🧪 **Honors Algebra II**

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| **Course** | **Dates** | **Schedule** | **Instru ctor** |
| Honors Algebra II | 10/24/25 –5/29/26 | Friday 5:30 PM – 7:00 PM | Mr. Kouts |

# Course Description

The class is designed to re-enforce students’ understanding of the school curriculum. The classes will include homework, quizzes/tests to prep for the school quizzes/tests. Topics covered are listed below. We’ll be happy to open additional small group classes focusing on your school specific topics upon request.

Unit 1 – Equations and Inequalities

* Real numbers and number operations
* Algebraic expressions and models
* Solving linear equations
* Rewriting linear equations
* Problem solving using algebraic models
* Solving linear inequalities
* Solving absolute value equations and inequalities

Unit 2 – Linear Equations and Functions

* Functions and their graphs
* Slope and rate of change
* Graphs of linear equations
* Writing equations of lines
* Correlation and best-fitting lines
* Linear inequalities in two variables
* Piecewise functions
* Absolute value functions

Unit 3 – Systems of Linear Equations and Inequalities

* Solving linear systems by graphing
* Solving linear systems algebraically
* Graphing and solving systems of linear inequalities
* Linear programming
* Graphing linear equations in three variables
* Solving systems of linear equations in three variables

Unit 4 – Quadratic Functions

* Graphing quadratic functions
* Solving quadratic equations by factoring
* Solving quadratic equations by finding square roots
* Complex numbers
* Completing the square
* The quadratic formula and the discriminant
* Graphing and solving quadratic inequalities
* Modeling with quadratic functions

Unit 5 – Polynomials and Polynomial Functions

* Using Properties of exponents
* Evaluation and graphing polynomial functions
* Adding, subtracting, and multiplying polynomials
* Factoring and solving polynomial equations
* The remainder and factor theorems
* Finding rational zeros
* Using the Fundamental Theorem of Algebra
* Analyzing graphs of polynomial functions

Unit 6 – Powers, Roots, and Radicals

* nth roots and rational exponents
* Properties of rational exponents
* Power functions and function operations
* Inverse functions
* Graphing square root and cube root functions
* Solving radical equations

Unit 7 – Exponential and Logarithmic Functions

* Exponential functions
* The number e
* Logarithmic functions
* Properties of logarithms
* Solving exponential and logarithmic equations

Unit 8 – Rational Equations and Functions

* Inverse and joint variation
* Graphing simple rational functions
* Graphing general rational functions
* Multiplying and dividing rational expressions
* Addition, subtraction, and complex fractions
* Solving rational equations

**Program Pricing**

[Click here to register](https://docs.google.com/forms/d/e/1FAIpQLScY9sA9S5nMkZLpRlzM45lV7emMqOhkzDuSydk03GApuD_oRQ/viewform) and view tuition

# Course Instructor

# A person sitting at a desk with a computer  AI-generated content may be incorrect.

​Mr. Koutsothodoros is a professional teacher of Mathematics with a Master’s degree and a Bachelor’s degree in Mathematics. He has over 15 years of teaching experience on Math, Physics, and Computer Science, including SAT/ACT Math, AP Calculus AB, AP Calculus BC, AP Statistics, Precalculus, Algebra I, Algebra II, Geometry, Honor Physics, and AP Physics C (Mechanics and E&M), AP Physics I & II, and AP Computer Science A. He emphasizes on teaching the fundamentals so that students can build a solid foundation on both the subject and problem-solving skills required to excel on exams and applications of concepts in the real world. Being extremely familiar with the structure and style of questions, Mr. Koutsothodoros has helped hundreds of students achieve high and perfect scores.

Mr. Koutsothodoros (Kouts)

Mathematics, Physics, and Computer Science Teacher

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