Course Title: MATHEMATICS IIIA

Course No. 3251 **Grade level**: 7-12

Text and Resources:

A. *Saxon Math 76*, Part I; Saxon Publishers
B. *Mathematics Applications and Connections II, Part I; Glencoe McGraw-Hill*

Course Content: Key Content Standards and Course Objectives

1. **Number Sense:** Students compare and order fractions, decimals, and mixed numbers and solve problems involving fractions, ratios, proportions, and percentages (6-1.0), convert fractions to decimals and percentages and use these representations (7-1.3), differentiate between rational and irrational numbers (7-1.4), calculate the percentage of increases and decreases of a quantity (7-1.6), solve problems of discounts, markups, commissions, profit, and interest (7-1.7), add and subtract fractions by using factoring (7-2.2), multiply, divide, and simplify rational numbers by using exponent rules (7-2.3).
2. **Algebra and Functions:** Students analyze and use tables, graphs, and rules to solve problems involving rates and proportions (6-2.0).
3. **Measurement and Geometry:** Students deepen their understanding of measurement of plane and solid shapes and use this understanding to solve problems (6-1.0), students identify and describe the properties of two-dimensional figures (6-2.0), construct and read drawings and models made to scale (7-1.2).
4. **Statistics, Data Analysis, and Probability:** Students compute and analyze statistical measurement for data sets (6-1.0), students use data samples of a population and describe the characteristics and limitations of the samples (6-2.0), students determine theoretical and experimental probabilities and use these to make predictions about events (6-3.0).
5. **Mathematical Reasoning:** Students make decisions about how to approach problems (6-1.0), students use strategies, skills, and concepts in finding solutions (6-2.0), students move beyond a particular problem by generalizing and applying it to other situations (6-3.0).

Course Description

Course Value: *One Semester

Credit Value: 1 – 5 Credits

Students will increase their capability with the four basic arithmetic operations applied to positive and negative numbers, fractions, and decimals. They will know and use common measuring units to determine length and area and know and use formulas to determine the volume of simple geometric figures. Students will learn how to use a protractor and a compass to measure angles and solve problems. They will also learn to use grids, tables, graphs, and charts to record and analyze data. This course will focus on the foundational skills that are required for students to pass the mathematics portion of the California High School Exit Examination.

*Open entry/open exit

Methods of Study

1. Students will complete all activities assigned.
2. Students will participate in discussion with other class members and/or teacher.

Evaluation of Performance Standards

1. Students will complete all assignments with a minimum of 70% accuracy.
2. The supervising teacher will be satisfied with the quality of the student's work.
3. The student must receive a minimum score of 70% on a teacher assigned final evaluation.

MATHEMATICS IIIA

Course Outline: 3251

I. Textbook Assignment Options:

A. *Saxon Math 76,* Part I **(5.0 credits)**

- Complete: lessons 1-19, even numbered problems only.
- Complete: lessons 20-39, even numbered problems only
- Complete one Extension Activity from Section A.
- Complete: lessons 40-59, even numbered problems only
- Complete: lessons 60-72, even numbered problems only
- Complete one Extension Activity from Section C.

B. *Mathematics: Applications and Connections, Course II*, Part I **(5.0 credits)**

- Complete: "Check for Understanding" and "Exercises" (even only) Sections: 1-1 to 2-4 (**Omit**: 1-5, #40, 2-1 #28, and 2-4 #32).
- Complete: Chapters 1 and 2 "Mid Chapter Self-Tests" (even only)
- Complete: Chapter 1 "Standardized Test Practice" (even only).
- Complete: one Extension Activity from Section B.
- Complete: all "Section Quiz" problems.
- Complete: "Check for Understanding" and "Exercises" (even only) Sections: 2-5 to 3- 7 (**Omit**: 3-1 #22 and 3-7 #10).
- Complete: Chapters 2 and 3 "Standardized Test Practice" (even only).
- Complete: Chapter 3 "Mid Chapter Self-Test," (even only).
- Complete: Section Quiz problems.
- Complete: "Check for Understanding" and "Exercises" (even only) Sections: 4-1 to 5-5. (**Omit:** 4-5 #34, and 4-8 #26).
- Complete: Chapters 4 and 5 "Mid Chapter Self-Tests" (even only).
- Complete: Chapters 4 and 5 "Standardized Test Practice" (even only)
- Complete: one Extension Activity from Section C.
- Complete: all "Section Quiz" problems.
- Complete: "Check for Understanding" and "Exercises" (even only) Sections: 5-6 to 6-7 (**omit:** 6-2 #32, 6-6 #8 and 6-7 #30.)
- Complete: Chapter 6 "Mid Chapter Self-Test" (even only).
- Complete: Chapter 6 "Standardized Test Practice" (even only).
- Complete: all "Section Quiz" problems.

II. Extension Activities:

A. *Saxon Math 76*

1. Refer to page 138 in the textbook. Complete the Histogram section on page 138-139. Answer questions and design histogram.

2. Refer to page 358 in the textbook. Create the lamp that Christy made following the directions on the top of page 359. Complete the "Drawing on the Coordinate Plane."
3. Teacher generated activity, approved by the site administrator

B. *Mathematics: Applications and Connections, Course II*
1. Problem Solving: Refer to page 55 of your textbook. Complete any four of the eight problems in the *Mixed Problem Solving* section.
2. Problem solving: Refer to page 93 of your textbook. Complete any four of the eight problems in the *Mixed Problem Solving* section.
3. Teacher generated activity, approved by the site administrator.

C. Technology **(select 1: a <u>or</u> b)**

a. Conduct a poll asking 10 people what their favorite ice cream flavor is. Tally the results and create a graph using Micosoft Excel. Your teacher can help you, but the following instructions can serve as a guide:
- Open Microsoft Excel.
- In cell A1, type in the first flavor. In cell A2, type in the next flavor and so on, until each flavor has been listed.
- In cell B1, type in the number of responses for the first flavor. In B2, type in the number of responses for the second flavor, and so on, until all of the responses are listed.
- Highlight both the flavors and responses.
- Click on the Chart Wizard icon on the top toolbar to begin creating your graphs.

b. Line Graph: On page 113 of the text, the heights of waterfalls throughout the world are listed. Create a line graph showing the heights of these waterfalls.
- Open Microsoft Excel.
- In cell A1, type in the name of the first waterfall listed. In cell A2, type in the name of the next waterfall and keep listing each waterfall until they are all listed.
- In cell B1, type in the height of the first waterfall. In B2, type the height of the second waterfall , and so on, until they are all listed.
- Highlight both the names and heights of the waterfalls.
- Click on the Chart Wizard icon on the top toolbar to begin creating your line graph.

III. Evaluation

- Unit and/or final test.
- All textbook work must meet the 70% accuracy level for a "C" grade.