

Elk Grove Charter School

Applied Math Course Requirements and Syllabus 10 Credits

Text

engageny.org

Course Description

This year-long college-preparatory course supports key Mathematics I standards and introduces key Mathematics II standards. Designed for students who seek a better grasp of mathematical concepts before enrolling in Mathematics II. This course makes connections between the Standards for Mathematical Practice and the Content Standards. This course meets the District math graduation requirement and earns UC and CSU elective credit.

Pre-requisite(s): Mathematics I

Adopted curricular materials: Assignments will be printed from engageny.org

About engageny.org

EngageNY was created and is currently maintained by the New York State Education Department (NYSED) to support the implementation of key aspects of the New York State Board of Regents Reform Agenda. Anyone with access to the Internet can visit EngageNY and download free materials from the New York State Education Department, including all available curriculum materials.

Overview

Module	Lessons	Assessments
There are 2 modules in Semester 1 and 3 modules in semester 2. In order to cover the topics in applied math, full and partial modules from EngageNY's Algebra 1 and Geometry were used. All curriculum necessary can be found at engageny.org .	Students will need to complete all lessons included in the syllabus. To print lessons for students, go to engageny.org and select the following: <ul style="list-style-type: none">• Common core• Common core curriculum• Algebra 1 or Geometry• Select desired module<ul style="list-style-type: none">○ Here you will have access to overarching resources for the module• Select assigned topic<ul style="list-style-type: none">○ Here you will find a module overview• Select assigned lesson<ul style="list-style-type: none">○ Here you can print lessons for your students	<p>Lesson Assessments (formative)</p> <ul style="list-style-type: none">• Each lesson has an exit ticket which can be used as a lesson quiz<ul style="list-style-type: none">○ This will not count as a score but will have a check box on the syllabus○ Example responses can be found in the teacher pages <p>Module Assessments</p> <ul style="list-style-type: none">• Students will take an end of module assessment

Assignments

Module	Credits	Lessons	Score	Assessment	
Semester 1					
Module 2: Descriptive Statistics 2.5 Credits (Algebra 1)	0.5	Topic A			
		Lesson 1: Distributions and Their Shapes		<input type="checkbox"/> Exit Ticket	
		Lesson 2: Describing Center of Distribution		<input type="checkbox"/> Exit Ticket	
			Lesson 3: Estimating Center and Interpret Mean		<input type="checkbox"/> Exit Ticket
			Topic C		
	0.5	Lesson 9: Summarizing Bivariate Categorical Data		<input type="checkbox"/> Exit Ticket	
		Lesson 10: Summarize with Relative Frequencies		<input type="checkbox"/> Exit Ticket	
		Lesson 11: Conditional Relative Frequencies and Association		<input type="checkbox"/> Exit Ticket	
			Topic D		
	0.5	Lesson 12-13: Relationships Between Two Numerical Variables		<input type="checkbox"/> Exit Ticket	
				<input type="checkbox"/> Exit Ticket	
		Lesson 14: Modeling Relationships with a Line		<input type="checkbox"/> Exit Ticket	
	1.0	Lesson 15: Interpreting Residuals from a Line		<input type="checkbox"/> Exit Ticket	
		Lesson 16: More on Modeling Relationships with a Line		<input type="checkbox"/> Exit Ticket	
		Lesson 17-18: Analyzing Residuals		<input type="checkbox"/> Exit Ticket	
Lesson 19: Interpreting Correlation			<input type="checkbox"/> Exit Ticket		
Lesson 20: Analyzing Data Collected on Two Variables			<input type="checkbox"/> Exit Ticket		
				<input type="checkbox"/> Exit Ticket	
Assessment				End of Mod Assessment	
Module 3: Linear and Exponential Functions 2.5 Credits (Algebra 1)		Topic A			
	0.5	Lesson 1: Integer Sequences		<input type="checkbox"/> Exit Ticket	
		Lesson 2: Recursive Formulas for Sequences		<input type="checkbox"/> Exit Ticket	
		Lesson 3: Arithmetic and Geometric Sequences		<input type="checkbox"/> Exit Ticket	
		Lesson 4: Why Do Banks Pay YOU to Provide Their Services		<input type="checkbox"/> Exit Ticket	
	0.5	Lesson 5: The Power of Exponential Growth		<input type="checkbox"/> Exit Ticket	
		Lesson 6: Exponential Growth-U.S. Pop. and World Pop.		<input type="checkbox"/> Exit Ticket	
		Lesson 7: Exponential Decay		<input type="checkbox"/> Exit Ticket	
			Topic B		
			Lesson 8: Why Stay with Whole Numbers?		<input type="checkbox"/> Exit Ticket
	0.5	Lesson 9-10: Representing, Naming, and Evaluating Functions		<input type="checkbox"/> Exit Ticket	
				<input type="checkbox"/> Exit Ticket	
		Lesson 11: The Graph of a Function		<input type="checkbox"/> Exit Ticket	
	0.5	Lesson 12: The Graph of the Equation $y = f(x)$		<input type="checkbox"/> Exit Ticket	
		Lesson 13: Interpreting the Graph of a Function		<input type="checkbox"/> Exit Ticket	
Lesson 14: Linear and Exponential Models			<input type="checkbox"/> Exit Ticket		
		Topic C			
		Lesson 16: Graphs Can Solve Equations Too		<input type="checkbox"/> Exit Ticket	
0.5	Lesson 17-20: Four Interesting Transformations of Functions		<input type="checkbox"/> Exit Ticket		
			<input type="checkbox"/> Exit Ticket		
			<input type="checkbox"/> Exit Ticket		
			<input type="checkbox"/> Exit Ticket		
Assessment				Mid Mod Assessment	

Semester 2				
Module 1: Relationships Between Quantities and Reasoning with Equations and Their Graphs 3 Credits (Algebra 1)		Topic A		
	0.5	Lesson 2: Graphs of Quadratic Functions Lesson 3: Graphs of Exponential Functions Lesson 5: Two Graphing Stories		<input type="checkbox"/> Exit Ticket
				<input type="checkbox"/> Exit Ticket
				<input type="checkbox"/> Exit Ticket
		Topic B		
	0.5	Lesson 6: Algebraic Expressions-Distributive Property		<input type="checkbox"/> Exit Ticket
		Lesson 7: Algebraic Expressions-Commutative & Assoc. Lesson 8: Adding and Subtracting Polynomials Lesson 9: Multiplying Polynomials		<input type="checkbox"/> Exit Ticket
				<input type="checkbox"/> Exit Ticket
				<input type="checkbox"/> Exit Ticket
		Topic C		
	0.5	Lesson 10: True and False Equations		<input type="checkbox"/> Exit Ticket
		Lesson 11: Solution Sets for Equations and Inequalities Lesson 12: Solving Equations		<input type="checkbox"/> Exit Ticket
		Lesson 13: Some Potential Dangers when Solving Equations Lesson 14: Solving Inequalities		<input type="checkbox"/> Exit Ticket
				<input type="checkbox"/> Exit Ticket
	0.5	Lesson 15: Solution Sets of Two or More Equations/Ineq. Lesson 16: Solving and Graphing Inequalities Lesson 17: Equations Involving Factored Expressions Lesson 20: Solution Sets to Equations with Two Variables		<input type="checkbox"/> Exit Ticket
				<input type="checkbox"/> Exit Ticket
				<input type="checkbox"/> Exit Ticket
				<input type="checkbox"/> Exit Ticket
	0.5	Lesson 21: Solution Sets to Inequalities with Two Variables Lessons 22-23: Solution Sets to Simultaneous Equations Lesson 24: Applications of Systems of Equations and Ineq.		<input type="checkbox"/> Exit Ticket
				<input type="checkbox"/> Exit Ticket
			<input type="checkbox"/> Exit Ticket	
			<input type="checkbox"/> Exit Ticket	
	Topic D			
0.5	Lesson 25: Solving Problems in Two Ways-Rates and Algebra Lesson 26-27: Recursive Challenge Problem Lesson 28: Federal Income Tax		<input type="checkbox"/> Exit Ticket	
			<input type="checkbox"/> Exit Ticket	
			<input type="checkbox"/> Exit Ticket	
			<input type="checkbox"/> Exit Ticket	
Assessment			End of Mod Assessment	
Module 4: Polynomial and Quadratic Expressions, Equations, and Functions 1 Credit (Algebra 1)		Topic A		
	0.5	Lessons 1-2: Multiplying and Factoring Polynomial Expressions Lessons 3-4: Advanced Factoring Strategies for Quadratic Expressions Lesson 5: The Zero Product Property		<input type="checkbox"/> Exit Ticket
				<input type="checkbox"/> Exit Ticket
				<input type="checkbox"/> Exit Ticket
				<input type="checkbox"/> Exit Ticket
	0.5	Lesson 6: Solving Basic One-Variable Quadratic Equations Lesson 7: Creating and Solving Quadratic Equations in One Variable Lesson 8: Exploring the Symmetry in Graphs of Quadratic Functions Lesson 9: Graphing Quadratic Functions from Factored Form Lesson 10: Interpreting Quadratic Functions from Graphs and Tables		<input type="checkbox"/> Exit Ticket
				<input type="checkbox"/> Exit Ticket
				<input type="checkbox"/> Exit Ticket
				<input type="checkbox"/> Exit Ticket
	Assessment			Mid Module Assessment

Geometry Mod 1: Congruence, Proof, and Constructions 1 Credit (Geometry)	Topic C				
	0.5	Lesson 12: Transformations- The Next Level		<input type="checkbox"/>	Exit Ticket
		Lesson 13: Rotations		<input type="checkbox"/>	Exit Ticket
		Lesson 14: Reflections		<input type="checkbox"/>	Exit Ticket
		Lesson 15: Rotations, Reflections, and Symmetry		<input type="checkbox"/>	Exit Ticket
		Lesson 16: Translations		<input type="checkbox"/>	Exit Ticket
	0.5	Lesson 17: Characterize Points on a Perpendicular Bisector		<input type="checkbox"/>	Exit Ticket
		Lesson 19: Constrict and Apply a Sequence of rigid Motions		<input type="checkbox"/>	Exit Ticket
		Lesson 20: Applications of Congruence in Terms of Rigid Motions		<input type="checkbox"/>	Exit Ticket
		Lesson 21: Correspondence and Transformations		<input type="checkbox"/>	Exit Ticket
Assessment				Mid Mod Assessment	

Assignment Rubric:

	5	4	3	2	1
Completeness	90-100% of ALL assignments completed	At least 80% of ALL assignments completed	At least 60% of ALL assignments completed	At least 40% of ALL assignments completed	At least 20% of ALL assignments completed
Accuracy	90-100% of ALL assignments correct	At least 80% of ALL assignments correct	At least 60% of ALL assignments correct	At least 40% of ALL assignments correct	At least 20% of ALL assignments correct