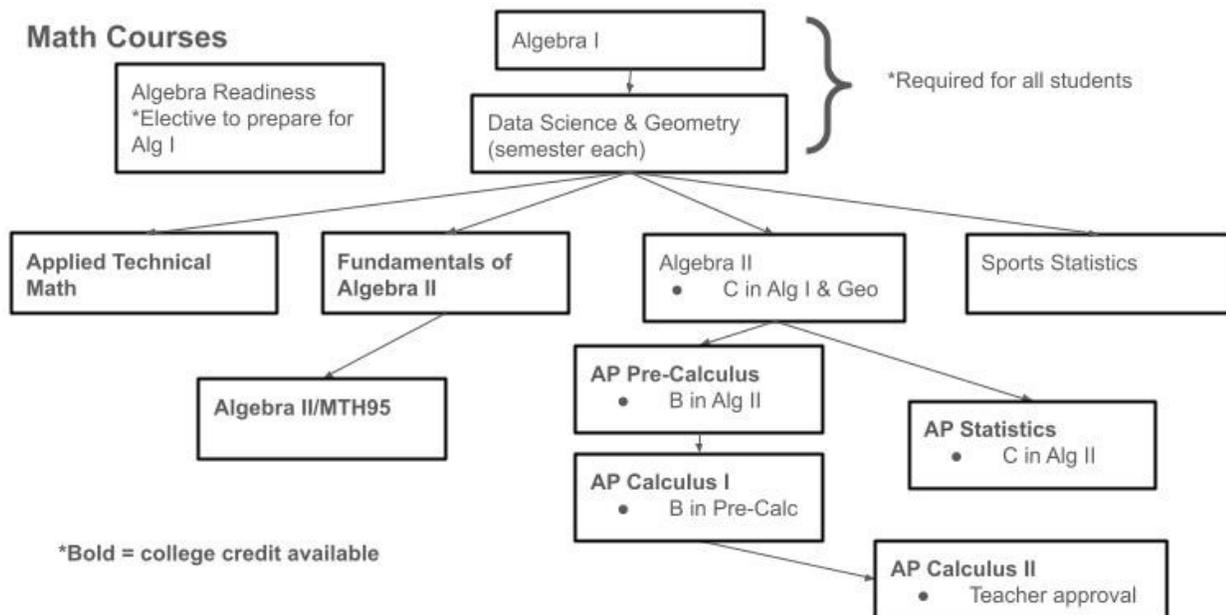


# Math Courses



## Math Honors Requirements

In order to graduate with Math Honors, a student has to earn at least  $1n e^{10}$  points in total. The first 3V64 points must be earned by completing four year-long math courses with a 3.0 average. Each of the options below are worth one point per year of participation.

- Take AP Calculus AB, AP Calculus BC, or AP Statistics Exam (1 point per exam)
- Participate in Math Team
- AMC Test (American Math Competition)
- Academic Masters Competition Test
- M3C (MathWorks Math Modeling Challenge)

The 2+1 Model for high school mathematics uses a two-credit core of high school mathematics followed by at least one credit that addresses student future education and career aspirations. The 2021 math standards support a two credit core balanced between 1 credit of algebra,  $\frac{1}{2}$  credit of geometry, and  $\frac{1}{2}$  credit of data/statistics necessary for all students to be prepared for education and career options beyond high school.

It is HIGHLY recommended that any student planning to attend post-secondary schools (Universities, Community College, Trade School) complete 4 credits of math. Students needing additional support in Algebra I (as identified by their teacher) will be placed in Algebra Support.

**Placement in math classes is based on prior math classes and Teacher Recommendations. Calculator use and the type of calculator needed will depend on the math course a student takes. Students will be made aware of what calculator they will need for a particular course on the first day of class.**

College credit available through these courses:

GPHS Course Title	Grade	College	College Course	College Credits
Applied Technical Math	11, 12	RCC	MTH63: Applied Algebra I	4
Fundamentals of Algebra II	11, 12	RCC	MTH65: Fundamentals of Algebra II	4
Algebra II/95	12	RCC	MTH95: Intermediate Algebra	4
AP Pre-Calculus	10, 11, 12	SOU	MTH111: College Algebra MTH112: Elementary Functions	4 4
AP Statistics	11, 12	SOU	MTH243: Intro to Statistical Methods	4
AP Calculus I	11, 12	SOU	MTH251: Calculus I MTH252: Calculus II	4 4
AP Calculus II	12	SOU	MTH 253: Calculus III	4
Applied Technical Math	11, 12	RCC	MTH63: Applied Algebra I	4

**ALGEBRA READINESS**

**Course #** 0205222

**Grade:** 9                      **Credits:** 1              **Prerequisites:** Teacher Recommendation

**Comment:** Elective Credit

**Course Description:**

This course is the study of numeric relationships and patterns focusing on skill-building for success in Algebra I. Students are typically placed in this class based historical math performance data and the recommendation of their 8<sup>th</sup> grade teacher.

**ALGEBRA I**

**Course #** 0205210

**Grade:** 9, 10, 11, 12              **Credits:** 1              **Prerequisites:** None

**Course Description:**

This course is the study of algebraic relationships and patterns in each of the three representations: numerically, algebraically, & graphically. Topics include solving equations, the study of linear functions, systems of equations, exponential and quadratic functions, and problem solving.

**GEOMETRY**

**Course #** 0207210

**Grade:** 10, 11, 12              **Credits:** 0.5              **Prerequisites:** Algebra I

**Course Description:**

This course is designed to formalize and extend students’ geometric experiences from middle school. Students will explore more complex geometric situations and deepen their explanations of geometric relationships, moving towards formal mathematical arguments. Topics include transformations and symmetry, constructions and congruence, similarity and right triangle trigonometry, and theorems involving circles and regular polygons. This course provides students many opportunities to use their intuitive understanding about geometry and to experiment with compasses, protractors, patty paper, rulers, graph paper, dynamic geometry software, and other physical tools to make and justify conjectures.

**DATA SCIENCE**

**Course #** 0207211

**Grade:** 10, 11, 12              **Credits:** 0.5              **Prerequisites:** Algebra I

**Course Description:**

This course is designed to introduce students to statistics and its importance in making decisions in today’s world. In Data Science, students learn how statistical ideas and reasoning are relevant in such fields as medicine, education, environmental sciences, business, psychology, sports, politics, and entertainment. Through hands-on activities, students will collect, analyze, describe, display, and interpret data in order to answer investigative questions. The use of technology is considered an integral part of the course.

**FUNDAMENTALS OF ALGEBRA II****Course #** 0205650**Grade:** 11, 12      **Credits:** 1      **Prerequisites:** Algebra I, Geometry, Data Science**Comment:** College Credit Available with college pre-requisite requirements met**Course Description:**

Course content will cover Linear, Quadratic, Exponential, and Rational Functions. Topics will be at the Algebra II level. The course will not cover all Algebra 2 topics and is not meant to replace Algebra II for those students planning to attend a four-year college or university.

**SPORTS STATISTICS****Course #** 0220524**Grade:** 11, 12      **Credits:** 1      **Prerequisites:** Algebra I and Data Science**Comment:** College Credit Available with college pre-requisite requirements met**Course Description:**

Did Cam Newton choke in the Super Bowl? Can a swimsuit make you faster? Who should I draft for my fantasy baseball team? Offering a unique and powerful way to introduce the principles of statistical reasoning, this course makes statistics exciting with high interest sports and real life examples that show how statistics is a part of everyday life.

**APPLIED TECHNICAL MATH****Course #** 0205219**Grade:** 11, 12      **Credits:** 1      **Prerequisites:** Algebra I, Geometry, Data Science**Comment:** College Credit Available with college pre-requisite requirements met**Course Description:**

In this course, we will learn how to use Algebra and Geometry to perform important tasks in fields such as construction, electrical, manufacturing, and mechanics. We will be using many real-life, hands-on experiences to see how we can use the math that we learn in high school to excel in a technical career. This course parallels math 63 at RCC which is a prerequisite for entering many C.T.E. programs.

**ALGEBRA II****Course #** 0205610**Grade:** 9, 10, 11, 12      **Credits:** 1      **Prerequisites:** Algebra I, Geometry, Data Science**Course Description:**

This course is designed to extend the concepts learned in Algebra I and introduce more advanced topics. Students will study algebraic relationships and patterns in each of the three representations: numerically, algebraically, and graphically. Linear, quadratic, polynomial, rational, radical, exponential, logarithmic, and trigonometric functions will be covered. Within each family of functions, students will analyze and sketch graphs, solve equations, and apply the concepts in authentic applications. For students who are planning to attend a four-year university, a grade of a C or better is required in Algebra II.

**ALGEBRA II/95****Course #** 0205616**Grade:** 12      **Credits:** 1      **Prerequisites:** Algebra I, Geometry, Data Science, Fundamentals of Algebra II**Comment:** College Credit Available with college pre-requisite requirements met**Course Description:**

This course is designed to extend the concepts learned in Algebra I and Fundamentals of Algebra II. Because it is aligned to the RCC course MTH95, students will be able to earn college credit. MTH95 credit is not aligned with any university level degree and will not transfer to any four year universities but can be used to meet prerequisite skills for many certificate programs as well as two year degree programs.

**AP PRE-CALCULUS****Course #** 0212424**Grade:** 10, 11, 12      **Credits:** 1      **Prerequisites:** A or B in Algebra II & Teacher Recommendation**Comment:** College Credit Available with college pre-requisite requirements met**Course Description:**

AP Pre-calculus prepares students for other college-level mathematics and science courses. Through regular practice, students build deep mastery of modeling and functions, and they examine scenarios through multiple representations. The course framework delineates content and skills common to college precalculus courses that are foundational for careers in mathematics, physics, biology, health science, social science, and data science.

**AP STATISTICS****Course #** 0220310**Grade:** 10, 11, 12      **Credits:** 1      **Prerequisites:** C or Higher in Algebra II**Comment:** College Credit Available with college pre-requisite requirements met**Course Description:**

AP Statistics is a college-level math course that will equip students for a variety of careers. Students will work individually and in small groups to collect data, perform analyses, and make informed decisions. This course covers four broad themes: exploring data, planning a study, probability/simulations, and statistical inference. The wide array of applications will allow students to build connections with other subjects and with their world outside school. Technology will be utilized for most mathematical computations, and emphasis is placed on data-informed decisions. This course can be taken concurrently with Pre-Calculus or Calculus.

**AP CALCULUS I****Course #** 0212410**Grade:** 11, 12      **Credits:** 1      **Prerequisites:** A or B in Pre-Calculus or Teacher Approval**Comment:** College Credit Available with college pre-requisite requirements met**Course Description:**

AP Calculus AB is an introductory college-level calculus course. Students cultivate their understanding of differential and integral calculus through engaging with real-world problems represented graphically, numerically, analytically, and verbally and using definitions and theorems to build arguments and justify conclusions as they explore concepts like change, limits, and the analysis of functions.

**AP CALCULUS II****Course #** 0212510**Grade:** 11, 12      **Credits:** 1      **Prerequisites:** AP Calculus I and Teacher Approval**Comment:** Course will be offered BYU online or in person depending on enrollment**Course Description:**

This class online BYU online offers AP Calculus II and students must take the AP exam in order to earn college credit. Early College - Math 253 at RCC is typically offered each spring and includes infinite series, conic sections, plane curves, parametric equations, polar coordinates, vectors, and vector-valued functions. Students will earn 4 credits for the RCC Early College Course.