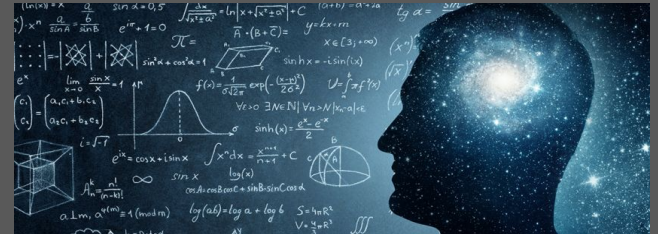
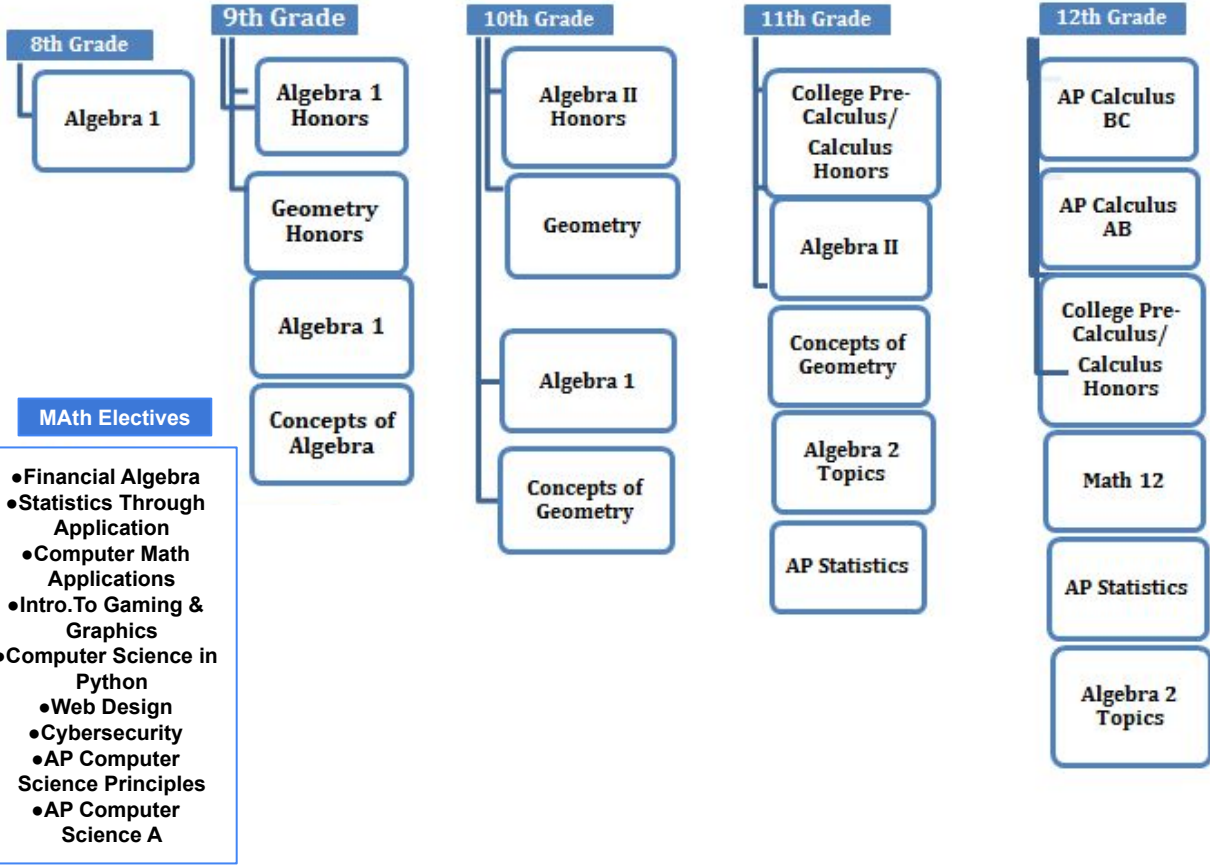




MATHEMATICS & COMPUTER SCIENCE

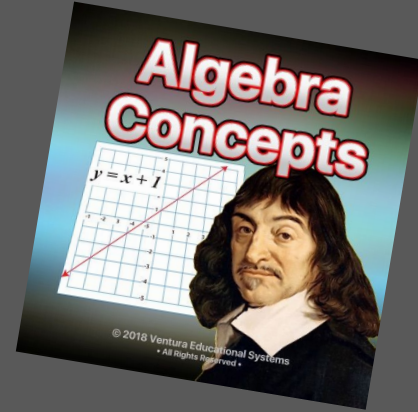
One of the greatest predictors of success in college is an achievement in high school mathematics. It is the goal of the Mathematics Department of the Glen Cove City School District to offer a wide variety of courses, ensuring that all students experience success. Included in these offerings are computer science classes, which count for math credit. Glen Cove High School is among the technology leaders of Long Island schools. All of our programs follow New York State guidelines and prepare students to meet the requirements of the state standards, as well as for future study.







321 CONCEPTS OF ALGEBRA

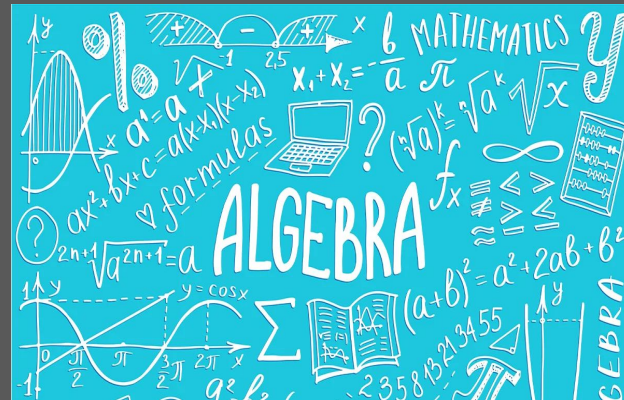


This is an introductory course in high school algebra that will go over the necessary foundational standards for students needing additional support before taking the Algebra 1 Regents course. Students enrolled in Concepts of Algebra will take a midterm and a final exam, but will not take the Algebra 1 Regents exam until the following school year. Topics include proportions, percents, polynomials and solving linear equations. Students will also be introduced to the TI-84+ graphing calculator.

1 Credit



323E ALGEBRA 1



This course covers the same curriculum as the Algebra 1 course, except it is designed for students with limited English proficiency and for whom English is not their first language. In June, students will take the Algebra 1 Regents exam. Passing this exam is a requirement for high school graduation. Emphasis will be placed on the development and usage of appropriate mathematical vocabulary and on communicating mathematical ideas that relate to real-life situations. A TI-84+ graphing calculator will be used throughout the course.

1 Math Credit.



385 ALGEBRA 1



This is the first course of the three-year New York State Mathematics curriculum. It addresses the entire Algebra 1 curriculum over the course of one year, ending with a Regents examination in June. Passing the Algebra Regents exam is a requirement for high school graduation. Throughout this course, students will develop the ability to reason mathematically by exploring topics such as linear and quadratic equations, modeling with functions, transformations, statistics, and sequences. A TI-84+ graphing calculator will be used throughout this course.

1 Credit.

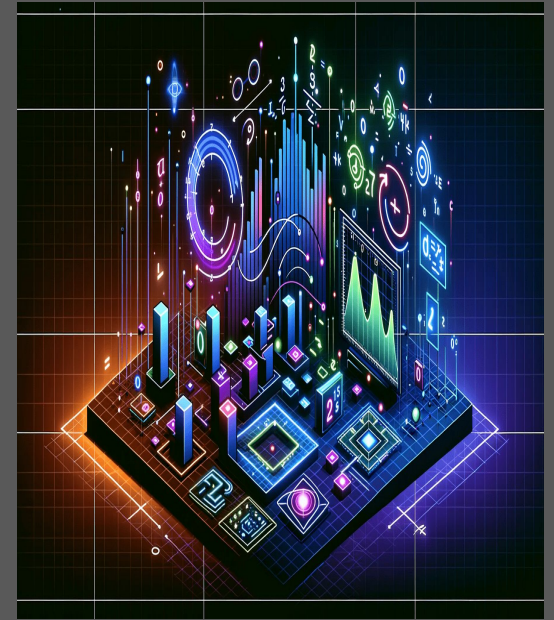
Prerequisite: Math 8 or Concepts of Algebra.



393 ALGEBRA EXPLORATIONS

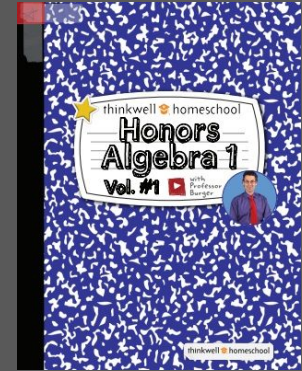
This course meets every other day and will serve as support for the Algebra 1 class. While preparing to take the Algebra 1 Regents Exam, students will explore how mathematical concepts can be applied to real-world settings.

Co-requisite: Algebra 1





385H ALGEBRA I HONORS

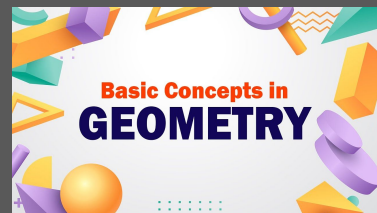


This course covers the Algebra 1 Regents curriculum in greater depth and also enriches the curriculum by including additional topics not covered on the Regents exam. A TI-84+ graphing calculator will be used throughout this course.

1 Credit



331 CONCEPTS OF GEOMETRY



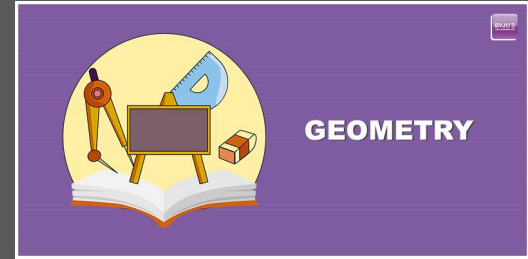
This course is for students wanting to build a stronger mathematical foundation before taking the Geometry course and/or students who need to retake the Algebra 1 Regents exam. During the first half of the year, students will review all the necessary algebraic concepts to prepare them for the January Algebra 1 Regents exam. In the second half of the course, students will be exposed to several of the geometry standards including rigid motions, transformations, constructions, and properties of triangles and quadrilaterals. A TI-84+ graphing calculator will be used throughout this course.

1 Credit

Prerequisite: Passing the Algebra 1 Course.



386 GEOMETRY



This is the second course of the three-year New York State Mathematics curriculum. It addresses the entire geometry curriculum over the course of one year, ending with a Regents examination in June. Students wishing to graduate with a Regents Diploma with Advanced Designation must pass this course, as well as the Geometry Regents exam. Throughout this course, students will utilize a problem-solving approach and explore topics such as geometric proofs, solid geometry, transformational geometry, and coordinate geometry. A TI-84+ graphing calculator will be used throughout this course.

1 Credit

Prerequisite: Algebra I or Concepts of Geometry



394 GEOMETRY EXPLORATIONS

This course meets every other day and will serve as support for the Geometry class. While preparing to take the Geometry Regents Exam, students will explore how mathematical concepts can be applied to real-world settings.

Co-requisite: Geometry.





384 GEOMETRY HONORS



This course covers the Geometry Regents curriculum in greater depth and also enriches the curriculum by including additional topics not covered on the Regents exam. A TI-84+ graphing calculator will be used throughout this course.

1 Credit

Prerequisite: Algebra I or Algebra IH



383 ALGEBRA 2 TOPICS

Algebra 2 Introduction

$y = mx + b$ $y = x^2$

$|3x - 4| \geq 7$ $m = \frac{y_2 - y_1}{x_2 - x_1}$

$2x - 3y = -6$
 $5x + 4y = 31$

$x^2 + 8x + 15$
 $(x + 3)(x + 5)$

$D(-\infty, \infty)$

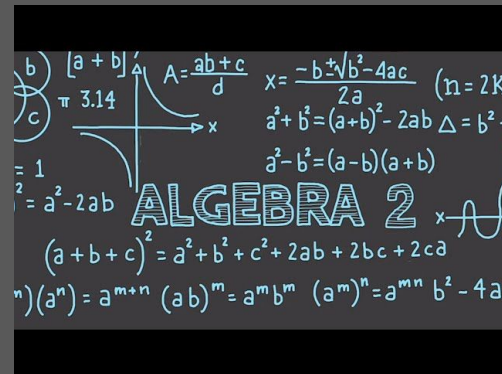
This course is for students wanting to build a stronger mathematical foundation prior to taking the Algebra II course. Students enrolled in this course will take a midterm and a final exam, but will not take the Regents exam until the following school year. Topics include functions, complex numbers, probability, and statistics, as well as sequences and series. A TI-84+ graphing calculator will be used throughout this course.

1 Credit

Prerequisite: Geometry or Concepts of Geometry.



392 ALGEBRA II



This is the third course of the three-year NYS Mathematics curriculum. It addresses the Algebra II curriculum over the course of one year, ending with a Regents examination in June. Students wishing to graduate with a Regents Diploma with Adv. Designation must pass this course, as well as the Algebra II Regents exam. This course expands on the concepts introduced in both the Algebra and Geometry courses while introducing new topics such as the complex number system, conditional probability, statistics, and functions. A TI-84+ graphing calculator will be used throughout this course.

1 Credit

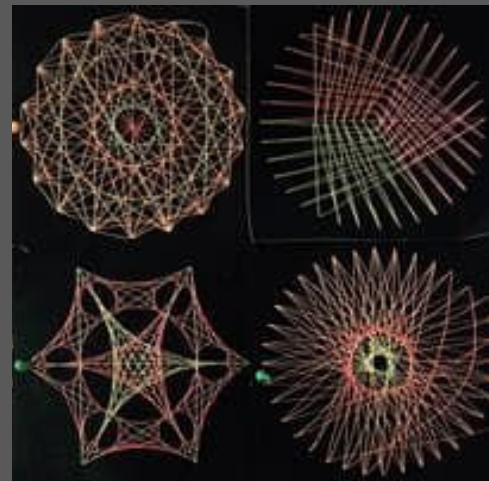
Prerequisite: Geometry or Algebra II Topics.



398 ALGEBRA II EXPLORATIONS

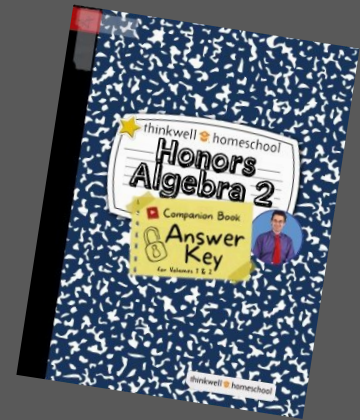
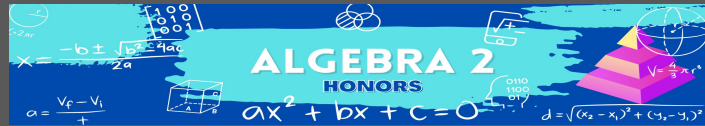
This course meets every other day and will serve as support for Algebra II. While preparing to take the Algebra II Regents Exam, students will explore how mathematical concepts can be applied to real-world settings.

Co-requisite: Algebra II





392H ALGEBRA II HONORS



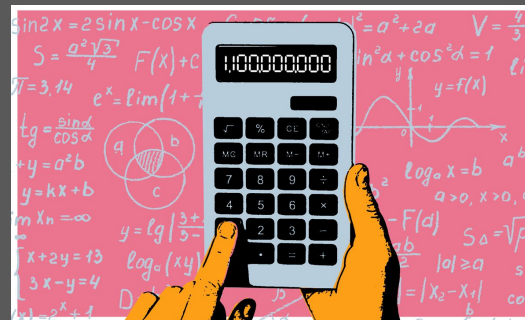
This course covers the Algebra II Regents curriculum in greater depth and also enriches the curriculum by including additional topics not covered on the Regents exam. A TI-84+ graphing calculator will be used throughout this course.

1 Credit

Prerequisite: Geometry or Geometry Honors



351 MATH 12



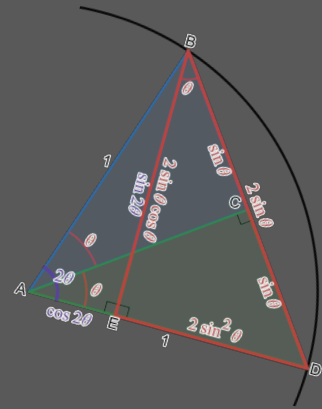
This is a one-year course designed for college-bound students. Topics include advanced algebra, analytic geometry, and matrix algebra with applications. Students will also be exposed to SAT questions throughout this course. A TI-84+ graphing calculator will be used.

1 Credit

Prerequisite: Algebra II



395 COLLEGE PRECALCULUS/ CALCULUS HONORS

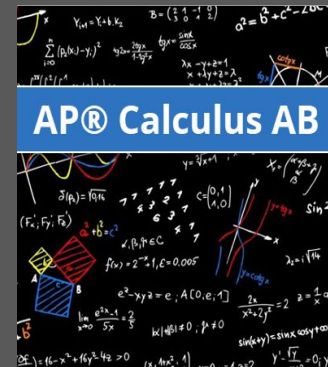


This dual enrollment course is linked to the Long Island University High School Scholars Program. Students have the opportunity to earn up to eight college credits for this course. (Please see the LIU High School Scholars Program description under the Specialty Programs section for further details). The first half of the course is devoted to the study of precalculus where topics will include polynomial, rational, logarithmic, exponential, and trigonometric functions. The second half of the course will be spent on calculus, covering topics such as limits, continuity, differentiability, and applications of the derivative. A TI-84+ graphing calculator will be used.

1 Credit
Prerequisite: Algebra II or Algebra III.



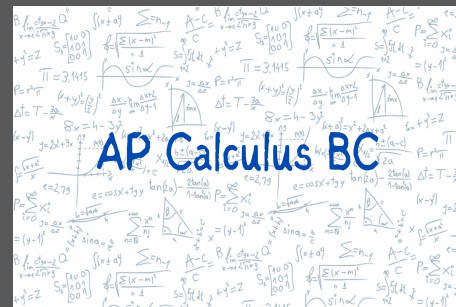
346D ADVANCED PLACEMENT CALCULUS AB



This is a college-level calculus course that prepares students for the Advanced Placement Calculus AB examination administered by the College Board in May of each year. This course includes differential and integral calculus, which are typically addressed in a college Calculus I course. It emphasizes a multi-representational approach to studying calculus, with problems being expressed graphically, analytically, numerically and verbally. A TI-84+ or TI-89 graphing calculator will be used throughout this course. Students will have to meet the criteria for admission to Advanced Placement classes as set forth by the school district. The student must take the Advanced Placement examination in Calculus AB.



347 ADVANCED PLACEMENT CALCULUS BC



This is a college-level calculus course that prepares students for the Advanced Placement Calculus BC examination administered by the College Board in May of each year. This course includes an in-depth study of differential calculus and integral calculus, as well as sequences and series. These topics are typically addressed in college Calculus I and Calculus II courses. A TI-84+ or TI-89 graphing calculator will be used throughout this course. Students will have to meet the criteria for admission to Advanced Placement classes as set forth by the school district. The student must take the Advanced Placement examination in Calculus BC.

1 Credit

Suggested Prerequisite: College PreCalculus/ Calculus Honors



349 ADVANCED PLACEMENT STATISTICS



This is a college-level non-calculus-based statistics course that prepares students for the Advanced Placement Statistics examination given by the College Board in May of each year. This course includes an in-depth study of four major concepts covered by the AP curriculum: data analysis, experimental design, probability, and inferential statistics (hypothesis testing). Students will have to meet the criteria for admission to Advanced Placement classes as set forth by the school district. The student must take the Advanced Placement examination in Statistics.

1 Credit

Prerequisite: Students may take this course after completing Algebra II or at the same time as taking Algebra II



320 FINANCIAL ALGEBRA



After completing this course, students will be prepared to make decisions about their daily financial encounters. They will investigate topics such as auto insurance, income taxes, stock market investments, banking investments, and health and homeowner's insurance. They will accomplish this by using the algebra and geometry learned in their previous high school math classes. A TI-84+ graphing calculator will be used.

1 Credit

Prerequisite: Passing Algebra I



391 STATISTICS THROUGH APPLICATIONS



This is an introductory course in high school statistics that incorporates the use of Microsoft Excel. Students will learn to collect and interpret data as they become proficient in the use of this software to create spreadsheets. Applications to areas such as sports, advertising, political campaigns, and surveys will be included.

.5 Credit

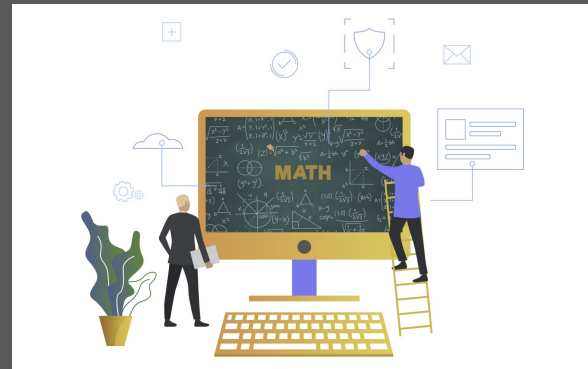
Prerequisite: Passing Algebra I



COMPUTER SCIENCE COURSES



348 COMPUTER MATH APPLICATIONS



This course will expose students to how mathematics is used in the real world. It is taught in a computer lab and students will get to apply their knowledge of topics such as geometry, circles, probability and science to real-life applications. Never again will students ask the question, “When are we ever going to use this in real life?”

.5 Math Credit
Prerequisite: Passing Algebra



379 INTRO TO GAMING AND GRAPHICS



Stop playing and start creating! Glen Cove City School District is revolutionizing the high school computer class by offering students the opportunity to learn how modern games are created. This class will demystify the process and make programming easy! This introductory course in graphic design and game making will give students the basic understanding necessary to break into the gaming world in a big way. This course will apply the concepts of graphic design as seen in Scratch and include an introduction to JavaScript.

1 Math Credit
Suggested Prerequisite: 1 year of high school math



817 COMPUTER SCIENCE IN PYTHON



This course teaches the fundamentals of computer programming and is taught in the Python language. Students will develop an appreciation for how computers store and manipulate information by building simple console-based games.

.5 Math Credit



818 WEB DESIGN



This is a project-based course where students will learn how to build their own web pages using the languages of HTML and CSS. They will create live homepages serving as portfolios of their creations. By the end of the course, each student will have a published website of their own.

.5 Math Credit



816 CYBERSECURITY

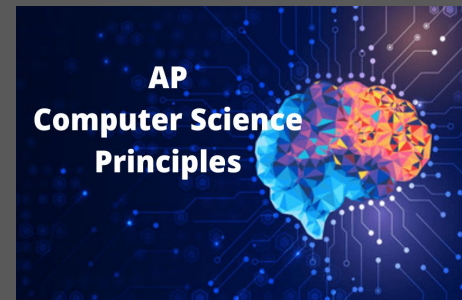


As our world becomes increasingly dependent on technology, cybersecurity is an issue of growing importance. It is crucial that we learn to take precautions from the growing threat of cyber attacks. In this course, students will learn to become responsible citizens in a digital future by studying such topics as cryptography, software security, networking fundamentals, and basic system administration.

1 Math Credit.



815 ADVANCED PLACEMENT COMPUTER SCIENCE PRINCIPLES



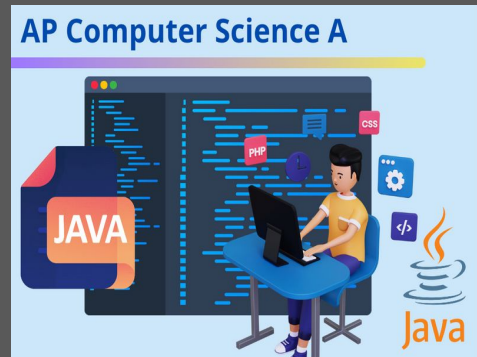
Students will learn to create apps for mobile devices, automate tasks in a variety of languages, find patterns in data, and interpret simulation as they prepare to take the Advanced Placement Exam in Computer Science Principles. The student must take the Advanced Placement Exam in Computer Science Principles.

1 Credit

Prerequisite: Computer Science in Python



814 ADVANCED PLACEMENT COMPUTER SCIENCE A



This course prepare students for the AP Computer Science examination administered by the College Board in May of each year. It is taught at a college level and is appropriate for students who have demonstrated outstanding achievement in computer science classes in the past. The major emphasis will be on using Object Oriented Programming methodology, algorithms and data structures. The programming language used will be Java. Students will be expected to devote a significant amount of independent time working on programming assignments. Evaluation will be based on programming projects, tests and a final project. Students will have to meet the criteria for admission to Advanced Placement classes as set forth by the school district. The student must take the Advanced Placement examination in Computer Science.

1 Math Credit
Prerequisite: AP Computer Science Principles