

Math

Course:	Math 6
Level:	Grade 6
Prerequisite:	None
Text:	Charles, et al., <i>Middle School Math Course 1</i> (Scott-Foresman Addison Wesley)

Course Overview and Description: Students in Math 6 will continue to learn to think critically about their work, to apply mathematical concepts to real life situations, to provide thorough written explanations to problem solving questions, and to write reflectively about their problem solving processes. These skills will help to prepare students for the New York State 6th Grade Math Assessment given in March of their 6th grade year. Some topics in this course were introduced in Math 5. However, these topics are developed more in depth and applied to problem solving questions.

Course Objectives: Students will

- become effective problem solvers by using appropriate tools and strategies through the integrated study of number sense and operations, algebra, geometry, measurement, and ratios and proportions;
- use the language of mathematics to express mathematical ideas precisely through writing;
- create and use representations to organize, report, and communicate mathematical ideas;
- understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
- compute accurately and make reasonable estimates.

Requirements: Quizzes and tests are given during the four quarters. A midterm exam covering the fall semester's work is given during the last week of the fall semester. A final exam covering the spring semester's work is given during the last week of the spring semester. Each student will participate in an interdisciplinary unit in the spring semester where responsibility will be determined at that time.

Writing Requirements: Students are expected to take course notes on a daily basis and are often asked to briefly explain answers on quizzes and tests. Students are expected to write detailed explanations of solutions to problem solving questions.

Evaluation/Grading Policy: Quarter grades are made up of quizzes, tests, class participation, and homework. An interdisciplinary project is incorporated in the fourth quarter grade. The final course grade is an average based on the four quarter grades and the midterm and final exam grades.

Course Outline:

- Whole Numbers and Exponents
- Rational Numbers
- Fractions
- Ratio and Proportion
- Percent
- Statistics (1)
- Measurement
- Polygons and Prisms
- Circles
- Algebra (1)

March NYS Grade 6 Math Assessment

- Algebra (2)
- Statistics (2)
- Probability
- Coordinate Geometry

Course:	Math 7
Level:	Grade 7
Prerequisite:	Math 6
Text:	Charles, et al., <i>Middle School Math Course 2</i> (Scott-Foresman Addison Wesley)

Course Overview and Description: Students in Math 7 will continue to learn to think critically about their work, to apply mathematical concepts to real life situations, to provide thorough written explanations to problem solving questions, and to write reflectively about their problem solving processes. These skills will help to prepare students for the New York State 7th Grade Math Assessment given in March of their 7th grade year. Some topics in this course were introduced in Math 6. However, these topics are developed more in depth and applied to problem solving questions.

Course Objectives: Students will

- become effective problem solvers by using appropriate tools and strategies through the integrated study of number sense and operations, algebra, geometry, measurement, and ratios and proportions;
- use the language of mathematics to express mathematical ideas precisely through writing;
- create and use representations to organize, report, and communicate mathematical ideas;
- understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
- compute accurately and make reasonable estimates.

Requirements: Quizzes and tests are given during the four quarters. A midterm exam covering the fall semester's work is given during the last week of the fall semester. A final exam covering the spring semester's work is given during the last week of the spring semester. Each student will participate in an interdisciplinary unit in the spring semester where responsibility will be determined at that time.

Writing Requirements: Students are expected to take course notes on a daily basis and are often asked to briefly explain answers on quizzes and tests. Students are expected to write detailed explanations of solutions to problem solving questions.

Evaluation/Grading Policy: Quarter grades are made up of quizzes, tests, class participation, and homework. An interdisciplinary project is incorporated in the fourth quarter grade. The final course grade is an average based on the four quarter grades and the midterm and final exam grades.

Course Outline:

- Integers and Exponents
- Prime and Composite Numbers
- Number Systems
- Measurement
- Two-dimensional Geometry
- Three-dimensional Geometry
- Statistics
- Probability
- Algebra (1)

March NYS Grade 7 Math Assessment

- Algebra (2)
- Proportions
- Right Triangles
- Patterns and Functions

Math

Course:	Math 8
Level:	Grade 8 ((Math 8) and Accelerated Grade 7 (Math 7 Accelerated))
Prerequisite:	Math 7 for Math 8 students or Math 7 placement criteria (Math 6 Course Grade, CTP3 Standardized Test, Behavior Rubric, and Placement Test Developed by the Math Department) for Math 7 Accelerated students
Text:	Charles, et al., <i>Middle School Math Course 3</i> (Scott-Foresman Addison Wesley)

Course Overview and Description: Students in Math 8 will continue to learn to think critically about their work, to apply mathematical concepts to real life situations, to provide thorough written explanations to problem solving questions, and to write reflectively about their problem solving processes. These skills will help to prepare students for the New York State 8th Grade Math Assessment given in March of their 8th grade year. Some topics in this course were introduced in Math 6 and/or Math 7. However, these topics are developed more in depth and applied to problem solving situations.

Course Objectives: Students will

- become effective problem solvers by using appropriate tools and strategies through the integrated study of number sense and operations, algebra, geometry, measurement, and ratios and proportions;
- use the language of mathematics to express mathematical ideas precisely through writing;
- create and use representations to organize, report, and communicate mathematical ideas;
- understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
- compute accurately and make reasonable estimates.

Requirements: Quizzes and tests are given during the four quarters. A midterm exam covering the fall semester's work is given during the last week of the fall semester. A final exam covering the entire year's work is given during the last week of the spring semester. Each student will participate in an interdisciplinary unit in the spring semester where responsibility will be determined at that time.

Writing Requirements: Students are expected to take course notes on a daily basis and are often asked to briefly explain answers on quizzes and tests. Students are expected to write detailed explanations of solutions to problem solving questions similar to those that appear on the state exam.

Evaluation/Grading Policy: Quarter grades are made up of quizzes, tests, class participation, homework, and problem solving questions. An interdisciplinary project is incorporated in the fourth quarter grade. The final course grade is an average based on the four quarter grades and the midterm and final exam grades.

Course Outline:

- Variables and Expressions
- Pairs of Angles
- Percents and Proportions
- Applications of Percents
- Transformations
- Polynomials
- Factoring
- Introduction to Functions

March NYS Grade 8 Math Assessment

- Inequalities
- Functions
- Linear Equations
- Constructions

Math

Course:	Math 1
Level:	Grade 9 and Accelerated Grade 8
Prerequisite:	Completion of Math 8 for Grade 9 students or Completion of Math 7 Accelerated for Grade 8 Accelerated students
Text:	Collins, et al., <i>Algebra 1 New York Math A Edition</i> (Glencoe)

Course Description and Overview: This course is the first high school level math course in the program. The Math 1 curriculum is a continuation of the Math 8 curriculum in that students continue to study and master Algebra 1 topics while being introduced to the fundamentals of Geometry and Probability. The Math 1 curriculum incorporates the use of technology and encourages students to become better problem-solvers and critical thinkers. Students who successfully complete this course will be prepared for Math 2. Eighth-grade students will take the New York State 8th Grade Math Assessment in May of their eighth-grade year.

Course Objectives: Students will

- use numeric, geometric, and algebraic techniques in a wide variety of contexts;
- use visualization and spatial reasoning to analyze characteristics and properties of geometric shapes;
- understand and apply concepts of probability;
- recognize, use and represent algebraically patterns, relations, and functions;
- apply logical reasoning and appropriate strategies to problem solving situations.

Requirements: Quizzes and tests are given during the four quarters. A midterm exam covering the fall semester's work is given during the last week of the fall semester. A final exam covering the entire year's work is given during final exam week.

Writing Requirements: Students are expected to take course notes on a daily basis and are often asked to briefly explain answers on quizzes and tests. Eighth-grade students are expected to write detailed explanations of solutions to problem-solving questions similar to those that appear on the state exam.

Evaluation/Grading Policy: Quarter grades are made up of quiz and unit exam grades and class participation and homework ratings. The final course grade is an average based on the four quarter grades and the midterm and final exam grades. Only the final course grade appears on the student's transcript.

Course Outline:

- Introduction to Functions
- Linear Functions
- Linear Equations and Inequalities
- Exponents and Exponential Functions
- Polynomials and Quadratics
- Algebraic Fractions
- Radicals and Analytic Geometry
- Systems of Equations and Inequalities
- Polygons, Circles and Solids
- Probability
- Statistics

Math

Course:	Math 1A
Level:	Grade 9
Prerequisite:	Completion of Math 8 course
Text:	Collins, et al., <i>Algebra 1 New York Math A Edition</i> (Glencoe)

Course Overview and Description: This course is the first high school level math course in the “stretch” program in which students cover Math 1 and Math 2 over 3 years. It is geared towards students who need to move at a slower pace. The Math 1A curriculum is a continuation of the Math 8 curriculum in that students study and master algebra topics while introducing the fundamentals of geometry and probability. The Math 1A curriculum incorporates the use of technology and encourages students to become better problem-solvers and critical thinkers. Students who successfully complete this course will be prepared for Math 2A.

Course Objectives: Students will

- use numeric, geometric, and algebraic techniques in a wide variety of contexts;
- understand and apply concepts of probability;
- recognize, use and represent algebraically patterns, relations, and functions;
- apply logical reasoning and appropriate strategies to problem-solving situations.

Requirements: Quizzes and tests are given during the four quarters. A midterm exam covering the fall semester’s work is given during the last week of the fall semester. A final exam covering the entire year’s work is given during the last week of the spring semester.

Writing Requirements: Students are expected to take course notes on a daily basis and are often asked to briefly explain answers in writing on quizzes and tests.

Evaluation/Grading Policy: Quarter grades are made up of quiz and unit exam grades and class participation and homework ratings. The final course grade is an average based on the four quarter grades and the midterm and final exam grades. Only the final course grade appears on the student’s transcript.

Course Outline:

- Functions
- Linear Functions
- Linear Equations and Inequalities
- Exponents and Exponential Functions
- Polynomials and Quadratics
- Algebraic Fractions
- Radicals and Right Triangle Trigonometry
- Systems

Math

Course:	Math 2
Level:	Grade 10 (Math 2) and Accelerated Freshmen (Math 2/9)
Prerequisite:	Completion of Math 1 or Math 8 Accelerated course
Text:	Boyd, et al., <i>Geometry</i> (Glencoe/McGraw Hill)

Course Overview and Description: This course is the second year of the high school level math sequence in our program. The Math 2 curriculum reinforces those topics covered in Math 1 and features topics in geometry as well as logic, trigonometry, functions and algebra. In addition, considerable time is devoted to preparation for the Math A Regents exam which is given at the end of January. Students who successfully complete this course will be prepared for Math 3.

Course Objectives: Students will

- use numeric, geometric, trigonometric and algebraic techniques in a variety of contexts;
- use visualization and spatial relationships to analyze characteristics and properties of geometric shapes;
- use geometric theorems to prove triangles congruent and similar;
- become familiar with the format and practice types of questions on the Math A Regents exam.

Requirements: Quizzes and exams are given during the four quarters. The Math A Regents Exam is administered at the end of the fall semester. A final exam, which covers topics from the entire Math 2 course, is given during the exam period in June.

Writing Requirements: Students are expected to take course notes on a daily basis and, at times, briefly explain answers on quizzes and exams.

Evaluation/Grading Policy: Quarter grades are made up of quizzes and unit exam grades, class participation and homework. The final course grade is an average based on the four quarter grades, the Math A Regents exam and final exam grades. Only the final course grade and the Math A Regents exam grade appear on the student's transcript.

Course Outline:

- Logic
- Trigonometry
- Polygons, Circles and Locus
- Three-Dimensional Geometry
- Similarity
- Math A Regents Preparation
- Congruence
- Circle Geometry
- Functions and Algebra

Math

Course:	Math 2A
Level:	Grade 10
Prerequisite:	Completion of Math 1A or Math 1 course
Text:	Boyd, et al., <i>Geometry</i> (Glencoe/McGraw Hill)

Course Overview and Description: This course is the second high school level math course in our “stretch” program. The Math 2A curriculum is a continuation of the Math 1A curriculum and features topics in logic, trigonometry, geometry, analytic geometry, and algebra. In addition, considerable time is devoted to preparation for the Math A Regents exam which is given in June. Students who successfully complete this course will be prepared for Math 3A.

Course Objectives: Students will

- apply logical reasoning and analytic geometry to problem solving situations;
- use numeric, geometric, trigonometric and algebraic techniques in a wide variety of contexts;
- use visualization and spatial reasoning to analyze characteristics and properties of geometric shapes;
- become familiar with the format and practice types of questions on the Math A Regents exam.

Requirements: Quizzes and exams are given during the four quarters. A midterm exam covering the fall semester’s work is given during the last week of the fall semester. The Math A Regents exam, which covers topics from Math 1A and Math 2A, is given during the exam period in June.

Writing Requirements: Students are expected to take course notes on a daily basis and, at times, briefly explain answers on quizzes and exams.

Evaluation/Grading Policy: Quarter grades are made up of quiz and unit exam grades and class participation and homework ratings. The final course grade is an average based on the four quarter grades and the midterm and Regents exam grades. Only the final course grade and the Regents exam grade appear on the student's transcript.

Course Outline:

- Logic
- Trigonometry
- Analytic Geometry
- Polygons and Locus
- Three Dimensional Geometry
- Similarity
- Algebra
- Math A Regents Preparation

Math

Course:	Math 3
Level:	Grade 11 (Math 3) and Grade 10 (Math 3/10)
Prerequisite:	Completion of Math 2 or Math 2/9
Text:	Collins, et al., <i>Algebra</i> (Glencoe)

Course Overview and Description: This course is the third course offered in our sequence. Students who successfully complete this course will be ready for Math 4. Several new topics are explored, in addition to topics introduced in previous math courses being expanded. The course is predominantly advanced algebra and trigonometry, the topic of probability is expanded from Math 1, and an introduction to statistics is given.

Course Objectives: Students will

- use numeric, geometric, algebraic, logarithmic, and trigonometric techniques in a variety of contexts;
- solve problems by constructing a mathematical model;
- recognize, use, and represent algebraic, logarithmic, and trigonometric functions and patterns;
- develop and use fundamental probabilistic and statistical techniques and use these to solve problems.

Requirements: Several quizzes and tests are given per quarter. There is a mid-year exam given in January, and an all-inclusive final exam given in June. In addition, homework assignments are routinely given during the school year. These assignments are TI-83 calculator based.

Writing requirements: Students are expected to take notes on the lectures. On several homework assignments, the student is directed to explain the method that is to be used, in complete English sentences. The same type of questions appears on tests.

Evaluation/Grading policy: Quarter grades are made up of quiz grades, test grades, and class participation. Class participation includes completed homework assignments, successful group work (in class), and the willingness of the student to do the required work. The final average is a compilation of the four quarter grades, the mid-year examination grade, and the final examination grade.

Course Outline:

- Functions
- Rational Expressions
- The Complex Number System
- Exponential and Logarithmic Functions
- Trigonometric Functions
- Graphing Trigonometric Functions and Their Inverses
- Trigonometric Applications
- Probability and Statistics
- Conic Sections (for Math 3/10 only)

Math

Course:	Math 3A
Level:	Grade 11
Prerequisite:	Completion of Math 2A or Math 2 course
Text:	Boyd, et al., <i>Geometry</i> (Glencoe/McGraw Hill)

Course Overview and Description: This course is the third high school level math course in our “stretch” program. The Math 3A curriculum is a continuation of the Math 2A curriculum in that we study various functions and uncover many important theorems and postulates of geometry. We begin each day with an SAT question to prepare students for the upcoming PSAT and SAT tests they will encounter this school year. Math 3A relies heavily on the use of the graphing calculator while, at the same time, encourages students to become better problem solvers and critical thinkers. Students who successfully complete this course will be prepared for Math 4A.

Course Objectives: Students will

- use numeric, geometric, and algebraic techniques in a wide variety of contexts
- solve problems by constructing a mathematical model
- identify and justify geometric relationships, formally and informally
- recognize, use and represent algebraically patterns, relations, and functions
- apply logical reasoning and appropriate strategies to problem solving situations

Requirements: Quizzes and tests are given during the four quarters. A midterm exam covering the fall semester’s work is given during the last week of the fall semester. A final exam covering the spring semester’s work is given during final exam week.

Writing Requirements: Students are expected to take course notes on a daily basis and are often asked to briefly explain answers on quizzes and tests.

Evaluation/Grading Policy: Quarter grades are made up of quiz and unit exam grades and class participation and homework ratings. The final course grade is an average based on the four quarter grades and the midterm and final exam grades. Only the final course grade appears on the student’s transcript.

Course Outline:

- Functions
- Algebra: Equations and Inequalities
- Algebra: Rational Expressions
- Exponents and Exponential Functions
- Circle Geometry
- Similarity
- Congruence
- Logic

Math

Course:	Math 4
Level:	Grade 12 (Math 4/12) and Accelerated Grade 11 (Math 4/11)
Prerequisite:	Completion of Math 3 course
Text:	Gordon, et al., <i>Advanced Mathematical Concepts</i> (McGraw Hill)

Course Description and Overview: This course is the final high school level math course in our program. Several topics in this course were introduced and developed in Math 1, Math 2, and/or Math 3. However, these topics are taken to the next level. Also, several new topics are introduced. The course ends with an introduction to calculus. Students who successfully complete this course will be prepared for a Blind Brook or college calculus course.

Course Objectives: Students will

- use numeric, geometric, and algebraic techniques in a wide variety of contexts;
- solve problems by constructing a mathematical model;
- recognize, use and represent algebraically functions and patterns;
- develop fundamental calculus concepts and use them to solve problems.

Requirements: Quizzes and exams are given during the four quarters. A midterm exam covering the fall semester's work is given during the last week of the fall semester. A final exam covering the spring semester's work is given in June or May for anyone doing Senior Options. A research project – The Lives of Mathematicians – is assigned in the spring semester. Each student will do research on a mathematician, write a 2-page paper and give a 3-5 minute oral presentation in class.

Writing Requirements: The bulk of the writing comes during the research project. However, students are expected to take course notes on a daily basis and, at times, briefly explain answers on quizzes and exams.

Evaluation/Grading Policy: Quarter grades are made up of quiz and unit exam grades and class participation and homework ratings. Approximately six quizzes and two exams are given each quarter. If the student takes every quiz during the quarter, then the lowest quiz grade is dropped each quarter. The project is incorporated in the fourth quarter grade and the grade may not be dropped. The final course grade is an average based on the four quarter grades and the midterm and final exam grades. Only the final course grade appears on the student's transcript.

Course Outline:

Math 4/11

- Algebraic Functions and Models
- Transcendental Functions and Models
- Parametric Equations, Polar Graphs, Complex Numbers
- Matrices and Graph Theory
- Theory of Equations
- Recursion
- Iteration and Fractals
- Limits and Continuity
- The Derivative

Math 4/12

- Algebraic Functions and Models
- Transcendental Functions and Models
- Parametric Equations, Polar Graphs, Complex Numbers
- Matrices and Graph Theory
- Theory of Equations
- Recursion
- Iteration and Fractals
- Limits and Continuity OR Conics

Math

Course:	Math 4A
Level:	Grade 12
Prerequisite:	Completion of Math 3A course
Text:	Collins, et al., <i>Algebra 2</i> (Glencoe)

Course Overview and Description: This course is the fourth course offered in the “stretch” program. Several new topics are explored, in addition to topics introduced in previous math courses being expanded. The course is predominantly advanced algebra and trigonometry, the topic of probability is expanded from Math 1, and an introduction to statistics is given.

Course Objectives: Students will

- use numeric, geometric, algebraic, logarithmic, and trigonometric techniques in a variety of contexts;
- solve problems by constructing a mathematical model;
- recognize, use, and represent algebraic, logarithmic, and trigonometric functions and patterns;
- develop and use fundamental probabilistic and statistical techniques and use these to solve problems.

Requirements: Quizzes and exams are given during the four quarters. A midterm exam covering the fall semester’s work is given during the last week of the fall semester. A final exam covering the spring semester’s work is given in June. Students that are participating in the Senior Options Program will take the exam in May, before Senior Options begins.

Writing Requirements: Students are expected to take course notes on a daily basis and, at times, briefly explain answers on quizzes and exams.

Evaluation/Grading Policy: Quarter grades are made up of quiz and unit exam grades and class participation. The final course grade is an average based on the four quarter grades and the midterm and final exam grades. Only the final course grade appears on the student’s transcript.

Course Outline:

- Functions
- Complex Numbers
- Exponential and Logarithmic Functions
- Trigonometric Functions
- Graphing Trigonometric Functions and Their Inverses
- Trigonometric Applications
- Probability and Statistics

Math

Course:	Calculus
Level:	Grade 12
Prerequisite:	Completion of Math 4/11 or Math 4/12 course
Text:	Larson and Edwards, <i>Brief Calculus, An Applied Approach</i> (Houghton Mifflin)

Course Description and Overview: This course is a non-advanced placement course in differential calculus. The course reinforces the concepts covered in Math 4 and features topics in limits and continuity, derivatives, applications of derivatives, derivatives of exponential, logarithmic and trigonometric functions. If time permits, an introduction to integration and antiderivatives is presented.

Course Objectives: Students will

- master the manipulative skills of differentiation to reinforce their understanding of these concepts;
- apply the concepts of differential calculus to problem solving situations;
- use graphing calculators and computers as tools for understanding concepts and problem solving;
- explore the definition of the integral and applications of integral calculus (if time permits).

Requirements: Quizzes and exams are given during the four quarters. A midterm exam covering the fall semester's work is given during the last week of the fall semester. A final exam covering the spring semester's work is given in May prior to Senior Options.

Writing Requirements: Students are expected to complete a calculator lab which requires written explanations of observed outcomes. Students are expected to take course notes on a daily basis and, at times, briefly explain answers on exams. In May, those students who are not involved in Senior Options do a research project on Mathematics and the Arts, write a complete bibliography and give a 5 minute oral presentation in class.

Evaluation/Grading Policy: Quarter grades are made up of quiz and exam grades, lab assignments, research project grade (if applicable) and class participation. The final course grade is an average based upon the four quarter grades, the midterm exam and final exam.

Course Outline:

- Pre-calculus Review
- Limits and Continuity
- Differentiation
- Derivatives and Rates of Change
- Applications of Derivatives
- Exponential and Logarithmic Functions
- Trigonometric Functions
- Integration and Antiderivatives
- The Definite Integral

Math

Course:	Advanced Placement Calculus AB/BC
Level:	Grade 12
Prerequisite:	Completion of Math 4/11 course
Text:	Finney, Demana, Waits & Kennedy, <i>Calculus – Graphical, Numerical, Algebraic</i> (Pearson)

Course Description and Overview: This course is a college level course in differential and integral calculus with appropriate expectations. The AP Calculus AB/BC curriculum builds on the skills developed in Math 4 and features the topics: limits, derivatives and their applications, integrals and their applications, differential equations and mathematical modeling. The AP Calculus BC curriculum includes the following additional topics: infinite series and the application of calculus to parametric, vector and polar functions. Students who successfully complete this course will be prepared for the AP Calculus AB or BC exam. A grade of three or higher on these exams may provide a one semester exemption of college calculus for the AP Calculus AB exam and a two semester exemption for the AP Calculus BC exam. The AP Calculus BC exam contains an AP Calculus AB sub-score, which grades the student only on the AP Calculus AB topics, thereby allowing the student the opportunity to receive an AP grade for AP Calculus AB.

Course Objectives: Students will

- master the manipulative skills of differentiation and integration to reinforce their understanding of these concepts;
- apply the concepts of differential and integral calculus to problem solving situations;
- use graphing calculators and computers as tools for understanding concepts and problem solving;
- become familiar with the format and practice types of questions on the AP Calculus AB or BC exam.

Requirements: Exams are given at the end of each unit, with no quizzes in-between. A midterm exam covering the fall semester's work is given during the last week of the fall semester. The Advanced Placement exam is given during the month of May. A final exam, which covers topics from the second semester, is given in May near the time of the AP Calculus exam.

Writing Requirements: Students are expected to complete a calculator lab which requires written explanations of observed outcomes. In preparation for the Advanced Placement exam, students are evaluated by a portfolio assessment which contains all of their completed review work for the Advanced Placement exam. Students are expected to take course notes on a daily basis and, at times, briefly explain answers on exams. After the completion of the Advanced Placement exam, those students who are not involved in Senior Options do a research project on Mathematics and the Arts, write a complete bibliography and give a 5 minute oral presentation in class.

Evaluation/Grading Policy: Quarter grades are made up of exam grades, lab assignments and class participation. Students have the option of taking one re-test during the year on any test other than the midterm exam or final exam. The grade on the re-test is averaged with the original grade. This does not apply to make-up tests for excused absences. The final course grade is an average based upon the four quarter grades, the midterm exam and final exam grades.

Course Outline:

- Limits and Continuity
- Derivatives
- Applications of Derivatives
- The Definite Integral
- Differential Equations and Mathematical Modeling
- Applications of Definite Integrals
- Parametric, Vector and Polar Functions (BC only)
- L'Hopital's Rule, Improper Integrals & Partial Fractions (BC only)
- Infinite Series (BC only)

Math

Course:	Advanced Placement Statistics
Level:	Grade 12 and Accelerated Grade 11
Prerequisite:	Completion of Math 3 course
Text:	Yates, Moore and Starnes, <i>The Practice of Statistics</i> (W.H. Freeman)

Course Description and Overview: The purpose of the AP Statistics course is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data.

Course Objectives: Students will

- explore data: describe patterns and departures from patterns;
- sample and experiment: plan and conduct a study;
- anticipate patterns: explore random phenomena using probability and simulation;
- use statistical inference: estimate population parameters and test hypotheses.

Requirements: Quizzes and exams are given during the four quarters. A midterm exam covering the fall semester's work is given during the last week of the fall semester. All students are required to take the AP Statistics Exam in May. A final exam covering the full year's work is given in May, near the time of the AP Statistics exam.

Writing Requirements: Students are expected to take course notes on a daily basis and, at times, briefly explain answers on quizzes and exams.

Evaluation/Grading Policy: Quarter grades are made up of quiz and unit exam grades and class participation. The final course grade is an average based on the four quarter grades and the midterm and final exam grades. Only the final course grade appears on the student's transcript.

Course Outline:

- Exploring Data
- The Normal Distributions
- Examining Relationships
- More on Two-Variable Data
- Producing Data
- Probability: The Study of Randomness
- Random Variables
- The Binomial and Geometric Distributions
- Sampling Distributions
- Introduction to Inference

- Inference for Distributions
- Inference for Proportions
- Inference for Tables: Chi-Square Procedures
- Inference for Regression
- Analysis of Variance