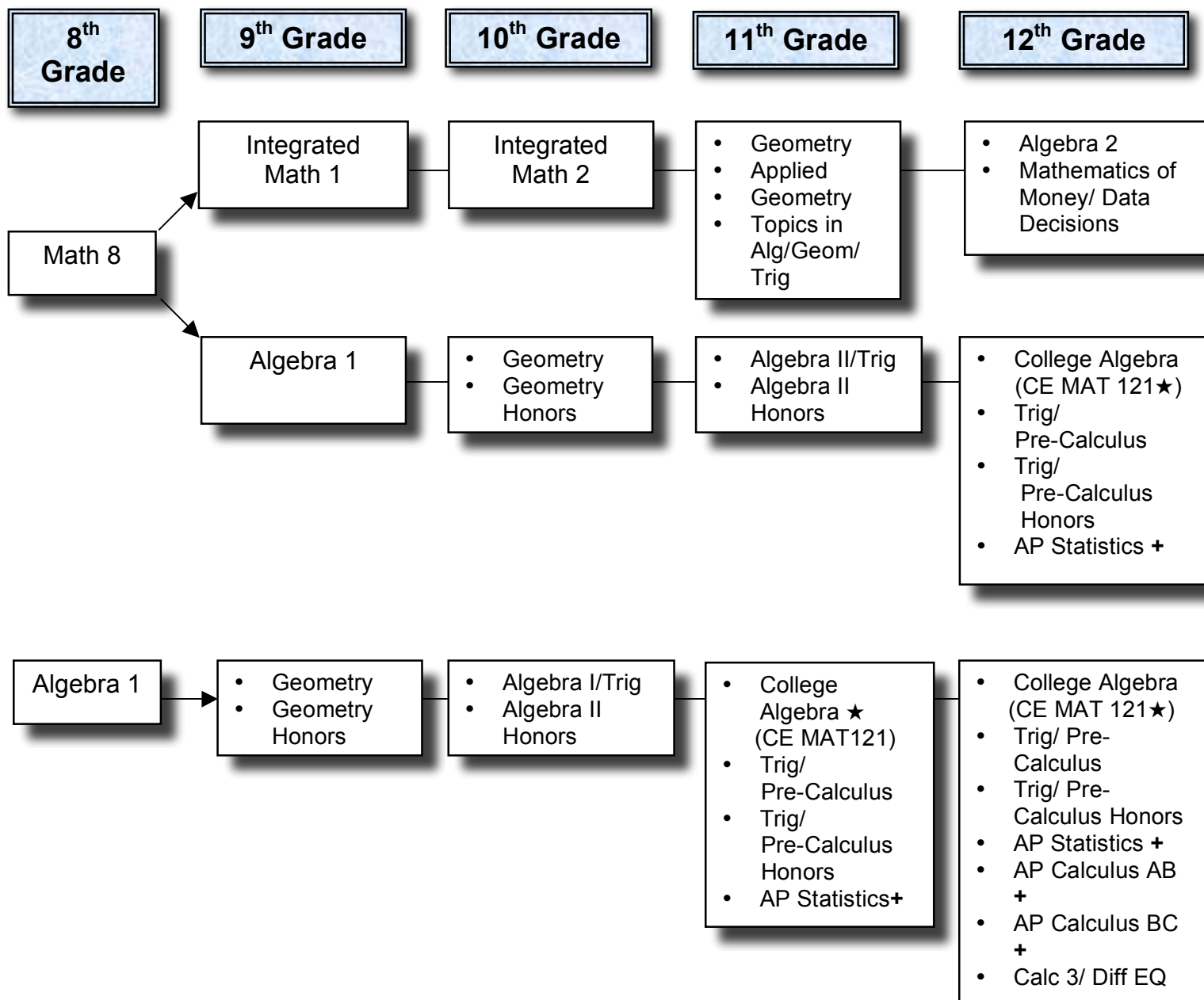


Mathematics Flow Chart



*** A 9th grade student can enroll in a course beyond Geometry. Please follow the recommended course path starting with Algebra II or recommended course.**

**** With teacher approval, students may take Geometry and Algebra 2 simultaneously leading to AP Calculus AB/BC during their senior year.**

****Please see course descriptions and pre-requisites for specific course sequence.**

MATHEMATICS

Department Chair: Roger Miller

Course Offerings

Grade 9	<ul style="list-style-type: none"> • Integrated Math 1 • Integrated Math 2 • Algebra 1 • Algebra II/Trigonometry • Algebra II Honors 	<ul style="list-style-type: none"> • Geometry • Geometry Honors • Trig/Pre-Calculus • Trig/Pre-Calculus Honors
Grade 10	<ul style="list-style-type: none"> • Integrated Math 1 • Integrated Math 2 • Algebra I • Algebra II/Trigonometry • Algebra II Honors • Geometry 	<ul style="list-style-type: none"> • Geometry Honors • Trig/Pre-Calculus • Trig/Pre-Calculus Honors • AP Calculus AB • AP Calculus BC • College Algebra (CE MAT 121)
Grade 11	<ul style="list-style-type: none"> • Algebra I • Algebra II/Trigonometry • Algebra II Honors • Applied Geometry • Topics of Algebra/Geometry/ Trigonometry S2 • College Algebra (CE MAT 121) • Geometry 	<ul style="list-style-type: none"> • Trig/Pre-Calculus • Trig/Pre-Calculus Honors • AP Calculus AB • AP Calculus BC • Calculus III • Differential Equations • AP Statistics • Data and Decisions • Mathematics of Money
Grade 12	<ul style="list-style-type: none"> • Algebra II/Trigonometry • Algebra II Honors • Applied Geometry • Topics of Algebra/Geometry/ Trigonometry S2 • College Algebra (CE MAT 121) • Geometry • Mathematics of Money 	<ul style="list-style-type: none"> • Trig/Pre-Calculus • Trig/Pre-Calculus Honors • AP Calculus AB • AP Calculus BC • Calculus III • Differential Equations • AP Statistics • Data and Decisions

It is highly recommended that students who plan to continue in math purchase a TI83 Plus/TI84 or TI 84/NSpire (recommended). The TI 84 NSpire is a 2 in 1 calculator, which will serve as the last calculator you will buy for high school and beyond.

For further information on these courses see Mathematics course descriptions.

Course Descriptions

60380S1 & 60380S2 Integrated Math 1



Credit: 1.0

Grade: 9, 10

Prerequisite: Teacher recommendation.

Fee: Graphing Calculator TI83 Plus/TI-84 or TI-84 NSpire (recommended).

Integrated Math 1 will require two-year commitment from the student. The course is designed for those who require extra time to become proficient in the Algebra math standards. If you have concerns or needs in the understanding of pre-algebra and number sense, then this is the course for you. This two-year course will review basic math skills from 8th grade, and move at a slower pace than the traditional Algebra I course. After completing Part I, the student will take Integrated Math 2.

This course will cover topics that include properties of algebra, solving and graphing linear equations, writing linear equations and inequalities, and graphing linear inequalities. Method of instruction includes the computer-based program "Pearson Virtual."

60385S1 & 60385S2 Integrated Math 2



Credit: 1.0

Grades: 9,10

Prerequisite: Integrated Math 1/Algebra I Part I; teacher recommendation and signature.

Fee: Graphing Calculator TI83 Plus/TI-84 or TI-84 NSpire (recommended).

Students study the second half of Integrated Math 1/Algebra I Part I, continuing their work with variables, real numbers, first and second degree equations and inequalities, factoring, polynomials, radicals, and graphing. Method of instruction includes the computer-based program "Pearson Virtual."

60340S2 Topics of Algebra/Geometry/Trig.

Credit: 0.5

Grade: 10, 11, 12

Prerequisite: Applied Geometry or teacher recommendation.

Fee: Graphing Calculator TI-84 or TI-84 NSpire (recommended).

This course is an extension of algebra and applied geometry and will include major concepts of trigonometry. Students will study test taking strategies

60400S1 & 60400S2 Algebra I



Credit: 1.0

Grade: 9, 10,11

Prerequisite: Teacher recommendation and signature

Fee: Graphing Calculator TI83 Plus/TI-84 or TI-84 NSpire (recommended).

This course will cover topics that include: manipulation of algebraic equations and inequalities; appropriate order of operations; application of linear models; quadratic and variation models; graphing linear, quadratic, and exponential functions; polynomials, factoring, and radicals; representation of data and utilization of ratios; proportions; percents; measurements; similarity; and probability in the context of real world problems. Integration of some Geometry topics may be introduced. This course is designed for students with average or better basic math skills. If your math skills are below average, then you should take Algebra I Part 1.

60550S1 & 60550S2 Algebra II Honors



Credit: 1.0

Grade: 9, 10, 11, 12

Prerequisite: Successful completion of Algebra I and Geometry; teacher recommendation & signature.

Fee: Graphing Calculator TI83 Plus/TI-84 or TI-84 NSpire (recommended).

Algebra II/ Trig Honors is an accelerated Algebra II course for students who want a challenging, fast-paced math course and intend to attend college in a math – or – science related major. Students who plan to take Advanced Placement Calculus should take this course. This course will integrate the topics of advanced functions, linear systems, matrix operations, advanced probability and statistics, rational, exponential and logarithmic functions, right triangle trigonometry, periodic functions, quadratic models, conic sections, sequences and series, as well as early trig relations and identities. A pre-test audition for honors-level ability and aptitude may be required.

60525S1 Applied Geometry

Credit: 0.5 (1st Semester)

Grade: 10, 11, 12

Prerequisite: Algebra I or equivalent.

The focus of this course is geometric foundations, measurement, and applications. Students taking this course will use a variety of tools and techniques to communicate the reasoning involved in solving problems.

60590S1 & 60590S2 Algebra II/Trig**Credit:** 1.0**Grade:** 9, 10, 11, 12**Prerequisite:** Successful completion of Algebra I and Geometry; teacher recommendation & signature.**Fee:** Graphing Calculator TI83 Plus/TI-84 or TI-84 NSpire (recommended).

This course will integrate the topics of advanced functions, linear systems, matrix operations, advanced probability and statistics, rational, exponential and logarithmic functions, right triangle trigonometry, periodic functions, quadratic models, conic sections, sequences and series, as well as early trig relations and identities.

60475S1 & 60475S2 Geometry**Credit:** 1.0**Grade:** 9, 10, 11, 12**Prerequisite:** Teacher recommendation and signature.**Fee:** Graphing Calculator TI83 Plus/TI-84 or TI-84 NSpire (recommended).

Geometry includes: inductive and deductive reasoning; properties of triangles, quadrilaterals, circles; triangle congruencies; transformations; area; volume; perimeter, and surface area. Other topics include coordinate geometry; capacity, similarity; relationships between triangles; quadrilaterals; polygons. A study of right triangle trigonometry and relationships will be included. Applications of real-world context with discovery will be used to apply geometric concepts. The course relies on Algebra I review. The course is designed for students with at least average algebra skills. If your skills are below average, you should take Algebra I or Algebra I Part I.

60450S1 & 60450S2 Geometry Honors**Credit:** 1.0**Grade:** 9, 10**Prerequisite:** Successful completion of Alg.I with a grade of A or B. Teacher recommendation & signature is required.**Fee:** Graphing Calculator TI83 Plus/TI-84 or TI-84 NSpire (recommended).

Geometry is an accelerated geometry course for students who want a challenging, fast paced math course. In addition to the topics in Geometry, the honors course will place an emphasis on proof of geometric and algebraic properties and apply real world applications to geometric concepts. An audition test may be required for honors-level ability.

60611S1 & 60611S2 Trig/Pre-Calculus**Credit:** 1.0**Grade:** 9, 10, 11, 12**Prerequisite:** Teacher recommendation & signature.**Fee:** Graphing Calculator TI-84 or TI-84 NSpire (recommended).

Note: Students who have completed Algebra II and Honors Geometry will take Trig/Pre-Calc or College Algebra/Trig. Students who have completed Honors Geometry but not Algebra 2 will take Algebra 2

This course covers the study of trigonometric and circular functions and their applications, analytical geometry, and other advanced analytical topics to prepare for the study of Calculus.

60752S1 & 60752S2 Honors Trig/Pre-Calc**Credit:** 1.0**Grade:** 9, 10, 11, 12**Prerequisite:** Teacher recommendation & signature.**Fees:** Graphing Calculator TI83 Plus/TI-84 or TI-84 NSpire (recommended).

Note: Students who have completed Algebra 2 and Honors Geometry will take Trig/Pre-Calc or College Algebra/Trig. Students who have completed Honors Geometry but not Algebra 2 will take Algebra 2

This course covers the study of trigonometric and circular functions and their applications, analytical geometry, and other advanced analytical topics to prepare for the study of Calculus.

60625S1 & 60625S2 AP Calculus AB**Credit:** 1.0 +**Grade:** 10, 11, 12**Prerequisite:** Honors PreCalculus/ Calculus A and/or teacher recommendation.**Fee:** AP Exam \$86, Graphing Calculator TI83 Plus/TI-84 or TI-84 NSpire (recommended).

Students study the college Board AB level calculus syllabus. Topics covered include limits, differentiation, integration, and problem solving involving calculus concepts. This course is the equivalent of one semester college calculus course and leads to the national AP exam in May.

60650S1 & 60650S2 AP Calculus BC**Credit:** 1.0 +**Grade:** 10, 11, 12**Prerequisite:** Honors PreCalculus/ Calculus A and/or teacher recommendation.**Fee:** AP Exam \$86, Graphing Calculator TI83 Plus/TI-84 or TI-84 NSpire (recommended).

Major topics covered include differentiation, integration, and problem solving involving calculus concepts. This course is the equivalent of two semesters college calculus course and leads to the national AP exam in May.

60660S1 Calculus III



Credit: 0.5 (elective credit)

Grade: 11, 12

Prerequisite: Successful completion of AP Calculus BC.

Fee: It is highly recommended that students purchase a TI-83 (or higher) graphing calculator. TI Inspire is recommended

This semester-long course represents the continuation of the calculus sequence. It is a systematic approach to the understanding of multivariable calculus. Topics include: vectors and vector valued functions, functions of several variables, multiple integrals, and vector analysis.

69030S1 & 69030S2 CE MAT 121 College Algebra



Credit: 1.0 ★

Grade: 11,12

Prerequisite: Algebra II/Trig with a grade of C or higher or teacher recommendation

Fee: Graphing Calculator TI83 Plus/TI-84 or TI-84 NSpire (recommended).

This course is for the college bound student and will cover algebra and trigonometry concepts, functions, graphs and applications.

60801S1 & 60801S2 AP Statistics



Credit: 1.0 +

Grades: 11,12

Prerequisite: Successful completion of Algebra II or higher

Fee: AP Exam \$86 and AP Stat Textbook. Graphing Calculator TI83 Plus/TI-84 or TI-84 NSpire (recommended).

The purpose of this course is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data.; Students are exposed to broad conceptual themes such as:; exploring data, sampling and experimentation, anticipating patterns, and statistical influence.

40450 Math Tutor

Credit: 0.5 (elective credit)

Grade: 10, 11, 12

Prerequisite: Teacher recommendation

This course is for students with an A in Algebra II or above and can provide help in Algebra and Algebra II classes as a peer tutor.

60660S2 Differential Equations



Credit: 0.5

Grade: 11, 12

Prerequisite: Successful completion of Calculus III

Fee: None

This semester-long course further represents the continuation of the calculus sequence. Differential equations are widely used as a tool for modeling diverse phenomena ranging from population growth to elementary particles. Topics include first order equations, linear equations with constant coefficients, higher order equations, Laplace transforms, and systems of equations and applications.

60915 Mathematics of Money (S1)

Credit: 0.5

Grade: 11, 12

Prerequisite: Algebra 1 or equivalent

Fee: Graphing Calculator TI83 Plus/TI-84 or TI-84 NSpire (recommended).

This course is designed as a 12th grade option for students who complete the Applied Geometry/Topics of Algebra sequence. The focus of this course is an algebraic foundation as applied to applications involving money. Students taking this course will use a variety of tools and techniques to communicate the reasoning in solving problems involving personal finances. Expense: A TI-84 calculator or newer will be recommended.

60305 Data and Decisions (S2)



Credit: 0.5

Grade: 11, 12

Prerequisite: Algebra 1 or equivalent

Fee: Graphing Calculator TI83 Plus/TI-84 or TI-84 NSpire (recommended).

This course is designed as a 12th grade option for students who complete the Applied Geometry/Topics of Algebra sequence. The purpose of this course is to explore the meaning of statistics encountered in everyday life. The emphasis will be on understanding and interpreting, rather than computing, through exploration of real - life situations that involve statistical concepts. Expense: A TI-84 calculator or newer will be recommended.