

**Spaulding High School
Syllabus 2021-2022**

Course Title: Algebra 2 Honors

Department: Mathematics

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Areas of Study:

This is a one-semester course with a rapid progression of topics such as: recursion, functions, relations, transformations, exponential and logarithmic properties, composite and inverse functions, higher degree polynomials and quadratics. This course is a continuation of Algebra I Honors, with an emphasis on problem solving using algebraic concepts.

Course Description:

Students must be highly motivated with a solid understanding of previous math courses, be able to think abstractly and be proficient problem solvers. There is a rapid progression of topics and students must be able to perform within time limits. To be successful students must complete daily work and be disciplined to read, listen, and think independently.

Materials/Text(s):

- Graphing Calculator: TI-83 Plus or TI-84
- 3-Ring Binder (1 ½-2")
- Pencils and erasers
- Multi-colored pen, or colored pencils
- Ruler
- Loose-leaf Paper
- Graph Paper
- Composition Book: plain, graph, or lined.
(Spaulding can provide basic comp books, buy your own if want a special one)

Replacement cost(s): \$65 for a lost or damaged textbook (ISBN 0-13-165710-0)

Practice:

Students will have daily assignments, and are highly recommended.

Assessment/Reassessment:

Quizzes will be given frequently as formative information for the teacher and student. They will not count toward proficiency.

Unit tests will assess understanding of each indicator of a standard.

Opportunities for reassessment are available and may be arranged on a case by case basis outside of class time. There will be limits on how long students can wait before reassessing. Students must plan and execute a method to show their proficiency. Students may be required to work with the teacher to get help or extra practice first. The most recent assessment will be used to indicate a student's level of proficiency. If progress is not made on the reassessment or plan, call-back day will be the last opportunity to improve your score.

Classroom Expectations:

Students are expected to work with peers and teachers in the class respectfully and productively. Students are expected to make mistakes because this is how we learn and grow.

Electronic Devices (cell phones, tablets, ipods, victrolas, etc) should not be seen or heard during class.

Students should get work before being absent whenever possible. After returning, please see me to make a plan around missed work or assessments.

Need Help?

Extra assistance is available before school, after school, and during advisory bands A or B.

“Proficiency Support” (homework club) meets after school on Monday, Wednesday, and Thursday.

Math Tutorial: This is a time where students can drop in for help from a math teacher:

Mon	Tues	Wednesday	Thurs	Fri
AM: 7:05-7:35 Moore - 200	AM: 7:05-7:35 Moore - 200	AM: 7:05-7:35 Moore - 200	AM: 7:05-7:35 Moore - 200	AM: 7:05-7:35 Moore - 200
PM: 3:05-3:35 Dunlea - 101		PM: 3:05-3:35 Dunlea - 101	PM: 3:05-3:35 Dunlea - 101	PM: 3:05-3:35 Dunlea - 101

List of Assessed Course Standards:

See attached list of Standards and Performance Indicators.

Algebra 2 Honors Standards 2021-2022

★ = Required Indicator

Standard	Code	Performance Indicator
1 Algebra Essentials	1.1	Subsets of Real Numbers
	1.3	★ Simplifying / Evaluating Expressions
	1.5	★ Solving Equations
	1.6	★ Solving Inequalities
3 Linear Functions	3.2	★ Properties of Linear Graphs
	3.3	★ 3 Forms of Linear Equations
	3.4	★ Equations From Linear Graphs
	3.A	★ Line Of Fit
2 Functions and Graphs	2.2	★ Graphs of Functions
	2.3	Graphs of Real-World Situations
	2.4	Graphs That Are Not Functions
	2.A	★ Function Composition & Piecewise Functions
	2.B	★ Transformations of Functions and Circles
4 Linear Systems	4.2	★ Solving systems of 2 Equations
	4.5	Graphs of Equations with 3 Variables
	4.6	★ Solving Systems of 3 Equations
	4.7	Solving by Augmented Matrices
	4.10	★ Systems of Linear Inequalities
	4.11	Linear Programming
5 Quadratic Functions	5.2	★ Vertex Form / Completing the Square
	5.3	★ Finding x-intercepts / Quadratic Formula
	5.4	★ Imaginary / Complex Solutions
	5.5	★ Evaluating Quadratic Functions / Projectile Motion
	5.6	Quadratic Functions From Their Graphs
	5.7	Projectile Motion

In order to be **Exemplary** in a standard, all indicators must be P or E, plus a majority of indicators must be exemplary.

In order to be **Proficient** in a standard, all required indicators must be P or E. The remaining must be Developing or better.

In order to be **Developing** in a standard, either a required indicator is not proficient, or a majority of indicators are developing or below, or any indicator is B or NE.

6A Exponential Functions	6.1/6.2	★ Writing Exponential Equations
	6.3	★ Properties of Exponents
	6.4	★ Negative Exponents
	6.5	★ Fractional Exponents
	6.6	★ Scientific Notation
6B Logarithms	6.8	★ Solving Exponential Equations Using Logs
	6.9	★ Logs with Other Bases
	6.10	★ Properties of Logs
	6.11C	★ Change of Base Property
	6.11N	Natural Logs
	6.12	★ Inverse Functions
	6.13	Add-Multiply Property
	6.14	Applications of Logs
7 Rational Functions and Factoring	7.2/7.9	★ Rational Function Graphs - Discontinuities
	7.3/7.4	★ Factoring Completely
	7.5	★ Long and Synthetic Division
	7.6	★ Factoring Higher Degree Polynomials
	7.7/7.8	Math With Rational Expressions
	7.10	★ Solving Fraction Equations
8 Variation Functions	7.11	★ Variation Functions
	8.2	Irrational Functions
	8.3	★ Simplified Radical Form
	8.4	Radical Equations
	8.5	Non-integer Exponents in Variation Functions
	8.6	Functions with More Than One Independent Variable
10 Polynomial Functions	10.3	Quadratic Functions From Their Roots
	10.4	★ Graphs of Higher Degree Functions and end behavior
11 Sequences and Series	11.2	★ Formulas for Sequences
	11.3	Means
	11.4	★ Summation
	11.5	★ Formulas for Series
	11.6	★ Convergent Series