

## **Southwest Christian Algebra II 2017-2018**

### **I. Southwest Christian's Mission Statement**

To challenge students to grow in knowing, loving, and serving God and others.

### **II. Course Description**

Algebra II follows Algebra I and Geometry. Students will work with more advanced topics and begin to learn to prove some basic formulas and learn the theory behind mathematics. This course will prepare students to move forward to Pre-Calculus. Students will be working with topics algebraically, graphically, and numerically, allowing them to use different methods to find the same result. Students will become comfortable working with a graphing calculator and will be able to apply their knowledge and skills to real-world problems.

### **III. Contact Information**

Mrs. Jill Pulkrabek  
(507) 442-4471 (school)  
jillpulkrabek@swmch.org

### **IV. Instructional/Assessment Philosophy**

Understanding mathematics helps us to understand the world that God created. I believe that all students can learn math and that math skills are necessary in daily life.

It is beneficial to practice math skills daily and to build on what has been learned in previous math courses. For this reason, there will be daily homework assignments to allow students to practice the skills taught in class.

Students will have the opportunity to make corrections on their chapter tests to improve their test score and learn from their mistakes.

Please make sure to let me know if there is a math concept that you do not understand. I am available after school for students who need additional help outside of class time.

### **V. Course Standards/Goals**

#### **Skills and Knowledge:**

Numbers and Operations: Students will understand and use concepts of numbers and their number system.

- Understand numbers, ways of representing numbers, relationships among numbers, and number systems.
- Understand meanings of operations and how they relate to one another.
- Compute fluently and make reasonable estimates.

Algebra, Functions, and Patterns: Students will use algebraic concepts, functions, patterns, and relationship to solve problems.

- Understand patterns, relations, and functions.
- Represent and analyze situations and structures using algebraic symbols.
- Use mathematical models to represent and understand quantitative relationships.
- Analyze change in various contexts.

Data Analysis, Statistics, and Probability: Students will use data collection and analysis techniques, statistical methods, and probability to solve problems.

- Formulate questions that can be addressed with data and collect, organize, and display data to answer them.
- Select and use appropriate statistical methods to analyze data.
- Develop and evaluate inferences and predictions that are based on data.
- Understand and apply basic concepts of probability.
- Create and use representations to organize, record, and communicate mathematical ideas.
- Understand how mathematical ideas interconnect and build on one another to produce a coherent whole.
- Use the language of mathematics to express mathematical ideas.

**Value:** Students will recognize that mathematics is a language and tool provided by God. Students will recognize God's characters of logic and order in our world. Students will see the aesthetics of mathematics as reflecting the mind of God as Creator.

## **VI. Course Texts, Readings, and Materials**

### **Textbook:**

Larson, Ron, Laurie Boswell, Timothy D. Kanold, and Lee Stiff. *Algebra 2*. Houghton Mifflin Harcourt Publishing Company, 2011.

### **Materials needed each day:**

Textbook

Pencil with eraser

Pen for grading

Notebook

Calculator

Computer (some days)

**VII. Assessment:** Your grade will be based on homework, quizzes, tests, and participation.

**Homework (30%):** Students will have daily homework assignments to practice the concepts learned in class. Homework will typically be graded at the beginning of the class period. Late work will receive 50% credit.

**Quizzes (20%):** Quizzes will be taken periodically throughout the chapter to provide a check of concept comprehension.

**Tests (40%):** Tests will be taken at the end of each chapter. Students can make test corrections the next day. The original test and corrected test will be averaged together to get the chapter test grade.

**Participation (10%):** Students will receive two participation points per day: one point for completing the entire homework assignment (regardless of score) and one point for participating in class (taking notes, paying attention, etc.). If a student is absent from class (excused absence), he/she can receive those participation points by turning in the previous homework assignment, taking notes on the missed section, and requesting the next homework assignment.

**VIII. Policy:**

You are expected to come to class on time, with your completed homework and required materials, ready to learn. Put away laptops when not needed for class. Cell phones are never needed and should be stored during class time. Be respectful and have a positive attitude.

Make sure to ask questions whenever you do not understand a problem or concept. I am typically available after school if you need additional help outside of class time.

All work must be your own. You may work together on homework assignments, but you cannot copy work from another student or other source. Quizzes and tests must be completed individually.

Chapter tests may be corrected the next day to improve your test score. The original test and corrected test will be averaged together to get the chapter test grade. Quiz scores are final.

Late homework will receive 50% credit. You may also redo a very low homework assignment for 50% credit. You must show your work to receive any credit.

### **IX. Distribution of Grading Components**

Homework: 30%

Quizzes: 20%

Tests: 40%

Participation: 10%

\*Semester grades will be 42.5% for each quarter and 15% for the semester exam.

### **X. Grading Scale**

A	100-96
A-	95-92
B+	91-88
B	87-85
B-	84-82
C+	81-79
C	78-75
C-	74-71
D+	70-67
D	66-64
D-	63-60
F	59 or below

### **XI. Course Schedule/Topics Covered (tentative):**

Chapter 1: Equations and Inequalities

Chapter 2: Linear Equations and Functions

Chapter 3: Linear Systems and Matrices

Chapter 4: Quadratic Functions and Factoring

Chapter 5: Polynomials and Polynomial Functions

Chapter 6: Rational Exponents and Radical Functions

Chapter 7: Exponential and Logarithmic Functions

Chapter 8: Rational Functions

Chapter 9: Quadratic Relations and Conic Sections

Chapter 13: Trigonometric Ratios and Functions

Chapter 11: Data Analysis and Statistics

Chapter 10: Counting Methods and Probability