

# Algebra II 2011

**Instructor:** Wanda Henderson

**Contact Information:**

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**Phone:** 207-728-3371, Ext. 303

**Text:** Advanced Algebra by Prentice-Hall, 2002

**Room:** 303

**Prerequisites:** Geometry

**Course Objectives:** To provide the student with the necessary knowledge needed to advance to Precalculus and Trigonometry.

**Methods of Instruction:** Warm-up problems, review of previous homework, problem solving sessions, calculator activities, in-class activities, computer activities, exit cards, and projects.

**Classroom Procedures:**

- Take out books and homework
- School bags belong under your seat
- Work on warm-up problem
- Bathroom passes will be issued when needed
- Sign out sheet on the left side of door
- Listen to announcements
- Sit quietly until teacher dismisses you

**Methods of Evaluation:**

Tests	30%
Quizzes	20%
Assignments	15%
Activities	15%
Projects	<u>20%</u>
	100%

**Extra help is available before and after school.**

**Improper Behavior:**

First offense-15 min. after school with teacher-parent notified

Second offense-30min. after school with teacher-parent notified

Third offense-referral to Principal for Sat. detention-parent notified

## 1<sup>st</sup> Quarter

### I. **Systems**

Solving Systems using:

- Tables and Graphs
- Substitution
- Linear Combination
- Graphing Inequalities
- System of Linear Inequalities
- Linear Programming

### II. **Quadratic Functions**

- Quadratic Expressions, Rectangles, and Squares
- Absolute Value, Square Roots, and Quadratic Equations
- Binomial Theorems

## 2<sup>nd</sup> Quarter

### I. **More Quadratic Functions**

- Factoring
- Completing the Square
- Quadratic Formula
- Imaginary Numbers
- Complex Numbers

### II. **Powers**

- Power Functions
- Properties of Powers
- Negative Integer Exponents
- Compound Interest
- Nth Roots
- Positive Rational Exponents
- Negative Rational Exponents

## **3<sup>rd</sup> Quarter**

### **I. Inverses and Radicals**

- Composition of Functions
- Inverses of Relations
- Properties of Inverse Functions
- Radical Notation for nth Roots
- Products and Quotients with Radicals
- Powers and Roots of Negative Numbers
- Solving Equations with Radicals

### **II. Exponential Functions**

- Exponential Growth and Decay
- Fitting Exponential Models to Data

## **4<sup>th</sup> Quarter**

### **I. Logarithmic Functions**

- Common Logarithms
- Logarithmic Scales
- Logarithms to Bases other than 10
- Properties of Logarithms
- Natural Logarithms
- Using Logarithms to Solve Exponential Equations

### **II. Trigonometry**

- Three Trigonometric Functions
- Properties of Trigonometric Ratios
- Trigonometry and the Unit Circle