**Algebra I**

**Course Syllabus: 2015-2016**

1. **Instructor Information**

Teacher:

Contact Information: Please feel free to call or e-mail me about any questions. If you call or e-mail before 9:00 pm I will try to respond that evening.

1. Phone:

2. E-mail:

1. **Course Description**

Algebra I is designed to equip students with the knowledge, skills, and appreciation to enjoy God’s order in creation and applications in the real world. This course is an overview of real number operations, equations, inequalities, functions, exponents, polynomials, radicals, and rational expressions. Some recreational mathematics are included in this course.

1. **Rationale**

This course focuses on the ABCs of mathematics; application, beauty, and consistencies. We want to praise our Creator while studying His laws that govern the universe.

1. **Goals and Aims**

A. **Enjoy** thinking rationally and analytically

B. Appreciate law, order, and absolutes.

C. Promote interest in mathematics

D. Be well prepared for higher math courses

E. Develop general problem solving abilities

1. **Objectives**

A. Interpret number lines

B. Solve multiple step equations and inequalities

C. Graph various types of expressions

D. Solve linear and quadratic functions

E. Solve systems of equations and inequalities.

F. Compute expressions with powers and roots

G. Classify polynomials

I. Factor polynomials

J. Predict arithmetic and geometric sequences

K. Simplify radical

L. Simplify rational expressions

M. Solve rational equations

N. Define minima and maxima

O. Memorize the quadratic formula

1. **Textbooks and Instructional Recourses**

*Algebra I* – BJU Press

Teacher Toolkit – BJU Press

Kuta Software

*mathisfun.com*

*khanacademy.org*

1. **Equipment and materials**

A. Compass

B. Ruler

C. Protractor

D. Scientific Calculator

1. **Course Requirements**

The prerequisite to this course is a 70% or higher in pre-algebra, or math placement exam.

A. **Logistics**

1. Keep a notebook of class lecture notes.

2. Attend class five days a week, teacher or principal must be notified ahead of time if student is going to be missing.

3. There will be approximately 18 exams throughout the year.

4. Quizzes will occur about once a week.

5. Absent students are responsible for all catch-up work.

6. Voluntary fix-ups must be in my office (A-102) by the end of the day.

B. **Projects**

Project #1 Soda can production costs based on supply and demand.

Project #2 Linear equations project.

Project #3 The iBot Project. A stair climbing wheelchair?

Project #4 The farming project. Calculate what amount of two crops should be grown.

1. **Procedures**
   1. All homework will be due the following class period unless otherwise instructed.
   2. All papers will be handed across and then front.
   3. Late homework will be penalized one increment (A to B) per class period overdue, and unfinished slips will be given appropriately. ( PVMS policy)
   4. Most classes will begin with in-class homework grading. Students will exchange with designated partners.
   5. Questions while grading should be marked with question marks and saved until the end.
   6. Tests and quizzes will be overturned and placed on the corner of one’s desk when finished, all edges must be smooth
   7. Headings must include student’s name and lesson/assignment number. All homework shall be done in pencil.
   8. Student will record daily homework assignments.
2. **Methods**

A. Teaching Methods

1. Lectures 2. Demonstrations 3. Cooperative learning

4. Board drills 5. Projects 6. Multimedia

B. Assessment

1. Exams 2. Quizzes 3. Review 4. Homework

1. **Grading Policies**

A. Tests 50% B. Quizzes 20% C. Homework 20% D. Projects 10%

**Intermediate work, if needed, must always be shown to get full credit, even if you use a calculator.  I generally give partial credit on tests and quizzes for correct work even if the final answer is incorrect.**

1. **Course Outline**

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| Week Number | Chapters | Dates |  |  |
| Week 1 | Chapter 1  Real Number Operations | Aug. 26-28 | Introduction to Course  1.1 – 1.4 |  |
| Week 2 | Aug. 31-Sept.4 | Lessons 1.5-1.8,  Review, Test |  |
| Week 3 | Sept. 7-11 off Monday | Lessons 2.1 – 2.4 |  |
| Week 4 | Chapter 2  Variables and Equations | Sept. 14-18 | Lessons 2.5 – 2.8 A. Seq. |  |
| Week 5 | Sept. 21-25 | Review, Test, Lessons 3.1 – F & G Seq. |  |
| Week 6 | Sept.28-Oct.2 | Lessons 3.3 – 3.7 |  |
| Week 7 | Chapter 3 Using Equations  Chapter 4  Solving Inequalities | Oct. 5-7 Extra Day | Lessons 3.8, Review, Test, 4.1 |  |
| Week 8 | Oct. 12-16 | Lessons 4.2 – 4.5, A. Seq. |  |
| Week 9 | Oct. 19-23  Extra Day | Lessons 4.6 Tech Corner, Review, Test |  |
| Week 10 | Chapter 5  Relations and Functions  Chapter 6 Linear Functions | Oct.26-30 End of First Quarter | Lessons 5.1 – 5.4, Tech Corner |  |
| Week 11 | Nov.2-6  Extra Day | Lessons 5.5 – 5.7, G. Sequences |  |
| Week 12 | Nov. 9-13 | Review, Test, Lessons 6.1 – 6.3 |  |
| Week 13 | Chapter 6 Linear Functions  Chapter 7 Linear Systems | Nov. 16-20 | Lessons 6.4 – 6.6, Tech corner, C & D Seq. |  |
| Week 14 | Nov. 23-25 | Lessons 6.7, Review, Test |  |
| Week 15 | Dec. 1-4 | Extra |  |
| Week 16 | Chapter 7 Linear Systems | Dec 7-11 | Lessons 7.1 – 7.3, Tech Corner, Lim. Seq. |  |
| Week 17 | Dec. 14-18 | Lessons 7.4 – 7.7 |  |
| Week 18 | Dec. 21  2 Extra Days | Lesson 7.8 |  |
| Week 19 | Chapter 7 Linear Systems  Chapter 8 Exponents | Jan. 4-8  End of 2nd Quarter | 2 Review, Test |  |
| Week 20 | Jan. 11-15 | Lessons 8.1 – 8.5 |  |
| Week 21 | Jan. 18-22  Extra Day | Lessons 8.6, Seq., Review, Test |  |
| Week 22 | Chapter 9 Polynomials  Chapter 10  Factoring Polynomials | Jan. 25-28  Extra Day | Lessons 9.1 – 9.4 |  |
| Week 23 | Feb. 1-5 | Seq. , 9.5 – 9.6 , Review, Test |  |
| Week 24 | Feb. 8-12  Extra Day | Lessons 10.1 – 10.3, Seq. |  |
| Week 25 | Chapter 10  Factoring Polynomials  Chapter 11  Radicals | Feb. 15-19 | Lessons 10.4 – 10.5, Seq, Review, Test |  |
| Week 26 | Feb. 22- 25 Extra Day | Lessons 11.1 – 11.3, Tech Corner |  |
| Week 27 | Feb. 29 - Mar. 4  Extra Day | Sequences, Lessons 11.4 – 11.6 |  |
| Week 28 | Chapter 11  Radicals  Chapter 12  Quadratic  Functions | March 7-11 | Extra |  |
| Week 29 | March 14-18  End of third Quarter | Lessons 11.7 – 11.9, Review, Test |  |
| Week 30 | March 21-23 Extra Day | Lessons 12.1 – 12.3, Tech Corner |  |
| Week 31 | Chapter 12  Quadratic  Functions | March 28 -Apr. 1 | Extra |  |
| Week 32 | Apr. 4-8  Extra Day | Lessons 12.4 – 12.7 |  |
| Week 33 | Apr. 11-14 | Lessons 12.8 – 12.9, Seq., Review, Test |  |
| Week 34 | Chapter 13 Rational Expressions | Apr. 18-22  Extra Day | Lessons 13.1 – 13.3, Seq. |  |
| Week 35 | Apr. 25-29 Extra Day | Lessons 13.4 – 13.7 |  |
| Week 36 | May 2-4  Extra Day | Lessons 13.8, Tech Corner |  |
| Week 37 |  | May 9-13 | Extra |  |
| Week 38 | May 16-20 | Review, Tests, Math Histories |  |
| Week 39 | May 23-24 |  |  |
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