MATHEMATICS

Dr. Beverley A. Jones, Director (516) 414-5634

Math Foundations I & II (Bilingual)
Course No. 1759
Grades Offered: 9–10 **Credit: 1.0**
Examination: District-Created Final Exam
Prerequisite: New Entrants Scoring Unsatisfactory on Diagnostic Test.

New entrants scoring unsatisfactory on the diagnostic test will explore and apply concepts, processes, and skills that are essential to successfully completing the high school graduation requirements in mathematics. Through the investigation of meaningful problems individually or in cooperative groups, while using appropriate technology, students will strengthen their foundations of mathematics.

In Math Foundations I (Semester I), students build and reinforce foundational math skills typically found in third through fifth grade for which they have not achieved mastery. They progress through carefully paced, guided instruction and engaging interactive practice. Formative assessments identify areas of weakness and prescribe lessons to improve performance. Summative assessments track progress and skill development.

In semester II, students will move on to Math Foundations II (addressing skills typically found in sixth through eighth grade) to further develop the computational skills and conceptual understanding needed to undertake the high school Algebra 1 course with confidence. Students will sit for the district created final examination at the end of this course. ***It is recommended that students provide their own scientific calculator***

ENL Foundations in Math
Course No. 1743A & 1362B
Grades Offered: 9-10 **Credit 1.0**
Examination: District Created Final Exam
Prerequisite: Grade performance below 65% in Math 8 or on the entrance level math exam.

ENL Algebra Foundations is designed for students who may be new to the country and who need instruction to prepare for Algebra, Mathematics instruction is delivered by a licensed math teacher and a TA. The teacher's role is to help English-Language Learners understand mathematical terminology as they are building their understanding of English at the same time. Students will benefit from additional support in fundamental mathematics and will become familiar with the properties of mathematics; the language of algebra; solving one step and two step equations; adding, subtracting, multiplying and dividing rational numbers; solving inequalities; graphing equations and inequalities; proportion; percent; statistics and graphs; probability; applying algebra to geometry; measurement; introduction to trigonometry; and the study of polynomials. ***It is recommended that students provide their own TI-84 graphing calculator.***

Algebra 1 Honors
Course No. 1406
Grade Offered: 9 **Credit 1.0**
Examination: Algebra I Regents Exam
Prerequisite: Grade performance of 85% or better in Math 8 and teacher recommendation.

Algebra I provides a formal development of the algebraic skills and concepts necessary for students to succeed in advanced courses. It is associated with mathematics content standards within four conceptual categories: Number & Quantity, Algebra, Functions, and Statistics & Probability. The concept of function is emphasized throughout the course. The course guides students in the development of critical thinking skills and algebraic problem solving skills which provide the foundation for real world problem-solving. Modeling and problem solving are at the heart of the curriculum. This course culminates with the NYS Algebra 1 Regents. Passing the Algebra 1 Regents is a NYS requirement for a high school diploma with Advanced Designation. ***It is recommended that students provide their own TI-84 graphing calculator.***

Algebra 1
Course No. 1523
Grade Offered: 9 **Credit: 1.0**
Examination: Algebra I Regents Exam
Prerequisite: Grade performance of 75 - 84 in Math 8 and teacher recommendation.

Algebra I provides a formal development of the algebraic skills and concepts necessary for students to succeed in advanced courses. It is associated with mathematics content standards within four conceptual categories: Number & Quantity, Algebra, Functions, and Statistics & Probability. The concept of function is emphasized throughout the course. The course guides students in the development of critical thinking skills and algebraic problem solving skills which provide the foundation for real world problem-solving. Modeling and problem solving are at the heart of the curriculum. This course culminates with the NYS Algebra 1 Regents. Passing the Algebra 1 Regents is a NYS requirement for a high school diploma with Advanced Designation. ***It is recommended that students provide their own TI-84 graphing calculator.***

Bilingual Algebra 1
Course No. 1482A
Grade Offered: 9 **Credit: 1.0**
Examination: Algebra I Regents Exam
Prerequisite: Grade performance of 75 - 84 in Math 8 and teacher recommendation.

This course is taught in English and Spanish by a licensed math with a Bilingual Extension and is designed for English Language Learners who will benefit from bilingual instruction to support learning. The course will begin primarily in Spanish but will slowly build toward more reliance on English throughout the year. Algebra I provides a formal development of the algebraic skills and concepts necessary for students to succeed in advanced courses. It is associated with mathematics content standards within four conceptual categories: Number & Quantity, Algebra, Functions, and Statistics & Probability. The concept of function is emphasized throughout the course. The course guides students in the development of critical thinking skills and algebraic problem solving skills which provide the foundation for real world problem-solving. Modeling and problem solving are at the heart of the curriculum. This course culminates with the NYS Algebra 1 Regents. Passing the Algebra 1 Regents is a NYS requirement for a high school diploma with Advanced Designation. ***It is recommended that students provide their own TI-84 graphing calculator.***

ENL Algebra 1R
Course No. 1356
Grade Offered: 9 **Credit: 1.0**
Examination: Algebra I Regents Exam
Prerequisite: Grade performance of 75 - 84 in Math 8 and teacher recommendation.

This course follows the same New York State Algebra 1 curriculum as 1523. This course is taught in English ***only*** by a licensed math teacher who is trained in SIOP or co-taught with an ENL teacher. Students will receive support through SIOP instruction which is a method for reaching students who are developing their English proficiency. This course culminates with the NYS Algebra 1 Regents. Passing the Algebra 1 Regents is a NYS requirement for a high school diploma with Advanced Designation. ***It is recommended that students provide their own TI-84 graphing calculator.***

Algebra IE
Course No. 1561
Grade Offered: 9 **Credit: 1.0**
Examination: Algebra I Regents Exam
Prerequisite: Grade of 74% or below in Math 8.

This course follows the same New York State Algebra 1 curriculum as 1523. This course is designed to provide intensive extra support to students who have been identified for strategic intervention. It includes an additional period of instruction on alternate days to support learning in the core algebra class through the development of conceptual algebraic understanding and critical Algebraic skills. The primary goal of this course is to help maximize student success in passing the Algebra I Regents exam, which is a Regents diploma graduation requirement. ***It is recommended that students provide their own TI-84 graphing calculator.***

Bilingual Algebra IE
Course No. 1562
Grade Offered: 9 **Credit: 1.0**
Examination: Algebra I Regents Exam
Prerequisite: Grade performance of 74% or below in Math 8.

This course follows the same New York State Algebra 1 curriculum as 1523. This course is designed to provide intensive extra support to students who have been identified for strategic intervention. It includes an additional period of instruction on alternate days to support learning in the core algebra class through the development of conceptual algebraic understanding and critical Algebraic skills. The primary goal of this course is to help maximize student success in passing the Algebra I Regents exam, which is a Regents diploma graduation requirement. ***It is recommended that students provide their own TI-84 graphing calculator.***

ENL Algebra IE
Course No. 1428
Grade Offered: 9 **Credit: 1.0**
Examination: Algebra I Regents Exam
Prerequisite: Grade performance of 74% or below in Math 8.

This course follows the same New York State Algebra 1 curriculum as 1523. This course is designed to provide intensive extra support to students who have been identified for strategic intervention. It includes an additional period of instruction on alternate days to support learning in the core algebra class through the development of conceptual algebraic understanding and critical Algebraic skills. The primary goal of this course is to help maximize student success in passing the Algebra I Regents exam, which is a Regents diploma graduation requirement. ***It is recommended that students provide their own TI-84 graphing calculator.***

Algebra Regents Seminar
Course No. 1429
Grades Offered: 9-12 **Credit: 0**
Examination: Algebra I Regents Exam
Prerequisite: Grade performance of 65% in the Algebra 1 course.

This course is for students who obtained a minimum course grade of 65%, but failed the Algebra 1 Regents Exam June or August. This course prepares students to retake the Algebra 1 Regents Exam in January. Students ***MUST*** also be enrolled in **Geometry I**. Students will drop this course if they passed Algebra 1 in January and continue in **Geometry I *ONLY.*** Students who failed the January Regents ***MUST*** continue with both courses. Students who obtained a course grade less than 65% ***MUST*** retake the Algebra I course (1523).

Bilingual Algebra Seminar
Course No. 1427
Grades Offered: 9-12 **Credit: 0**
Examination: Algebra I Regents Exam
Prerequisite: Grade performance of 65% in the Algebra 1 course.

This course is for students who obtained a minimum course grade of 65%, but failed the Algebra 1 Regents Exam June or August. This course prepares students to retake the Algebra 1 Regents Exam in January. Students ***MUST*** also be enrolled in **Geometry 1**. Students will drop this course if they passed Algebra 1 in January and continue in **Geometry 1 *ONLY.*** Students who failed the January Regents ***MUST*** continue with both courses. Students who obtained a course grade less than 65% ***MUST*** retake the course (1523).

COLLEGE PREP ALGEBRA
Course No. 1471
Grades Offered: 11-12 **Credit: 1.0**
Examination: District-Created Final Exam
Prerequisite: Students must have passed the Algebra I and/or Geometry Regents Examinations and have a total of 2 Math credits.

This course is designed to prepare students to be successful on the college-level entrance exam (Accuplacer) and avoid the need for remedial mathematics classes in college. Topics include Integers and rational numbers, fundamental operations with integers, fractions and decimals, ratio and proportion, percent, consumer and job related problems; fundamental processes of arithmetic and algebra, factoring, linear and fractional equations, exponents, radicals, quadratic equations and right triangle trigonometry, systems of real numbers and equations, inequalities, functions and their graphs, rational expressions and the study of both irrational and complex numbers. ***It is recommended that students provide their own TI-84 graphing calculator.***

COLLEGE ALGEBRA
Course No. 1350
Grades Offered: 11-12 **Credit: 1.0**
Examination: District-Created Final Exam
Prerequisite: Students must have passed two or more of the following regents examinations: Algebra I, Geometry or Algebra II and have earned a total of 3 Math Credits.

This course will give students experience with rigorous college-level mathematics focusing on algebraic ideas including matrices, determinants, polynomial functions, conic sections, exponential and logarithmic functions, sequences, and series, trigonometry functions and graphs, along with probability and statistics. ***It is recommended that students provide their own TI-84 graphing calculator.***

GEOMETRY I
Course No. 1444
Grades Offered: 10-11 **Credit: 1.0**
Examination: District-Created Final Exam
Prerequisite: Grade performance between 65% and 70% on the Algebra 1 Regents Examination and Teacher Recommendation.

This non-Regents course meets every day for students who obtained a minimum score of 65 - 70% in Algebra I Regents Exam. Students with be provided with opportunities to explore Geometric concepts within the New York State Regents Geometry curriculum. Geometry Module 1: Congruence, Proof, and Constructions, Module 2: Similarity, Proof, and Trigonometry and Module 3 Topic A: Extending to Three Dimensions are the main areas of focus in this course. This knowledge and skills are designed to prepare students for the Geometry Regents examination and meet part of the N.Y.S. graduation requirement. Students will take Geometry Regents after the second year of study (GEOMETRY II). ***It is recommended that students provide their own TI-84 graphing calculator.***

BILINGUAL GEOMETRY I
Course No. 1361
Grades Offered: 10-11 **Credit: 1.0**
Examination: District-Created Final Exam
Prerequisite: Grade performance of 65 – 70% on the Algebra 1 Regents Exam and Teacher Recommendation.

This non-Regents course meets every day for students who obtained a minimum score of 65 - 70% in Algebra I Regents Exam. Students with be provided with opportunities to explore Geometric concepts within the New York State Regents Geometry curriculum. Geometry Module 1: Congruence, Proof, and Constructions, Module 2: Similarity, Proof, and Trigonometry and Module 3 Topic A: Extending to Three Dimensions are the main areas of focus in this course. This knowledge and skills are designed to prepare students for the Geometry Regents examination and meet part of the N.Y.S. graduation requirement. ***It is recommended that students provide their own TI-84 graphing calculator***

ENL GEOMETRY I
Course No. 1358
Grades Offered: 10-11 **Credit: 1.0**
Examination: District-Created Final Exam
Prerequisite: Grade performance of 65 – 70% on the Algebra 1 Regents Examination and Teacher Recommendation.

This non-Regents course meets every day for students who obtained a minimum score of 65 - 70% in Algebra I Regents Exam. Students with be provided with opportunities to explore Geometric concepts within the New York State Regents Geometry curriculum. Geometry Module 1: Congruence, Proof, and Constructions, Module 2: Similarity, Proof, and Trigonometry and Module 3 Topic A: Extending to Three Dimensions are the main areas of focus in this course. This knowledge and skills are designed to prepare students for the Geometry Regents examination and meet part of the N.Y.S. graduation requirement. ***It is recommended that students provide their own TI-84 graphing calculator***

GEOMETRY II
Course No. 1445
Grades Offered: 10-11 **Credit: 1.0**
Examination: Geometry Regents Examination
Prerequisite: Grade performance of 65 – 70% on the Algebra 1 Regents Examination, completion of Geometry I course with a grade performance of 80% or better, and Teacher Recommendation.

This non-Regents course is the second half of a two year course and meets every day for students who obtained a minimum score of 65 - 70% in Algebra I Regents Exam and completed Geometry I course with class grade performance of 80% or better. Students with be provided with opportunities to explore Geometric concepts within the New York State Regents Geometry curriculum. Module 3 Topic B: Extending to Three Dimensions, Module 4: Connecting Algebra and Geometry through Coordinates and Module 5: Circles With and Without Coordinates are the main areas of focus in this course**.** This knowledge and skills are designed to prepare students for the Geometry Regents examination and meet part of the N.Y.S. graduation requirement. ***It is recommended that students provide their own TI-84 graphing calculator.***

BILINGUAL GEOMETRY II
Course No. 1364
Grades Offered: 10-11 **Credit: 1.0**
Examination: Geometry Regents Examination
Prerequisite: Grade performance of 65 – 70% on the Algebra 1 Regents Exam, completion of Geometry I course with a grade performance of 80% or better, and Teacher Recommendation.

This non-Regents course is the second half of a two year course and meets every day for students who obtained a minimum score of 65 - 70% in Algebra I Regents Exam and completed Geometry I course with class grade performance of 80% or better. Students with be provided with opportunities to explore Geometric concepts within the New York State Regents Geometry curriculum. Module 3 Topic B: Extending to Three Dimensions, Module 4: Connecting Algebra and Geometry through Coordinates and Module 5: Circles With and Without Coordinates are the main areas of focus in this course**.** This knowledge and skills are designed to prepare students for the Geometry Regents examination and meet part of the N.Y.S. graduation requirement. ***It is recommended that students provide their own TI-84 graphing calculator.***

ENL GEOMETRY II
Course No. 1363
Grades Offered: 10-11 **Credit: 1.0**
Examination: District-Created Final Exam
Prerequisite: Grade performance of 65 – 70% on the Algebra 1 Regents Exam, completion of Geometry I course with a grade performance of 80% or better, and Teacher Recommendation.

This non-Regents course is the second half of a two year course and meets every day for students who obtained a minimum score of 65 - 70% in Algebra I Regents Exam and completed Geometry I course with class grade performance of 80% or better. Students with be provided with opportunities to explore Geometric concepts within the New York State Regents Geometry curriculum. Module 3 Topic B: Extending to Three Dimensions, Module 4: Connecting Algebra and Geometry through Coordinates and Module 5: Circles With and Without Coordinates are the main areas of focus in this course**.** This knowledge and skills are designed to prepare students for the Geometry Regents examination and meet part of the N.Y.S. graduation requirement. ***It is recommended that students provide their own TI-84 graphing calculator.***

GEOMETRY
Course No. 1472N
Grade Offered: 10 **Credit: 1.0**
Examination: Common Core Regents Exam
Prerequisite: Grade performance of 71-84% on the Algebra 1 Regents Examination and Teacher Recommendation.

This course follows the New York State Geometry curriculum and is the second course of a three-year sequence required for the Regents Diploma with Advanced Designation. Geometry Module 1: Congruence, Proof, and Constructions, Module 2: Similarity, Proof, and Trigonometry and Module 3: Extending to Three Dimensions, Module 4: Connecting Algebra and Geometry through Coordinates and Module 5: Circles With and Without Coordinates are the main areas of focus in this course. Students will take the NYS Geometry Regents Examination at the end of this course. ***It is recommended that students provide their own TI-84 graphing calculator.***

BILINGUAL GEOMETRY
Course No. 1359
Grade Offered: 10 **Credit: 1.0**
Examination: Common Core Regents Exam
Prerequisite: Grade performance of 71-84% on the Algebra 1 Regents Examination and Teacher Recommendation.

This course is designed to support English Language Learners. It follows the New York State Geometry curriculum and is the second course of a three-year sequence required for the Regents Diploma with Advanced Designation. Geometry Module 1: Congruence, Proof, and Constructions, Module 2: Similarity, Proof, and Trigonometry and Module 3: Extending to Three Dimensions, Module 4: Connecting Algebra and Geometry through Coordinates and Module 5: Circles With and Without Coordinates are the main areas of focus in this course. Students will take the NYS Geometry Regents Examination at the end of this course. ***It is recommended that students provide their own TI-84 graphing calculator.***

GEOMETRY HONORS
Course No. 1453
Grades Offered: 9-10 **Credit: 1.0**
Examination: Common Core Regents Exam
Prerequisite: Grade performance of 85% on the Algebra 1 Regents Examination and Teacher Recommendation.

This is a weighted Honors course designed for those students who have performed at a mastery level in the accelerated middle school Algebra Regents program. The course includes enrichment topics that enhance the New York State Geometry curriculum and also serves as the second course of a three year sequence required for the Regents Diploma with Advanced Designation. Geometry Module 1: Congruence, Proof, and Constructions, Module 2: Similarity, Proof, and Trigonometry and Module 3: Extending to Three Dimensions, Module 4: Connecting Algebra and Geometry through Coordinates and Module 5: Circles With and Without Coordinates are the main areas of focus in this course**.** Students will take the NYS Geometry Regents Examination at the end of this course. ***It is recommended that students provide their own TI-84 graphing calculator.***

ALGEBRA II (1.5 PD)
Course No. 1470
Grades Offered: 11-12 **Credit: 1.0**
Examination: Common Core Regents Exam
Prerequisite: Must have passed Algebra 1 and Geometry Regents Examinations with a grade performance of 75-84% and Teacher Recommendation.

This course follows the New York State Algebra II curriculum and is the third course of a three year sequence required for the Regents Diploma with Advanced Designation. The course discusses a review and organization of the postulates of the real-number system, transformations of the plane, exponents, logarithms and trigonometry are all treated as functions of the real numbers. Additional work on logic, probability and statistics is also included. The College Board SAT II Subject Test in Math Level I, may be taken at the completion of this course. This course culminates with the NYS Algebra II Regents Examination. This course includes an extended support period every-other day. ***It is recommended that students provide their own TI-84 graphing calculator***

ALGEBRA II HONORS
Course No. 1469
Grades Offered: 10-11 **Credit: 1.0**
Examination: Common Core Regents Exam
Prerequisite: Must have passed Algebra 1 and Geometry Regents Examinations with a grade performance of 85% and Teacher Recommendation.

This is a rigorous weighted course that designed for those students who have performed at a mastery level in Geometry Honors. This course includes enrichment topics that enhance the New York State Algebra2/Trigonometry curriculum and also serves as the third course of a three year sequence required for the Regents Diploma with Advanced Designation. Topics include complex numbers, relations and functions, coordinate geometry, trigonometric functions, statistics and probability. ***It is recommended that students provide their own TI-84 graphing calculator.***

INTRODUCTION TO STATISTICS
Course No. 1341
Grades Offered: 11-12 **Credit: 1.0**
Examination: District-Created Final Exam
Prerequisite: Must have passed the Algebra I and Geometry Regents Examination *plus* have earned one additional Math credit

This course is designed for students who have an interest in pursuing careers in which probability and statistics are an important element of the work, such as business, industry, advertising, finance; the social sciences of psychology and sociology, human resources, teaching and guidance; agriculture, architecture, and sales. The course will prepare students for Advanced Placement (AP) Statistics the following year. This introductory course focuses on collecting and analyzing real world data, calculating results, drawing conclusions and reporting findings in writing. It is designed to help students strengthen their ability to communicate their thinking while providing support for their statements through the tool of mathematics. An understanding and foundation in algebra is highly recommended. ***It is recommended that students provide their own TI-84 graphing calculator.***

AP STATISTICS
Course No. 1345
Grades Offered: 11-12 **Credit: 1.0**
Examination: AP Exam
Prerequisite: Must have passed the Algebra II Regents Examination and Teacher Recommendation

This is a course in statistics designed for students who are interested in pursuing careers in the social sciences of psychology and sociology, human resources, teaching and guidance; agriculture, architecture, and sales. Topics include exploring and analyzing data, methods of statistical inference, statistical models, binomial and normal distribution, and t-distribution. All students enrolled in this class arc expected to take the College Board AP exam. ***It is recommended that students provide their own TI-84 graphing calculator.***

PRE-CALCULUS
Course No. 1400
Grades Offered: 11-12 **Credit: 1.0**
Examination: District-Created Final Exam
Prerequisite: Must have passed the Algebra 1, Geometry and Algebra II Regents Examinations with a score of 80% and Teacher Recommendation.

This course is designed to prepare students for the study of college level calculus. Topics include real and complex numbers, higher degree equations and inequalities, sequences and series, functions and their graphs, vectors, matrices, conic sections, exponential and logarithmic functions, polar coordinates, areas of sectors and segments, trigonometric applications, statistics, and an introduction to limits and derivatives. ***It is recommended that students provide their own TI-84 graphing calculator.***

PRE-CALCULUS Honors
Course No. 1390
Grades Offered: 11-12 **Credit: 1.0**
Examination: District-Created Final Exam
Prerequisite: Must have passed the Algebra 1, Geometry and Algebra II Regents Examinations; Topics in Pre-Calculus Honors I & II with a minimum grade performance of 85% and Teacher Recommendation.

This is a weighted course designed to prepare students for the study of college-level or AP Calculus. Topics include real and complex numbers, higher degree equations and inequalities, sequences and series, functions and their graphs, vectors, matrices, conic sections, exponential and logarithmic functions, polar coordinates, areas of sectors and segments, trigonometric applications, statistics, and an introduction to limits and derivatives. This is a college-level course that is taught on campus by a Uniondale teacher who has been approved by Molloy College. Students having maintained 85 average or above in Algebra 2/Trigonometry will receive Honors credit with differential weighting. ***It is recommended that students provide their own TI-84 graphing calculator.***

AP CALCULUS AB
Course No. 1300
Grade Offered: 12 **Credit: 1.0**
Examination: AP Exam
Prerequisite: Must have passed Pre-Calculus with a grade performance of 85% and Teacher Recommendation.

This is a college-level course equivalent to the first semester of college calculus. Most colleges grant up to 3 credits for this course with an AP exam score of 3, 4, or 5. Students study topics such as functions, graphs, and limits, derivatives, integrals, and the Fundamental Theorem of Calculus. All students enrolled in this class are expected to take the AP exam in May. ***It is recommended that students provide their own TI-84 graphing calculator.***

REGENTS SEMINAR
Course No. 1430R (Geometry); 1431R (Algebra 2/Trig)
Grades Offered: 10-12 **Credit: 0**
Examination: January/June Regents Exam
Prerequisite: Need to retake Geometry or Algebra 2/Trig Regents Examination

This is a review course designed for students who wish to succeed in passing the Geometry or Trigonometry Regents examinations in effort to obtain an a Regents Diploma with Distinction. It meets every day and focuses on reviewing for the Regents to prepare students to retake the exam in January and/or June. ***It is recommended that students provide their own TI-84 graphing calculator.***

COMPUTER SCIENCE

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INTRODUCTION TO COMPUTER SCIENCE
Course No. 1404
Grades Offered: 9-12 **Credit: 0.5**
Examination: District-Created Final Exam
Prerequisite: Successful completion of Math 8 or Departmental Recommendation

This course meets every day for the school year and is designed to focus on computer programming as a method of problem solving. Students will learn how to write programs to solve a variety of problems using the visual basic programming language. A large emphasis is placed on analysis of problems and the development of effective algorithms and flowcharts. In addition, the course introduces programming concepts such as operators, decision statements, loops, functions, arrays and sub-procedures. Assignments will include simulations, games, and applications. Students are not required to have a background in computer programming.

Computer Science JAVA
Course No: 1405
Grades Offered: 9-12 **Credit: 0.5**
Examination: District-Created Final Exam
Prerequisite: Successful completion of Computer Science or Departmental Recommendation

This course is designed to teach computer programming logic and reasoning skills using a robotics engineering context. It contains a sequence of projects and challenges organized around key robotics and programming concepts. You will learn how to program a robot to perform different tasks by utilizing "drag and drop" programming software, while not spending much time building the robot itself. Successful completion of this course will prepare the students for future Computer Programming courses.

COMPUTER SCIENCE: CODING FOUNDATIONS
Course No. 1407
Grades Offered: 9-12 **Credit: 1.0**
Examination: District-Created Final Exam
Prerequisite: Successful completion of Math 8 or Departmental Recommendation

This course meets every-other day for the school year (as of the 2018-2019 school year; it could be switched to fall/spring semester-based) and is designed to focus on computer programming. Students will learn how to write programs using SCRATCH, which is a block-based programming language. A large emphasis is placed on the development of effective algorithms. In addition, the course introduces programming concepts such as operators, decision statements, loops, functions, and sub-procedures. Assignments will include a mixture of creating and analyzing simulations, games, and applications. Students are not required to have a background in computer programming. Towards the second half of the year, students will move to learning how to program in Python in a more text-based environment.

Computer Science: Programming I –Gaming
Course No: 1411
Grades Offered: 10-12 **Credit: 0.5**
Examination: District Created Final Exam
Prerequisite: Successful completion of Computer Science- JAVA or Departmental Recommendation.

This course emphasizes gaming applications. Exploration of different coding techniques to produce "games" will be discovered in this course.

Computer Science: Programming II- Applications
Course No: 1412
Grades Offered: 10-12 **Credit: 0.5**
Examination: District Created Final Exam
Prerequisite: Successful completion of Computer Science-JAVA or Departmental Recommendation.

This course is an extension of Computer Programming I with emphasis on creating applications. Exploration of programming for android devices will be discovered in this course.

AP Computer Science Principles
Course No: 1310
Grades Offered: 11-12 **Credit: 1.0**
Examination: AP Exam
Prerequisite: Successful completion of Computer Programming I and II.

The content of Computer Science Principles is a subset of Computer Science AB. In brief Computer Science A consists of a study of:

1) Program specification design, coding, documentation, and those aspects of program correctness that do not include proofs of correctness.

2) Procedures and functions, parameter passing and recursion.

3) Features of highly structured programming languages (Java).

4) Files, arrays, records, and other data structures, but not pointers.

5) Searching and sorting without consideration of efficiency.

6) Basic elements of computer systems.

7) Applications.

Students will be qualified and expected to take the Advanced Placement Computer Science Principles Exam.