Math

All students must have 1.0 credits in Algebra 1, 1.0 credits in Geometry, and 2.0 credits in math electives (Algebra 2 for college completers) as required for graduation

D18 | Daily Algebra 1 (FY) 0.5 Math & 0.5 Elective/sem

This high school graduation requirement course serves as the gateway for advanced mathematical courses by providing a complete foundation of the topics in function families including linear, quadratic and exponential functions and equations, reasoning and modeling of all three functions including data analysis, modeling and critical analysis and understanding of these functions. Instructional emphasis is placed on connecting the multiple representations of functions and interpreting the representations through applications. Graphing calculator or software is required. Students will actively engage in rigorous mathematical activities to attain mastery of course standards.

D27 | Algebra 1 (FY) 0.5/sem

This high school graduation requirement course serves as the gateway for advanced mathematical courses by providing a complete foundation of the topics in exponential equations, data analysis and modeling, function families including linear and exponential quadratic functions and equations, reasoning and modeling of all three functions including data analysis, modeling and critical analysis and understanding of functions in comparison to linear these functions. Instructional emphasis is placed on connecting the multiple representations of functions and interpret the representations through applications. Graphing calculator is required. Students will actively engage in rigorous mathematical activities to attain mastery of course standards. This course, where offered, is delivered in every other day compressed format.

D28 | Geometry (FY) 0.5/sem

This course serves as the second course in the mathematical sequence. Students will formalize their geometry experiences from elementary and middle school, using more precise definitions and developing careful proofs; represent problem situations with geometric models; classify figures in terms of congruence and similarity; deduce properties of and relationships between figures from given assumptions; and translate geometric figures to an algebraic coordinate representation and algebraic models; apply right triangles and trigonometry. Through the use of dynamic software, students will gain an understanding of the relationships among mathematical figures and become active participants in the inductive and deductive processes of thinking. Students will actively engage in rigorous mathematical activities to attain mastery of course standards. Graphing calculator is required.

D287 | Honors Geometry (FY) 0.5/sem

This course serves as the second course in the advanced mathematical sequence. Students will formalize their geometry experiences from elementary and middle school, using more precise definitions and developing careful proofs; represent problem situations with geometric models; classify figures in terms of congruence and similarity; deduce properties of and relationships between figures from given assumptions; and translate geometric figures to an algebraic coordinate representation and algebraic models; apply right triangles and trigonometry. Through the use of dynamic software, students will gain and understanding of the relationships among mathematical figures and become active participants in the deductive and deductive processes of thinking. Students will actively engage in rigorous

mathematical activities to attain mastery of course standards. Honors students will be introduced to advanced topics. Graphing calculator or software is required.
Prerequisite: *Algebra 1*

D290 | Algebra 2 (FY) 0.5/sem
This course will expand students' knowledge of functions to include polynomial, rational and radical functions. Students will work with expanding features of the functions and draw connections with the experiences of linear, quadratic, and exponential functions. Students will model situations to solve equations, including solving quadratic equations over the set of complex numbers and solving exponential equations using the properties of logarithms. Students will build on their experiences to work with trigonometric ratios and functions. This course also has a focus on data and probability distributions. Graphing calculator or software is required. Students will actively engage in rigorous mathematical activities to attain mastery of course standards.
Prerequisite: *Algebra 1*
Recommended: *Geometry credit or concurrent enrollment in Geometry*

D296 | Seminar: Algebra 2 (FY) 0.5 Elective credit/sem
Students receive intensive assistance in the concepts and skills learned currently in the Algebra 2 course. This course is recommended for students who require additional practice, guidance, and experience beyond those available in the standard Algebra 2 course.
Recommended: *Concurrent enrollment in Algebra 2*

D297 | Honors Algebra 2 (FY) 0.5/sem
This course will expand students' knowledge of functions to include polynomial, rational and radical functions. Students will work with expanding features of the functions and draw connections with the experiences of linear, quadratic, and exponential functions. Students will model situations to solve equations, including solving quadratic equations over the set of complex numbers and solving exponential equations using the properties of logarithms. Students will build on their experiences to work with trigonometric ratios and functions. This course also has a focus on data and probability distributions. Honors students will be introduced to advanced topics. Graphing calculator is required. Students will actively engage in rigorous mathematical activities to attain mastery of course standards.
Prerequisite: *Algebra 1 (C or better)*
Recommended: *Geometry credit or concurrent enrollment in Geometry*

D41 | Foundations of College Algebra - online (FY) 0.5/sem
This course reviews and extends intermediate and advanced algebra topics through rigorous manipulation of mathematical concepts. Concepts include systems of equations, polynomial, rational, exponential and logarithmic functions. This course is designed to prepare students for success in the first credit bearing mathematics course in post-secondary educational settings. Graphing calculator or software is required.
Prerequisites: *Algebra 2*

D517 | Honors Pre-Calculus (FY) 0.5/sem
This course integrates the study of trigonometry, analytic geometry, and advanced algebraic topics into a logical approach to the solution of real-world problems. This course is a prerequisite for Advanced Placement Calculus. Graphing calculator or software required. Honors students will be introduced to advanced topics.
Prerequisite(s): *Algebra 2*

D516 | Seminar: Honors Pre-Calculus [FY] 0.5 elective credit/sem
Students will develop their ability to function as independent learners in the Honors Pre-Calculus course. This course is recommended for students who require additional practice, guidance, and experiences beyond those available in the Honors Pre-Calculus course.
Recommended: *Concurrent enrollment in Honors Pre-Calculus.*

D528 |AP Pre-Calculus (FY) 0.5/sem
This college level course integrates the study of trigonometry, analytic geometry, and advanced algebraic topics into a logical approach to the solution of real-world problems, including advanced topics. Students who successfully complete this course will be prepared for the AP Pre-Calculus test and may be awarded up to one semester of college credit with a successful score. This course is a prerequisite for Advanced Placement Calculus. Graphing calculator required. There will be no seminar for this course.
Prerequisite(s): *Honors Algebra 2*

D81 | Statistical Analysis: Making Inferences from Data 0.5/sem
Students will develop an understanding of statistics through real-world application and hands-on learning via projects, experiments, and technology explorations. This is an experiential course where students will collect, organize and analyze data from experiments and sample surveys to make inferences about a larger population or process.

D82 | Statistical Analysis: Using Probability to Make Decisions 0.5/sem
Probability may be known as the science of uncertainty, but with an understanding of the nature of chance and variation in the real world, students can make sense of seemingly random phenomenon. Through exploration, simulation and play, students will formulate rules and develop models to determine the probability of specific events and outcomes and use their understanding of probability to make decisions and predictions.
Recommended: *Algebra 2*

D01 | Financial Algebra—Daily Living 0.5/sem
Building on their understanding of linear and exponential relationships and systems of equations, students will learn how credit cards and student loans work, how money works. Students will develop a solid foundation of money related topics including budgeting, taxes, credit cards, saving, and investing opportunities.

D02 | Financial Algebra—Life and Business Planning 0.5/sem
Building on function relationships explored in Algebra 2, in this course students will develop a solid understanding about how such topics as student loans, car loans, mortgages, the stock market, investing, operating a business and more are entrenched in mathematics.
Recommended: *Algebra 2*

D588 | AP Calculus AB [FY] 0.5/sem
This college level course is the study of differential and integral calculus based on further development of properties and graphs of relations and functions. Students who successfully complete this course will be prepared for the AP Calculus AB test and may be awarded up to one semester of college credit with a successful score. Graphing calculator required.
Prerequisite(s): Pre-Calculus

D586 | Seminar: AP Calculus AB (FY) 0.5 elective credit/sem
Students will develop their ability to function as independent learners in the AP Calculus AB course. This course is recommended for students who require additional practice, guidance and experiences beyond those available in the standard AP Calculus AB course.
Recommended: *Concurrent enrollment in AP Calculus AB*

D598 | AP Calculus BC – Online [FY] 0.5/sem
This college level course is the study of differentiation and techniques, sequences and series, and vector calculus. Students who successfully complete this course will be prepared to take the AP Calculus BC test and may be awarded up to two semesters of college credit with a successful score. Graphing calculator required.
Prerequisite(s): *AP Calculus AB*

D608 | AP Calculus AB and BC Combined (FY) 1.0/sem
AP Calculus AB is a college level course studying differential and integral calculus based on further development of properties and graphs of relations and functions. Through inquiry-based learning, students will develop mathematical critical thinking and reasoning skills. AP Calculus BC is a college level course studying differentiation and techniques, sequences, and series, and vector calculus. Through inquiry-based learning, students will develop mathematical critical thinking and reasoning skills.
Recommended: *Honors Pre-Calculus (C or better)*

D628 | AP Statistics (FY) 0.5/sem
This college level course is a study of the major concepts and tools for collecting, analyzing, and interpreting data. Students who successfully complete this course will be prepared to take the AP Statistics test and may be awarded at least one semester of college credit with a successful score. Graphing calculator or software required. For STEM students, this course may be offered as a hybrid.
Prerequisite(s): *Successful completion of Algebra 2*

D63 | Calculus 3 – Online (FY) 0.5/sem
Multivariable Calculus presents the main concepts and computational tools of higher dimensional calculus. It is equivalent to a third semester calculus course. The topics include vectors in Euclidean space, vector analysis, analytic geometry of three dimensions, curves in space, partial derivatives, optimization techniques, multiple integrals, vector fields, Green's theorem, Divergence theorem, and Stokes' theorem.
Prerequisite(s): *AP Calculus AB/BC credit. This course is in the hybrid learning format.*

D315 | Linear Algebra – Online [FY] 0.5/sem
This course is the study of finite dimensional vector spaces. Topics include: the solution of systems of linear equations, matrices (inverses, equivalence, rank of symmetric, diagonal, and orthogonal), determinants, introduction to vector spaces, linear independence, linear transformations, change of basis, eigenvalues, and eigenvectors.
Prerequisite(s): *AP Calculus AB/BC credit. This course is in the hybrid learning format.*

D80 | ELD Transitional Math 9-12 0.5/sem
High School ESOL Transitional Math is a math course to build background knowledge and foundational skills in mathematics for students with interrupted or limited formal education. Key mathematic concepts from grades 2 through Algebra including numbers, operations, decimals, fractions, ratios, percentages, number theory, integers, statistics, graphs, tables, and algebraic thinking are embedded

with math language development and discourse instruction. Only English learners scoring below Algebra readiness on the International Math Assessment are to be scheduled for this course. Students may take this course repeatedly during high school, but only the first two instances of passing this course will count toward math graduation requirements.
Note: Can be taken for Transitional Math Elective Credit