

MATHEMATICS

- Course descriptions that are shaded are not being offered.
- Students are required to earn 4 credits of mathematics in the following areas:
 - 1.5 credits in Algebra 1
 - 1 credit of Geometry
 - 1 credit of Algebra 2
 - .5 credit of a math or math - related course in their final year
(Math related courses that may count for math credit in senior year: Accounting, AP Biology, AP Chemistry, AP Computer Science, AP Physics, Architectural Drawing, Chemistry, Competitive Robotics, Computer Science Discoveries, Engineering, Furniture Design, Personal Finance, Physics, Robotics, STEM, Woods and enrollment in a Wilson Talent Center course.)

Algebra 1

Course # 1101
1102
1103

3 trimesters

Grade Level: 9-12

Prerequisites: None

Students will study number properties, linear functions, quadratic functions, exponential functions, and bivariate data.

Algebra 2

Course # 1301
1302

2 trimesters

Grade Level: 10 – 12

Prerequisites: Algebra 1 & Geometry

Students will continue their study of Algebra by modeling situations and solving equations and systems of rational, exponential, quadratic, trigonometric, and logarithmic functions.

AP Calculus

Course # 1501
1502
1503

3 trimesters

Grade Level: 11 - 12

Prerequisites: B or better in
Honors Pre-Calculus A & B

Advanced Placement Calculus is a yearlong course of study on the two main topics of calculus: the derivative and the integral. A study of limits is also included along with applications of derivatives and integrals. The rigorous pace of this class will demand a serious commitment of time outside of school. The curriculum is designed to prepare students for the AP Calculus AB exam.

AP Statistics

Course # 1504
1505
1506

3 trimesters

Grade Level: 10 – 12

Prerequisites: Satisfy one of the
options below:

- 1) Successful completion of a
Precalculus course
- 2) B or better average in Algebra 2

AP Statistics is a yearlong course covering analyzing data, planning a study, producing models, and statistical inference. Students who successfully complete the AP exam will receive credit and/or advanced placement in a one-semester college statistics course.

Coordinate Geometry

1 trimester

Grade Level: 10 – 12

Prerequisites: Algebra 2

Students will cover topics related to conic sections, polar and rectangular coordinates, evaluating parametric equations, matrices, and graphing parametric equations.

Geometry

2 trimesters

Grade Level: 9 – 12

Prerequisites: Algebra 1

Course # 1201

1202

Students will study properties of and relationships between lines, polygons, and circles, as well as the effects of transformations on these geometric objects. Logical reasoning (proofs) will be used to verify properties previously learned and to make new connections.

Honors Precalculus A

1 trimester

Grade Level: 10 – 12

Prerequisites: Algebra 2

Recommendation:

B or better in

Algebra 2

Students will cover topics related to polynomials, optimization, and rational functions. The rigorous pace of this class will demand a serious time commitment outside of school. Students in this course are preparing for college level classes in college algebra and calculus. Earning at least a B in this class is required for enrollment in AP Calculus at Mason High School.

Honors Precalculus B

1 trimester

Grade Level: 10 – 12

Prerequisites: Algebra 2, Honors Pre-Calculus A

Recommendation:

B or better in

Algebra 2

Students will cover topics related to exponential and logarithmic functions, circle trigonometry and trigonometric identities. The rigorous pace of this class will demand a serious time commitment outside of school. Students taking this course are preparing for college level classes in college algebra and calculus. Earning at least a B in this class is required for enrollment in AP Calculus at Mason High School.

Polynomials, Trig and Stats

1 trimester

Grade Level: 10 – 12

Prerequisites: Algebra 2

Course # 1404

Students who have already taken Honors Precalculus A and/or B should not register for this course. These students will only be granted permission to enroll if they have teacher approval. This course will cover circle trigonometry, polynomials, and statistics. Students will explore the relationship between right triangle trigonometry and circle trigonometry. This course will expand student's knowledge of functions and imaginary and complex numbers will be studied. Lastly, students will investigate statistical studies and randomness. This course is intended for students who are college-bound but not necessarily calculus-bound.