

Course Syllabus: Integrated Mathematics 4

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COURSE OVERVIEW

The Integrated Mathematics 4 course is designed to advance student abilities as they plan for life after high school. Focus is equal between preparing students who are college bound as well as those looking to immediately apply their skills in the workforce. Practical application is an essential component. This course integrates the topics covered in more traditional algebra and geometry courses with statistics, probability, number sense.

COURSE EXPECTATIONS

Students will move at a moderate pace through topics while ensuring their ability to fully grasp each topic before moving on to the next. Students will be expected to take notes and participate in step-by-step examples with the entire class. They will also be expected to work on individual assignments in class and for homework. In addition to individual assignments students will often work cooperatively on hands-on activities.

GRADING POLICY

Students will have many opportunities to demonstrate their learning. Their grades will be determined based on the following criteria:

Classroom participation - 35% Classwork assignments - 40% Assessments - 25%

RETAKE/MAKE UP/LATE WORK POLICY

It is my expectation that all students will attend all classes, meetings and all assignments will be completed to meet the deadline posted in Google classroom. Assignments will be accepted for full credit within a week of the assigned date. After that, points will be deducted based on how late the assignment is turned in. At a minimum 50% credit will be earned. If a student misses a class or can't make a deadline it will be his or her responsibility to contact me and make arrangements to make up work and discuss deadlines. I can be accommodating but if missed classes and deadlines become habitual we will discuss during our 1-on-1 meeting and grades will be impacted.

Units taught:

Unit One Linear Equations, Inequalities and Systems -Review of Linear Equations -Solving Linear Equations and Inequalities -Absolute Value Equations and Inequalities -Solving Systems of Equations by Graphing -Solving Systems of Equations Algebraically -Solving Systems of Inequalities -Systems of Equations with Three Variables Unit Two **Exponents and Roots** -Multiplication Properties of Exponents -Division Property of Exponents -Negative Exponents -Rational Exponents -Simplifying Radicals -Operations with Radicals -Exponential Equations Unit Three Polynomials -Adding and Subtracting Polynomials -Multiplying Polynomials -Using Distributive Property -Factoring Quadratic Trinomials -Factoring Special Products **Quadratic Functions** Unit Four -Graphing Quadratic Functions -Solving Quadratic Equations by Graphing -Complex Numbers -Solving Quadratic Equations by Factoring -Solving Quadratic Equations by Completing the Square -Quadratic Formula and the Discriminant Unit Five **Polynomial Functions** -Graphs of Polynomial Functions -Operations with Polynomials -Dividing Polynomials -Powers of Binomials Unit Six **Polynomial Equations** -Solving Polynomial Equations by Graphing -Solving Polynomial Equations Algebraically -Roots and Zeros **Exponential Functions** Unit Seven -Graphing Exponential Functions -Solving Exponential Functions

Unit Eight Logarithmic Functions -Logarithmic Functions -Properties of Logarithms -Common Logarithms Unit Nine Personal Finance -Banking -Budgeting -Investing -Credit and Loans -Taxes -Pay and Benefits

Mediating Strategies:

Cooperative LearningMirrored Problem SolvingImaged VocabularyMultiple ModalitiesGraphic OrganizersInteractive Digital CurriculumManipulativesMultiple Modalities

Assessment Strategies:

Guided Practice Exercises Pre and Post Tests Independent Practice Exit Tickets Peer and Teacher Review Applications and Problem Solving Mixed Review

Mixed Review Unit Test/Quizzes