

**2011-2012
Mathematics Courses**

Course Title: M/J Mathematics 1

Course Number: 1205010

Credit: N/A

Grade Level : 6-8

Course Description

In the course M/J Mathematics 1, sixth grade students will develop an understanding of and fluency with multiplication and division of fractions and decimals. They will connect ratio and rates to multiplication and division while writing, interpreting, and using mathematical expressions and equations. These Big Ideas will be supported with applications in geometry, paying special attention to π , circles, and perimeter / area of composite shapes. In addition, students will also investigate the measures of central tendency (mean, median, and mode) and variability (range) for a given set of data.

General Course Information:

	YES	NO	Other
Core Course Requirement	X		
Course Level 1=below grade level, 2= at grade level, 3= above grade level			2
Receives High School Credit		X	
Advance Course		X	

**2011-2012
Mathematics Courses**

Course Title: M/J Mathematics 1, Advanced

Course Number: 1205020

Credit: N/A

Grade Level : 6-8

Course Description:

In the course M/J Mathematics 1 Advanced, sixth grade students will experience Big Ideas from both sixth and seventh grade. They will develop an understanding of and fluency with multiplication and division of fractions and decimals. They will connect ratio and rates to multiplication and division while writing, interpreting, and using mathematical expressions and equations. Students will sharpen their rational number skills, including work with operations on integers. These Big Ideas will be supported with applications in geometry, paying special attention to π , circles, and perimeter / area of composite shapes. Students will also investigate surface area and volume of three-dimensional objects. In addition, students will also experience the measures of central tendency (mean, median, and mode) and variability (range) for a given set of data.

General Course Information:

	YES	NO	Other
Core Course Requirement	X		
Course Level 1=below grade level, 2= at grade level, 3= above grade level			3
Receives High School Credit		X	
Advance Course	X		

**2011-2012
Mathematics Courses**

Course Title: M/J Mathematics 2

Course Number: 1205040

Credit: N/A

Grade Level : 6-8

Course Description:

In the course M/J Mathematics 2, seventh grade students will develop an understanding of and apply proportionality, including similarity to the real world. Geometry and measurement will become key, as the students develop an understanding of and use formulas to determine surface areas and volumes of three-dimensional shapes. They will determine how changes in dimensions affect the perimeter, area, and volume of common geometric figures and apply these relationships to solve problems. In addition, they will compare, contrast, and convert units of measure between different measurement systems (US customary or metric (SI)), dimensions, and derived units to solve problems. As they further their Algebra readiness skills, students will develop an understanding of operations on all rational numbers and they will be able to solve linear equations of many types. The coordinate plane will also take center stage when students plot points and transform geometric figures.

General Course Information:

	YES	NO	Other
Core Course Requirement	X		
Course Level 1=below grade level, 2= at grade level, 3= above grade level			2
Receives High School Credit		X	
Advance Course		X	

2011-2012 Mathematics Courses
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Course Title: M/J Mathematics 2, Advanced

Course Number: 1205050

Credit: 1.00

Grade Level : 6-8

Course Description

In the course M/J Mathematics 2 Advanced, seventh grade students will experience Big Ideas from both seventh and eighth grade in preparation to move directly into the course Algebra 1. Students will develop an understanding of and apply proportionality, including similarity to the real world. They will analyze and represent linear functions and solve linear equations and systems of linear equations. They will be able to perform operations on real numbers (including integer exponents, radicals, percents, scientific notation, absolute value, rational numbers, and irrational numbers) while solving multi-step and real world problems. From the geometry side, students will analyze two- and three-dimensional figures by using distance and angle while also comparing, contrasting, and converting units of measure between different measurement systems (US customary or metric [SI]) and dimensions. Support for these Big Ideas will come in the form of science applications when the students analyze / summarize data sets and when they use exponents and scientific notation to write large and small numbers.

General Course Information:

	YES	NO	Other
Core Course Requirement	X		
Course Level 1=below grade level, 2= at grade level, 3= above grade level			3
Receives High School Credit		X	
Advance Course	X		

**2011-2012
Mathematics Courses**

Course Title: M/J Mathematics 3

Course Number: 1205070

Credit: N/A

Grade Level : 6-8

Course Description:

In the course M/J Mathematics 3, eighth grade students are finalizing their preparation for the course Algebra 1. Students will analyze and represent linear functions and solve linear equations and systems of linear equations. They will be able to perform operations on real numbers (including integer exponents, radicals, percents, scientific notation, absolute value, rational numbers, and irrational numbers) while solving multi-step and real world problems. From the geometry side, students will analyze two- and three-dimensional figures by using distance and angle while also comparing, contrasting, and converting units of measure between different measurement systems (US customary or metric [SI]) and dimensions. Support for these Big Ideas will come in statistics and science when the students analyze / summarize data sets and when they use exponents and scientific notation to write large and small numbers.

General Course Information:

	YES	NO	Other
Core Course Requirement	X		
Course Level 1=below grade level, 2= at grade level, 3= above grade level			2
Receives High School Credit		X	
Advance Course		X	

**2011-2012
Mathematics Courses**

Course Title: M/J Mathematics 3, Advanced

Course Number: 1205080

Credit: N/A

Grade Level : 6-8

Course Description:

In the course M/J Mathematics 3 Advanced, students will experience a bridge between the 8th grade benchmarks and high school benchmarks in preparation for the course Algebra 1. Students will analyze and represent linear functions and solve linear equations and systems of linear equations. They will be able to perform operations on real numbers (including integer exponents, radicals, percents, scientific notation, absolute value, rational numbers, and irrational numbers) while solving multi-step and real world problems. Students will also work in detail with power laws and polynomials. From the geometry body of knowledge, students will discover Pythagorean's theorem, convert measurements, and prove theorems involving properties of triangles.

General Course Information:

	YES	NO	Other
Core Course Requirement	X		
Course Level 1=below grade level, 2= at grade level, 3= above grade level			3
Receives High School Credit		X	
Advance Course	X		

**2011-2012
Mathematics Courses**

Course Title: GEM 6 (Pre-Algebra)

Course Number: 1205020H

Credit: N/A

Grade Level : 6

Course Description:

GEM 6 is a fast paced course designed to cover all of the necessary benchmarks from grades 6-8 which prepare students for the course Algebra 1. Students will master concepts from algebra, geometry, probability and statistics. New topics shall include, but not be limited to, understanding equivalent forms of numbers, performing operations on real numbers (including integer exponents & radicals, percents, scientific notation, absolute value, rational & irrational numbers), identifying and applying properties of real numbers, comparing and simplifying real number expressions, using dimensional (unit) analysis, creating and interpreting a graph representing a real-world situation, solving linear equations in one variable, simplifying monomial expressions, using counting principles to determine size of finite sample spaces and probabilities of events in those spaces, determining probability of independent and dependent events, and applying the definition of random sample and basic types of sampling. Countywide exams will be administered on a quarterly basis.

General Course Information:

	YES	NO	Other
Core Course Requirement	X		
Course Level 1=below grade level, 2= at grade level, 3= above grade level			3
Receives High School Credit		X	
Advance Course	X		

2011-2012 Mathematics Courses

Course Title: Algebra I Honors (A)

**Course Number: 1200320T 7th Grade GEM
1200320M
12003201**

Credit: 1.00

Grade Level: 7-8

Major Concepts/Content

Algebra I Honors is a rigorous course designed to develop the algebraic concepts and processes that can be used to solve a variety of real-world and mathematical problems. The content shall include, but not be limited to, perform set operations, use fundamental concepts of logic including Venn diagrams, describe the concept of a function, use function notation, solve real-world problems involving relations and functions, determine the domain and range of relations and functions, simplify algebraic expressions, solve linear and literal equations, solve and graph simple and compound inequalities, solve linear equations and inequalities in real-world situations, rewrite equations of a line into slope-intercept form and standard form, graph a line given any variation of information, determine the slope, x- and y- intercepts of a line given its graph, its equation or two points on the line, write an equation of a line given any variation of information, determine a line of best fit and recognize the slope as the rate of change, factor polynomial expressions, perform operations with polynomials, simplify and solve algebraic ratios and proportions, simplify and perform operations with radical and rational expressions, simplify complex fractions, solve rational equations including situations involving mixture, distance, work and interest, solve and graph absolute value equations and inequalities, graph systems of linear equations and inequalities in two and three variables and quadratic functions, and use varied solution strategies for quadratic equations and for systems of linear equations and inequalities in two and three variables.

PREREQUISITE: Teacher Recommendation.

SPECIAL NOTE: Earning credit in this course precludes the earning of credit in Algebra I, Algebra IB. This course satisfies the algebra graduation requirement. Students completing this course will be required to take the State of Florida End-of Course Algebra Exam. This course meets an academic unit for some Bright Futures Scholarship Program and NCAA.

General Course Information:

	YES	NO	Other
Graduation Requirement*	X		MA
Bright Futures (BF)			
Florida Academic Scholar (FAS)	X		
Florida Medallion Scholar (FMS)	X		
Florida Gold Seal Vocational (FGSV)	X		
State University System (SUS)	X		
National Collegiate Athletic Association (NCAA)	X		
BCPS "Core" Course	X		
Course Level 1=below grade level, 2= at grade level, 3= above grade level			3
Industry Credential Eligible		X	
Weighted Quality Points			
State Honors (1 quality point)	X		
BCPS Local Honors ONLY (1 quality point)		X	
Pre IB (1 quality point)		X	
Pre AICE (1 quality point)		X	
AP (Advanced Placement) (2 quality points)		X	
IB (International Baccalaureate) (2 quality points)		X	
AICE (Advanced International Certificate of Education) (2 quality points)		X	
Technical Dual Enrollment (2 quality points)		X	

* Must pass the EOC exam to earn credit.

2011-2012 Mathematics Courses

Course Title: Geometry Honors (A)
Course Number: 1206320T GEM 8th Grade
 1206320M
 12063201

Credit: 1.00

Grade Level: 8

Major Concepts/Content

Geometry Honors is a rigorous course designed to develop the geometric relationships and deductive strategies that can be used to solve a variety of real world and mathematics problems. The content will include, but not be limited to, geometric constructions, terminology and fundamental properties of geometry, deductive and inductive reasoning and their application to formal and informal proof, properties and applications of polygons and circles, formulas pertaining to the measurement of plane and solid figures, coordinate geometry involving circles, apply transformations to polygons, use and apply vectors, explore and use sequences, applications of the inequality and Pythagorean Theorems, exploration of geometric relationships such as cross sections of solid objects, parallelism, perpendicularity, congruence, and similarity, and right triangle trigonometry.

PREREQUISITE: Algebra I Honors and Teacher Recommendation.

SPECIAL NOTE: Earning credit in this course precludes earning credit in Geometry. This course satisfies the geometry graduation requirement. Students completing this course will be required to take the State of Florida End-of-Course Geometry Exam. This course meets an academic unit for some Bright Futures Scholarship Program and NCAA.

General Course Information:

	YES	NO	Other
Graduation Requirement*	X		MA
Bright Futures (BF)			
Florida Academic Scholar (FAS)	X		
Florida Medallion Scholar (FMS)	X		
Florida Gold Seal Vocational (FGSV)	X		
State University System (SUS)	X		
National Collegiate Athletic Association (NCAA)	X		
BCPS "Core" Course	X		
Course Level 1=below grade level, 2= at grade level, 3= above grade level			3
Industry Credential Eligible		X	
Weighted Quality Points			
State Honors (1 quality point)	X		
BCPS Local Honors ONLY (1 quality point)		X	
Pre IB (1 quality point)		X	
Pre AICE (1 quality point)		X	
AP (Advanced Placement) (2 quality points) *		X	
IB (International Baccalaureate) (2 quality points)		X	
AICE (Advanced International Certificate of Education) (2 quality points)		X	
Technical Dual Enrollment (2 quality points)		X	

* Must take the Geometry EOC exam.

**2011-2012
Mathematics Courses**

Course Title: M/J Intensive Mathematics

Course Number: 1204000

Credit: N/A

Grade Level : 6, 7, 8

Course Description:

The purpose of 6th, 7th, and 8th grade M/J Intensive Mathematics is to provide on grade level support for the Big Ideas by focusing on prior knowledge benchmarks from earlier grades. There is no state course description for M/J Intensive mathematics, as it is to be individualized for the differing student needs throughout the district and the state.

General Course Information:

	YES	NO	Other
Core Course Requirement		X	Elective
Course Level 1=below grade level, 2= at grade level, 3= above grade level			1
Receives High School Credit		X	
Advance Course		X	