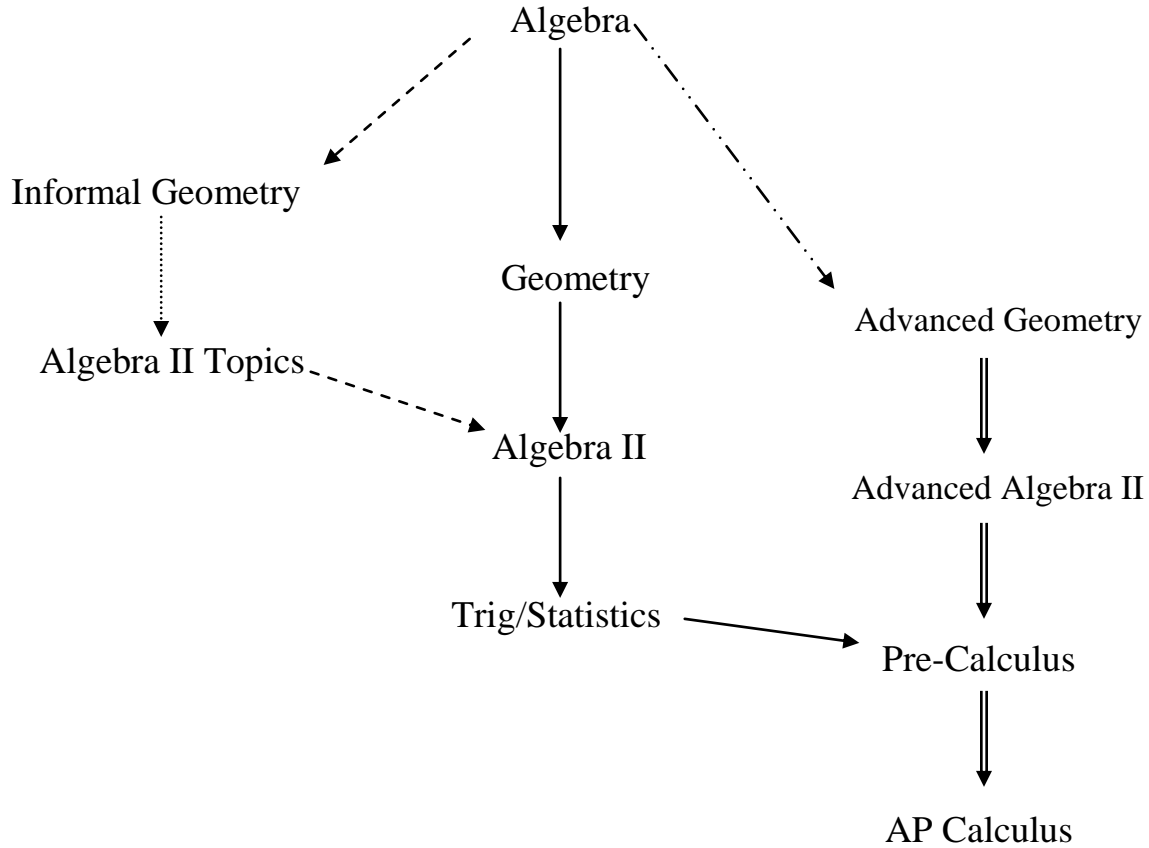


# MATH DEPARTMENT

Name	Credit	Grade	Length	Pre-Requisite	Instructor Approval	College Credit Available	Fee
Algebra Support 9	1.0 Elective	9	Year	None	Yes	No	No
Math Skills	1.0 Elective	10-12	Year	None	Yes	No	No
Algebra 10	1.0	10	Year	None	No	No	No
Algebra	1.0	9	Year	None	No	No	No
Informal Geometry	1.0	10	Year	Algebra Accelerated with a D or Algebra 10	No	No	No
Geometry	1.0	9-10	Year	Algebra with a C or better, or teacher recommendation	Yes, if from Algebra 10	No	No
Algebra II Topics	1.0	11	Year	Informal Geometry with a D or better	No	No	No
Algebra II	1.0	10-12	Year	Geometry with C or better or Algebra II Topics with C or better and teacher recommendation	Yes, if from Informal Geometry	No	No
Advanced Geometry	1.0	9-10	Year	Algebra with an A and teacher recommendation	Yes, if from Algebra	No	No
Advanced Algebra II	1.0	10-11	Year	Advanced Geometry with a B or better	No	No	No
Pre-Calculus	1.0	11-12	Year	Advanced Algebra II with a B or better	No	No	No
AP Calculus	1.0	12	Year	Pre-Calculus with a B or better	No	With passing score on AP Calculus Exam	AP exam fee
Trigonometry /Statistics	1.0	11-12	Year	Algebra II	No	No	No

- Scientific calculators are required for all students in Algebra Support 9, Informal Geometry, Algebra II Topics, Algebra, and Geometry.
- Graphing calculators are required for all students in Algebra II, Trigonometry, Advanced Geometry, Advanced Algebra II, Pre-Calculus, and AP Calculus.
- The SHS Math department recommends the TI-83 plus or TI-84. The teachers are familiar with and will do demonstrations with the TI-83/84 plus. Students may not be allowed to use calculators using the computer algebraic system (CAS) on some class work or tests.
- Students in the advanced sequence must earn a minimum of a “B” to stay in the sequence.

# SHS Math Sequence of Classes



.....▶ With a “D” or better.

-----▶ With a “C” or better and teacher recommendation.

————▶ With a “C” or better.

- · - · - · ▶ With an “A” and teacher recommendation.

====▶ With a “B” or better.

## **ALGEBRA SUPPORT 9**

Entry Level: 9

This course is designed for students who need extra time and assistance each day to be successful in their Algebra class. Students will practice skills and receive additional instruction daily. Attendance, effort and consistent work ethic are a major portion of the grade. This is an elective class and does not earn a student math credit.

## **MATH SKILLS**

Entry Level: 10-12

Algebra (and other courses as space allows) support class supplemented by ALEKS (an online Math software). Student review basic concepts, ask questions on homework and prepare for state assessment.

## **ALGEBRA 10**

Entry Level: 10

This course is designed for students who did not pass Algebra. Topics covered in this class are similar to topics covered in algebra class, but the pace of the class is slower to meet the needs of the students. Topics include number sense, solving equations, graphing, exponents, polynomials, inequalities, factoring, and functions including linear, quadratic, and exponential. Students will be expected to investigate, practice, and demonstrate proficiency both verbally and in written form on a daily basis. A scientific calculator is required.

## **ALGEBRA**

Entry Level: 9, Year

This is a beginning course in algebra that includes the topics of number sense, solving equations, graphing, exponents, polynomials, inequalities, factoring, and functions including linear, quadratic, and exponential. Students should expect daily work to be assigned along with periodic projects and tests. A scientific calculator is required.

## **INFORMAL GEOMETRY**

Entry Level: 10, Year

This course is designed for the student who needs geometry taught at a slower pace and through a more investigative approach. It incorporates both plane and solid geometry while focusing on parallelism, congruent figures, similar figures, triangles, quadrilaterals, circles, constructions, polyhedrons, area, and volume. Algebra skills are reviewed and correlated to geometry problems. Inductive and deductive reasoning are used throughout the course along with hands-on activities. Logic reasoning is a part of this course, but is not a major focus. A scientific calculator is required.

## **GEOMETRY**

Entry Level: 9-10, Year

Geometry is the study of visual patterns. Included among the topics in geometry are logic, polygons, congruency, similarity, proofs, polyhedrons, area, and volume. The student will be expected to use the knowledge gained in Algebra to solve geometric problems. This course is more rigorous than Informal Geometry in workload, pace, conceptual understanding, and especially in the subject matter of proof. A scientific calculator is required.

## **ALGEBRA II TOPICS**

Entry Level: 11, Year

This course follows Informal Geometry in the math sequence. It is designed for students who need to fulfill the three years of math requirement for graduation from high school. It is taught at a slower pace, and will include more applications and hands-on activities than Algebra II. It does not meet the requirements to attend a four-year university. Topics will include equations, inequalities, linear programming, graphing, systems, probability, statistics, finance, and problem solving. A scientific calculator is required.

## **ALGEBRA II**

Entry Level: 10-12, Year

This course follows geometry in the math sequence. It is a second-year algebra course that integrates geometry with advanced algebra concepts. Topics include systems of linear equations and inequalities, matrix operations, quadratic functions, polynomials, exponential and logarithmic functions, rational functions, and conic sections. Most four-year universities require students to have completed Algebra II in high school so this class is taught as a college prep class. A graphing calculator (TI-83/84) is required.

## **ADVANCED GEOMETRY**

Entry Level: 9-10, Year

This honors course is designed for self-motivated students who have completed an algebra course and who welcome advanced problems and extended activities. Topics include logic, proof, similarity, congruency, polygons, polyhedrons, area, volume, and probability. Students are expected to explore the finer details of the mathematical concepts being taught and apply their knowledge to solve advanced problems. Students must maintain an "A" or "B" grade to remain in the course sequence. A graphing calculator (TI-83/84) is required.

## **ADVANCED ALGEBRA II**

Entry Level: 10-11, Year

This honors course continues the rigor and pace set in the previous class of Pre-AP Geometry. Topics include quadratic, exponential, logarithmic, and rational functions. A significant portion of the course will focus on trigonometric functions and their applications. Advanced problems and extended applications are to be expected. Students must maintain an "A" or "B" grade to remain in the course sequence. A graphing calculator (TI-83/84) is required.

## **PRE-CALCULUS**

Entry Level: 11-12, Year

This is a preparatory course for Calculus. Included in the course will be the study of sequences, probability, statistics, functions, logarithms, radians, and various other high-level math topics. This course is designed for the student who plans college studies in math or the sciences. It is a fast-paced course taught at a college prep level. Students must maintain an "A" or "B" grade to remain in the sequence. Graphing calculator (TI-83/84) required. \*This course can be applied to the Honors Diploma.

## **A.P. CALCULUS**

Entry Level: 12, Year

This course is designed to prepare the student to take the advanced placement calculus exam in the spring. A passing score on the exam will result in the student earning college credit. Topics include, derivative, limits, Taylor polynomials, integral, motions, rates of change, area, and volume. Students will be expected to spend a significant amount of time outside of class reading, studying, and problem solving. Graphing calculator (TI-83/84) required. \*This course can be applied to the Honors Diploma.

## **TRIGONOMETRY/STATISTICS**

Entry Level: 11-12, Year

This course provides student a thorough education of trigonometric functions and identities, probability and counting rules, statistical distribution, as well as graph theory. Students will be required to problem solve at a high level, incorporate proof into their work, and apply their knowledge. Independent studying and reading of the text is expected during this course. Students can expect homework on a daily basis. A graphing calculator (TI-83/84) is required.