



Course Syllabus

Honors Algebra II 2017-2018

Course Description:

This course is for the student who wants more in-depth mathematics. Topics to be covered first semester include equations and inequalities, linear functions, systems of equations and inequalities, matrices, polynomials, radicals, complex numbers, quadratic functions, conic sections, equations and inequalities. Topics to be covered second semester include: polynomial functions, rational expressions, exponential and logarithmic functions, probability, trigonometric functions, graphs, identities and equations. The use of scientific calculators is assumed.

Prerequisite: Successful completion of Honors Geometry, or with consent of the instructor

Credit: 1.0 credit (weighted)

Course Units:

Semester 1

Unit 1: Review of Algebra—20 days

- Solving Equations/Inequalities
- Linear Functions

Unit 2: Solving System of Equations/Matrices—25 days

Unit 3: Quadratic/Polynomial Functions—30 days

Semester 2

Unit 4: Rational Functions—20 days

Unit 5: Exponential and Log Functions—20 days

Unit 6: Conic Sections—20 days

Unit 7: Statistics and Probability—20 days

Required Materials:

Text—
MacBook
Pencils
2 Notebooks
Loose Paper
Folder

Grading Policy:

Category Weights: Your total grade is NOT based on total points. The following categories will be applied to the grade book to determine your final grade:

15% - Homework

20% - In Class Work (i.e. Group Work, Computer Work, Activities, Bell Ringers, Exit Slips and Projects)

65% - Assessments (Formative or Summative Quizzes and Tests)

Grading Scale

100-90% A

89-80% B

79-70% C

69-60% D

59% > F

Learning Standards:

The Complex Number System	N.CN.1-2 —Perform arithmetic operations with complex numbers. N.CN.7-9 —Use complex numbers and their operations on the complex plane.
Seeing Structure in Expressions	A.SSE.1-2 —Interpret the structure of expressions. A.SSE.3-4 —Write expressions in equivalent forms to solve problems.
Arithmetic with Polynomials and Rational Expressions	A.APR.1 —Perform arithmetic operations on polynomials. A.APR.2-3 —Understand the relationship between zeros and factor of polynomials. A.APR.4-5 —Use polynomial identities to solve problems. A.APR.6-7 —Rewrite rational expressions.
Reasoning with Equations and Inequalities	A.REI.2 —Understand solving equations as a process of reasoning and explain the reasoning. A.REI.11 —Represent and solve equations and inequalities graphically.
Trigonometric Functions	F.TF.1-2 —Extend the domain of trigonometric functions using the unit circle. F.TF.5 —Model periodic phenomena with trigonometric functions. F.TF.8 —Prove and apply trigonometric identities.
Linear, Quadratic, & Exponential Models	F.LE.4 —Construct and compare linear, quadratic, and exponential models and solve problems.
Interpreting Categorical and Quantitative Data	S.ID.4 —Summarize, represent, and interpret data on a single count or measurement variable.
Making Inferences and Justifying Conclusions	S.IC.1-2 —Understand and evaluate random processes underlying statistical experiments. S.IC.3-6 —Make inferences and justify conclusions from sample surveys, experiments, and observational studies.
Using Probability to Make Decisions	S.MD.6-7 —Use probability to evaluate outcomes of decisions.
Interpreting Functions	F.IF.4-6 —Interpret functions that arise in applications in terms of the context. F.IF.7-9 —Analyze functions using different representations.
Creating Equations	A.CED.1-4 —Create equations that describe numbers or relationships.
Building Functions	F.BF.1 —Build a function that models a relationship between two quantities. F.BF.3-4 —Build new functions from existing functions.

For a complete list of the mathematical common core standards, please visit:

<http://www.corestandards.org/math>

For a complete list of the eight mathematical practices, please visit:

<http://www.corestandards.org/math/practice>

Behavior Expectations:

Please refer to DPS61 Handbook and Code of Conduct.

Original Work, Cheating, Plagiarism, and Paraphrasing Policy :

Please refer to DPS61 Handbook and Code of Conduct.

I have read and understand the attached syllabus and course guidelines for (insert course name and school name here).

Student Name (print)

Signature

Parent/Guardian Signature