

# MATHEMATICS

## FOUR-YEAR PLANNING FOR MATH

Math is not restricted to any specific grade level. It is a sequential learning subject where mastery with an A, B, or C grade is required to continue to the next level. Refer to page 11 for information about repeating math courses. Students must complete two (2) years of math to graduate. **College-bound students should consult their college of choice and program of study to determine if more than two years of math is suggested or required, and check the level of math required for admission.**

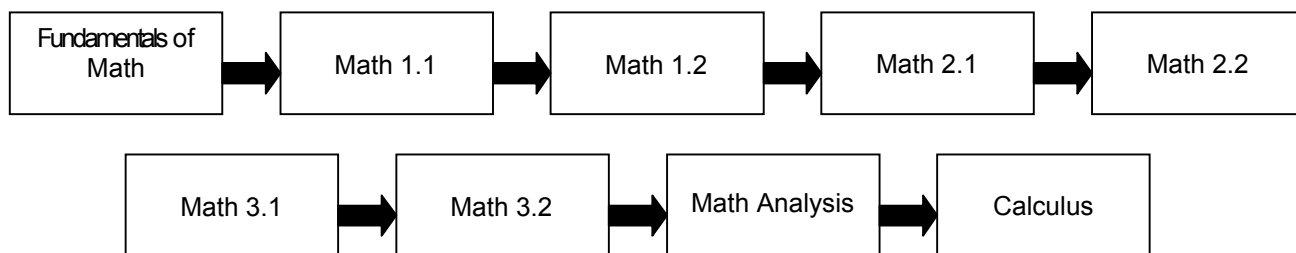
### Graduation Requirements

9<sup>th</sup> Grade      1 year (1.0 credit)  
 10<sup>th</sup> Grade     1 year (1.0 credit)

### College-Bound Recommendations

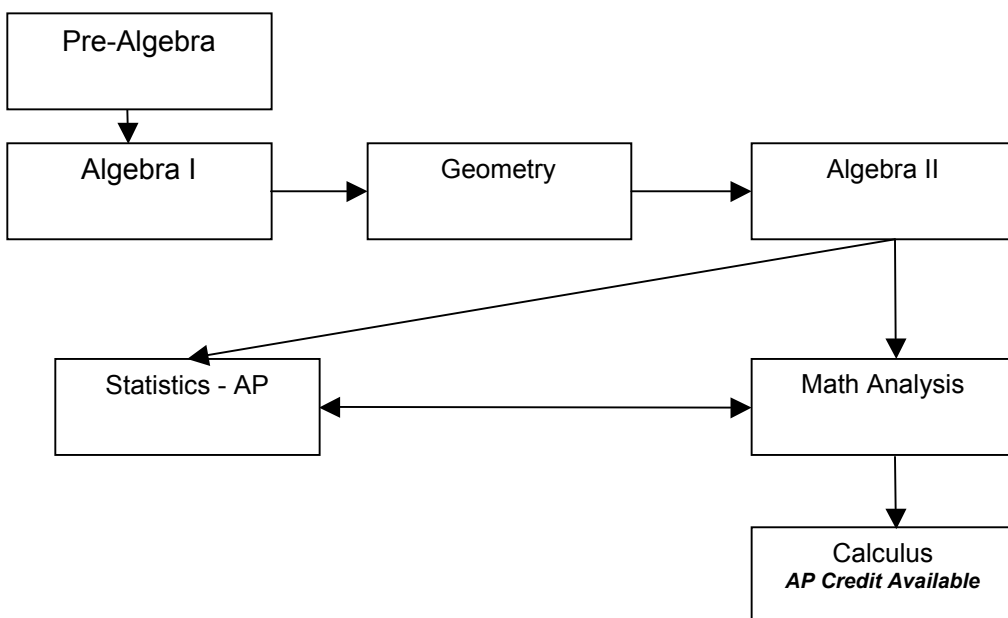
9<sup>th</sup> Grade      1 year (1.0 credit)  
 10<sup>th</sup> Grade     1 year (1.0 credit)  
 11<sup>th</sup> Grade     1 year (1.0 credit)  
 12<sup>th</sup> Grade     Encouraged to take a 4<sup>th</sup>  
                          year of math

### Class of 2009 Pathway Within the Mathematics Program



### Class of 2010 and Beyond Pathway for Classes Within the Mathematics Program

**Mathematics**



**Students applying to some four-year colleges or universities must complete Math 3.2/Algebra II as a minimum requirement. We recommend continuing in AP Statistics, Math Analysis and Calculus if possible.**

## **MATHEMATICS**

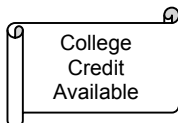
### **ACCOUNTING (O, .5 M or EL)**

**Grade Level: 10, 11, 12**

*Prerequisite:* None. May be used as final semester math requirement with counselor recommendation.

*Length:* Year long (1.0 credit)

*Description:* This class provides an overview of the accounting cycle. First semester addresses a service business while the second semester addresses a merchandising business. Students first work through the accounting cycle manually then using accounting software. Simulations are used to enable students to combine all basic accounting practices for a business. This course is highly recommended for students considering operating their own business or considering a career in accounting, business administration or marketing. **Students completing Accounting I and II with a grade of "B" or better may earn five (5) college credits available from EvCC.**



### **PRE-ALGEBRA (M, EL)**

**GRADE LEVEL: 9, 10, 11, 12**

*Prerequisite:* Teacher recommendation only

*Length:* Year long (1.0 credit)

*Description:* This course uses the Cognitive Tutor computer program and the accompanying Bridges to Algebra textbook to develop basic skills and prepare students for the rigors of algebra. Topics include: operations with integers and rational numbers, order of operations, variable expressions, solving linear equations, and graphing.

### **ALGEBRA I (M or EL)**

**Grade Level: 9, 10, 11, 12**

*Prerequisite:* Completion of Pre-algebra or 8<sup>th</sup> grade math

*Length:* Year long (1.0 credit)

*Description:* This course interweaves mathematical topics and contemporary teaching strategies throughout the course. Topics include: introduction to variables and functions, algebraic properties, solving linear equalities and inequalities, and graphing of functions from a rule, table, or graph. Students study linear equations and their graphs, solving systems of equations and inequalities, explore exponential, quadratic and polynomial functions, solve by factoring, and solve problems involving probability and statistics. Algebra is an on-grade-level course for 9<sup>th</sup> graders in Washington

### **ALGEBRA II (M or EL)**

**Grade Level: 9, 10, 11, 12**

*Prerequisite:* Completion of Geometry with a "D" grade or better

*Length:* Year long (1.0 credit)

*Description:* This course includes mathematical topics in first semester, such as linear, quadratic, polynomial, exponential and logarithmic functions and matrices. Students should expect to purchase a graphing calculator to be used regularly while studying polynomial, exponential and logarithmic functions and matrices. In second semester, students study rational, radical, and trigonometric functions, probability and statistics, and sequences and series.

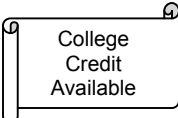
### **BUSINESS MATH (O, M or EL)**

**Grade Level: 10, 11, 12**

*Prerequisite:* None. May be used as the final semester math requirement with counselor recommendation.

*Length:* 1 semester (.5 credit)

*Description:* This course deals with solving math computations that occur in the business environment. Students will use paper, pencil, calculator, and spreadsheets to complete math tasks in the areas of banking, discounting, invoicing, payroll, prorating and interest calculations. Basic math competencies dealing with decimals, fractions, percentages, averages, rounding, and cross footing in a business setting will be stressed. *Students must apply for the math credit during the first two weeks of the course.*



### **GEOMETRY (M or EL)**

**Grade Level: 9, 10, 11, 12**

*Prerequisite:* Completion or concurrent enrollment in Algebra I

*Length:* Year long (1.0 credit)

*Description:* Students study geometry using deductive and inductive reasoning, analyze mathematical rules using algebraic proofs, prove geometric theorems involving parallel and perpendicular lines and congruent angles. Students also explore properties of triangles, proving triangle congruence and similarity, and the Pythagorean Theorem is presented. Students use properties of polygons to classify, find perimeter and area, and to prove theorems regarding special parallelograms. Similarity and congruence of two- and three- dimensional figures, transformational geometry, right triangle geometry and trigonometry are also taught. Geometry is an on-grade-level course for 10<sup>th</sup> graders in Washington.

## MATH ANALYSIS (M or EL)

**Grade Level: 10, 11, 12**

*Prerequisite:* Completion of Math 3.2 or Algebra II with a grade of "C" or better or consent of instructor

*Length:* Year long (1.0 credit)

*Description:* First semester topics include a brief review of functions and their graphs. Polynomial, rational, exponential, and logarithmic functions are studied. The study of trigonometry begins in first semester with the six trigonometric functions and their graphs. In the second semester the study of trigonometry continues with trigonometric identities and equations. Also the Law of Sines and Cosines is studied with applications involving vectors. Additional topics studied include analytical geometry, multivariable linear systems, and matrix algebra.

## CALCULUS (M or EL)

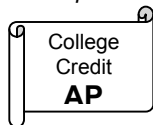
**Grade Level: 11, 12**

*Prerequisite:* Passing grade in Math Analysis

**Advanced Placement Option Available**

*Length:* Year long (1.0 credit)

*Description:* This course will prepare students for the Calculus AB Advanced Placement examination administered each spring. Students in this course are strongly encouraged to take the AP exam. Calculus AB is equivalent to a college level course. Topics include: Precalculus review, limits and continuity, derivatives, applications of derivatives, definite integrals, differential equations, and application of definite integrals. **Based on AP examination scores, students may earn advanced course placement and/or college credit at most colleges and universities.**



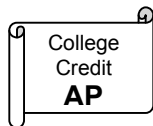
## STATISTICS - AP (M or EL)

**Grade Level: 11, 12**

*Prerequisite:* Passing grade in Math 3.2 or Algebra II

*Length:* Year long (1.0 credit)

*Description:* This course in statistics will introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students are exposed to four broad conceptual themes:



1. Exploring Data: Describing patterns and departures from patterns
2. Sampling and Experimentation: Planning and conducting a study
3. Anticipating Patterns: Exploring random phenomena using probability and simulation
4. Statistical Inference: Estimating population parameters and testing hypotheses