

# Welcome to Algebra 2

Vision Charter School

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## Course Purpose

The course purpose is to prepare students for future mathematic courses through the study of algebra while continuing to build a strong concrete mathematics foundation.

### Brief Year Outline

1. Analyzing Equations and Inequalities
  - Solving Equations
  - Solving Absolute Value Equations
  - Solving Absolute Value Inequalities
  - Solving Radical Equations and Inequalities
  - Complex Numbers
  - Simplifying Expressions Containing Complex Numbers
2. Graphing Linear Relations and Functions
  - Relations and Functions
  - Linear Equations
  - Slope
  - Writing Linear Equations
  - Special Functions
  - Linear Inequalities
3. Solving Systems of Linear Equations and Inequalities
  - Graphing Systems of Equations
  - Solving Systems of Equations Algebraically
  - Graphing Systems of Inequalities
4. Matrices
  - Introduction to Matrices
  - Adding and Subtracting Matrices
  - Multiplying Matrices
  - Using Matrices to Solve Systems of Equations
5. Exploring Polynomials and Radical Expressions
  - Monomials
  - Polynomials
  - Dividing Polynomials
  - Factoring Polynomials
  - Roots of Real Numbers
  - Radical Expressions
  - Rational Exponents
6. Exploring Quadratic Functions and Inequalities
  - Solving Quadratic Equations by Graphing
  - Solving Quadratic Equations by Factoring
  - Completing the Square
  - The Quadratic Formula and the Discriminant
  - Sum and Product of the Roots
  - Analyzing Graphs of Quadratic Functions
  - Graphing and Solving Quadratic Inequalities
7. Exploring Polynomial Functions
  - Polynomial Functions
  - The Remainder and Factor Theorem
  - Graphing Polynomial Functions and Approximating Zeros
  - Roots and Zeros
  - Rational Zero Theorem
  - Using Quadratic Techniques to Solve Polynomial Equations
  - Composition of Functions
  - Inverse Functions and Relations
  - Square Root Functions and Relations
8. Exploring Rational Expressions
  - Rational Functions
  - Direct, Inverse, and Joint Variations
  - Multiplying and Dividing Rational Expressions

- Adding and Subtracting Rational Expressions
- Solving Rational Equations and Inequalities

#### 9. Exploring Exponential and Logarithmic Functions

- Real Exponents and Exponential Functions
- Logarithms and Logarithmic Functions
- Properties of Logarithms
- Common Logarithms
- Natural Logarithms
- Solving Exponential Equations
- Growth and Decay

#### 10. Investigating Discrete Mathematics and Probability

- The Counting Principle
- Permutations
- Combinations
- Probability

#### 11. Exploring Trigonometric Functions

- Introduction to Trigonometry
- Angles and Angle Measure
- Trigonometric Functions of General Angles
- Law of Sines
- Law of Cosines
- Circular Functions

### Student Expectations

#### **RESPONSIBILITY**

- **Be on time, be prepared and be ready to learn.**
- **Be responsible for yourself, your materials, and your actions.**
- **Follow all classroom procedures and ask questions if you don't understand.**

#### **RESPECT**

- **Respect yourself, respect others, respect the school and school property.**
- **Listen to others and they will listen to you.**
- **Be kind with your words and your actions.**

#### **HONESTY**

- Build relationships founded on trust, with your teachers and fellow classmates.
- Be honest with everyone especially yourself.

#### **CARING**

- Love everyone (enemies too!)
- Contribute to the learning environment by expressing a caring attitude to everyone.
- Work together to solve problems, because everyone has an important role to play.

### Rewards

- Students, who follow classroom expectations, are referral free and maintain a 2.0 average in each core class will be invited to attend a school social at the conclusion of each quarter.
- Students caught exhibiting "Golden Eagle" behavior will earn special recognition.
- Students working to their highest potential will learn the importance and value of education.

### Consequences

- Students will make-up misuse of time during recess periods or after school. This includes time wasted by talking or doing anything other than the assigned activity.
- Repeated negative behavior or severe classroom disruption will result in an office referral.

### Mandatory Supplies

1. Pencils- Students should have more than one pencil and it is strongly recommended that they sharpen their pencils before class begins to reduce class disruptions. Also, no homework will be accepted in pen.

2. Notebook supplies per SOAR.
3. Scientific Calculator
4. Items from general supply list

**Assessment Criteria for Each Semester Grading Period**

Four general areas are considered when evaluating the student's progress.

1. Class Work and Class Participation- this includes completeness and neatness of the SOAR binder (math section only).
2. Assignments-Students are expected to complete assignments on time. Late assignments will not be accepted for credit. Students with excused absences will be given two extra class day for each consecutive class missed. It is the student's responsibility to acquire all absent work. Students with unexcused absences or absences due to field trips or other extra-curricular activities must turn in all assigned work before leaving and will be responsible for that day's assignments.
3. Assessments- will be given each chapter.
4. Semester Exam -A comprehensive exam will be given at the end of each semester. There will be no test corrections for the Semester Exam.

**Point Distribution**

Homework	15%
Tests	60%
Semester Exam	25%

**Teacher Assistance**

Assistance will be made available by appointment. Reviews will be offered prior to any chapter tests and before semester exams.

**Grade Scale**

4.0 Scale (all percentages are rounded to the nearest percent)

Percentage	Letter Grade	Scale Value
100-98	<b>A+</b>	4.0
97-94	<b>A</b>	4.0
93-90	<b>A-</b>	3.67
89-87	<b>B+</b>	3.33
86-84	<b>B</b>	3.0

83-80	<b>B-</b>	2.67
79-77	<b>C+</b>	2.33
76-74	<b>C</b>	2.0
73-70	<b>C-</b>	1.67
69-67	<b>D+</b>	1.33
67-60	<b>D</b>	1.0
59-0	<b>F</b>	0.0

\* Please note that semester exams are worth 25% of the student's final grade and can significantly impact his or her grade.

If a change or modification to the syllabus arises an update syllabus will be made available.

## Foundations for Algebra 2 Course

I, \_\_\_\_\_ have read this document and understand the expectations and policies of the class.

I, \_\_\_\_\_ parent/guardian of the aforementioned student have read this document and will keep in contact with Mr. McDougall should questions or concerns arise.

The best way to contact parent/guardian:

Email: \_\_\_\_\_

Phone: \_\_\_\_\_

The best time to contact parent/guardian: \_\_\_\_\_