COURSE SYLLABUS

MAT0500

5th Grade Math

I. COURSE DESCRIPTION

The Liberty University Online Academy’s 5th grade math course promotes problem solving skills by teaching students how to make real world connections with mathematics through the teaching of number theory, data and graphing, estimation, and solving real world problems. Students are also taught the mathematical concepts of place value, double-digit multiplication and division, fractions, measurement, geometry, and beginning algebra. These concepts are taught using engaging lessons, hands on activities, videos, and interactive games.

II. PREREQUISITES

4th grade math

III. MATERIALS LIST

Microsoft Office or compatible software, printer, scanner, camera, notebook

IV. MEASURABLE LEARNING OUTCOMES

- Number and Number Sense
  - Focus: Prime and Composite Numbers and Rounding Decimals
  - The student, given a decimal through thousandths, will round to the nearest whole number, tenth, or hundredth.
  - The student will recognize and name fractions in their equivalent decimal form and vice versa; and compare and order fractions and decimals in a given set from least to greatest and greatest to least.
  - The student will identify and describe the characteristics of prime and composite numbers; and identify and describe the characteristics of even and odd numbers.
- Computation and Estimation
  - Focus: Multistep Applications and Order of Operations
  - The student will create and solve single-step and multistep practical problems involving addition, subtraction, multiplication, and division with and without remainders of whole numbers.
  - The student will find the sum, difference, product, and quotient of two numbers expressed as decimals through thousandths (divisors with only one nonzero digit);
and create and solve single-step and multistep practical problems involving decimals.
- The student will solve single-step and multistep practical problems involving addition and subtraction with fractions and mixed numbers and express answers in simplest form.
- The student will evaluate whole number numerical expressions, using the order of operations limited to parentheses, addition, subtraction, multiplication, and division.
- Measurement
  - Focus: Perimeter, Area, Volume, and Equivalent Measures
  - The student will
    - find perimeter, area, and volume in standard units of measure;
    - differentiate among perimeter, area, and volume and identify whether the application of the concept of perimeter, area, or volume is appropriate for a given situation;
    - identify equivalent measurements within the metric system;
    - estimate and then measure to solve problems, using U.S. Customary and metric units; and
    - choose an appropriate unit of measure for a given situation involving measurement using U.S. Customary and metric units.
  - The student will identify and describe the diameter, radius, chord, and circumference of a circle.
  - The student will determine an amount of elapsed time in hours and minutes within a 24-hour period.
  - The student will measure right, acute, obtuse, and straight angles.
- Geometry
  - Focus: Classification and Subdividing
  - The student will classify angles as right, acute, obtuse, or straight; and triangles as right, acute, obtuse, equilateral, scalene, or isosceles.
  - The student, using plane figures (square, rectangle, triangle, parallelogram, rhombus, and trapezoid), will develop definitions of these plane figures; and investigate and describe the results of combining and subdividing plane figures.
- Probability and Statistics
  - Focus: Outcomes and Measures of Center
  - The student will make predictions and determine the probability of an outcome by constructing a sample space.
  - The student, given a problem situation, will collect, organize, and interpret data in a variety of forms, using stem-and-leaf plots and line graphs.
  - The student will describe mean, median, and mode as measures of center; describe mean as fair share; find the mean, median, mode, and range of a set of data; and describe the range of a set of data as a measure of variation
- Patterns, Functions, and Algebra
  - Focus: Equations and Properties
  - The student will describe the relationship found in a number pattern and express the relationship.
- The student will investigate and describe the concept of variable; write an open sentence to represent a given mathematical relationship, using a variable; model one-step linear equations in one variable, using addition and subtraction; and create a problem situation based on a given open sentence, using a single variable.

- The student will investigate and recognize the distributive property of multiplication over addition.

**COURSE REQUIREMENTS AND ASSIGNMENTS**

A. Individual lesson assessments (1 per lesson)
B. Quizzes – not a set number of quizzes per unit – never more than 2
C. Education City lessons
D. 1 Test or final project per unit

**COURSE GRADING AND POLICIES**

A. Grading Weights

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<tr>
<th>Assignment</th>
<th>Percentage</th>
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<td>Lesson Assignments</td>
<td>25%</td>
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<tr>
<td>Quizzes and Written Assignments</td>
<td>35%</td>
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<td>Tests</td>
<td>40%</td>
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B. Scale

<table>
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<th>Grade</th>
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<tr>
<td>B</td>
<td>85 – 92</td>
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<td>C</td>
<td>77 – 84</td>
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<tr>
<td>D</td>
<td>70 – 76</td>
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<td>F</td>
<td>Below 70</td>
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**Other Policies**

**Academic Misconduct**

See pages 27-30 of your Student Handbook
Repeating Assignments

Students may have two attempts on lessons. Quizzes and tests cannot be repeated to gain a higher grade. Quizzes and tests may be reset for technical issues, but a new set of questions will be generated.

Scope and Sequence

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<td>II.</td>
<td>Data and Graphing</td>
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<td>Multiply Whole Numbers and Decimals</td>
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<td>V.</td>
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<td>VIII.</td>
<td>Geometry</td>
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<td>IX.</td>
<td>Measurement</td>
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