Math 7
MAT0700

Course Description

Math 7 covers a variety of subject matter from the world of mathematics. This course will review the basic concepts and operations that you learned in Math 6, and it will help you in future mathematics courses. You will learn how to use math skills for real-world application, and you will also learn how to think abstractly as you investigate problems that exist in an imaginary environment.

Math 7 will teach you how to use math to solve problems using a variety of strategies including diagrams, equations, factoring, and algebraic expressions.

Rationale

Math is an important subject that prepares a student for real life. Math is used in a variety of courses and disciplines. Skills learned by solving problems and using logical mathematical formulas and principles help to prepare students for future courses and activities. God has given us a mind that is created in His image, and we are to use our abilities to bring honor and glory to His name.

Prerequisite

Math 6 or administrator permission
Measurable Learning Outcomes

A. Identify real numbers and their properties
B. Use the basic math operations with real numbers
C. Practice effective strategies to evaluate expressions, solve equations and set up word problems
D. Observe, collect and manipulate data by graphing, finding the measures of central tendency and drawing reasonable conclusions
E. Learn basic geometric principles and terms, and find areas and volumes of two and three dimensional shapes and objects
F. Investigate and practice using patterns and algebraic principles for solving problems using variables
G. Effectively use fractions to find ratios and proportions, and apply those learned principles to solve a variety of problems

Materials List

Please see the Supply List and System Requirements pages on LUOA’s website as well as the Digital Literacy Requirements page for general supplies and requirements with LUOA curriculum. This course does not require any materials beyond those required by all LUOA courses.

Digital Tools

This course makes use of third-party digital resources to enhance the learning experience. These resources have been curated by LUOA staff and faculty and can be safely accessed by students to complete coursework. Please ensure that internet browser settings, pop-up blockers, and other filtering tools allow for these resources to be accessed.

The following resources are used throughout this course:

- Embedded YouTube videos

Course Grading Policies

The students’ grades will be determined according to the following grading scale and assignment weights. The final letter grade for the course is determined by a 10-point scale. Assignments are weighted according to a tier system, which can be referenced on the Grades Page in Canvas. Each tier is weighted according to the table below. Items that do not affect the student’s grade are found in Tier 0.

<table>
<thead>
<tr>
<th>Grading Scale</th>
<th>Assignment Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>A  90-100%</td>
<td>Tier 0  0%</td>
</tr>
<tr>
<td>B  80-89%</td>
<td>Tier 1  25%</td>
</tr>
<tr>
<td>C  70-79%</td>
<td>Tier 2  35%</td>
</tr>
<tr>
<td>D  60-69%</td>
<td>Tier 3  40%</td>
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<tr>
<td>F  0-59%</td>
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</tbody>
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Course Policies

Students are accountable for all information in the Student Handbook. Below are a few policies that have been highlighted from the Student Handbook.

Types of Assessments

To simplify and clearly identify which policies apply to which assessment, each assessment has been categorized into one of four categories: Lesson, Assignment, Quiz, or Test. Each applicable item on the course Modules page has been designated with an identifier chosen from among these categories. Thus, a Quiz on the American Revolution may be designated by a title like “1.2.3 Quiz: The American Revolution.” These identifiers were placed on the Modules page to help students understand which Honor Code and Resubmission policies apply to that assessment (see the Honor Code and Resubmission policies on the page to follow for further details).

- **Lesson:** Any item on the Modules page designated as a “Lesson”

  These include instructional content and sometimes an assessment of that content. Typically, a Lesson will be the day-to-day work that a student completes.

- **Assignment:** Any item on the Modules page designated as an “Assignment”

  Typical examples of Assignments include, but are not limited to, papers, book reports, projects, labs, and speeches. Assignments are usually something that the student should do their best work on the first time.

- **Quiz:** Any item on the Modules page designated as a “Quiz”

  This usually takes the form of a traditional assessment where the student will answer questions to demonstrate knowledge of the subject. Quizzes cover a smaller amount of material than Tests.

- **Test:** Any item on the Modules page designated as a “Test”

  This usually takes the form of a traditional assessment where the student will answer questions to demonstrate knowledge of the subject. Tests cover a larger amount of material than Quizzes.

Resubmission Policy

Students are expected to submit their best work on the first submission for every Lesson, Assignment, Quiz, and Test. However, resubmissions may be permitted in the following circumstances:

- **Lesson:** Students are automatically permitted two attempts on a Lesson. The student may freely resubmit for their first two attempts without the need for teacher approval.

- **Assignment:** Students are intended to do their best work the first time on all Assignments. However, any resubmissions must be completed before the student moves more than one module ahead of that Assignment. For example, a student may resubmit an Assignment from Module 3 while in Module 4, but not
Assignment from Modules 1 or 2. High School students may not resubmit an Assignment without expressed written permission from the teacher in a comment.

- **Quiz:** Students may NOT resubmit for an increased grade.
- **Test:** Students may NOT resubmit for an increased grade.

If a student feels that he or she deserves a resubmission on a Lesson, Assignment, Quiz, or Test due to a technical issue such as a computer crashing, the student should message his or her teacher to make the request, and that request will need to be approved by a Department Chair.

**Consequences for Violations to the Honor Code**

Every time a student violates the Honor Code, the teacher will fill out an Honor Code Incident Report, email the advisor, and carbon copy the Department Chair with the report. The advisor will verify which number offense this is and inform the teacher and parent. The teacher will then leave a comment on the student’s assignment and award the appropriate consequences. Replies to any correspondence must be made within 24 hours of the last email received.

- **Warning:** This ONLY applies to high school Lessons and elementary/middle school Assignments and Lessons. These will be taken as a teaching moment for the student.
  
  - **Lessons:** A zero will be assigned for the question only.
  
  - **Elementary/Middle School Assignment:** The student must redo their work. However, they may retain their original grade.

- **1st Offense:**
  
  - **Lesson, Quiz, or Test:** The student will receive a zero on the entire assessment.
  
  - **Assignment:** The student will:
    - Receive a 0% or 80% of his or her original grade per the teacher’s discretion
    - Be required to complete the Plagiarism Workshop
    - Be permitted to retry for a higher grade on the next attempt at the teacher’s discretion

- **2nd Offense:** The student will receive a zero and be placed on Academic Probation.

- **3rd Offense:** The student will receive a zero and the Department Chair will determine the consequences that should follow, possibly including Academic Withdrawal from the course or expulsion from the academy.
Scope and Sequence
Math 7

Module 1: Integers
Week 1: Integers and Their Properties
Week 2: Integers and Operations
Week 3: Integers Operations: Division, Exponents, and Addition Properties
Week 4: Multiplication Properties and Order of Operations

Module 2: Fractions
Week 5: Introduction to Fractions
Week 6: Fractions, Decimals, and Percent
Week 7: Subtracting and Multiplying Fractions
Week 8: Dividing Fractions and Exponents

Module 3: Decimals and Percent
Week 9: Decimal Operations
Week 10: Fractions, Decimals, and Scientific Notation
Week 11: Percent and Interest Rates

Module 4: Patterns and Equations
Week 12: Numerical and Visual Patterns
Week 13: Expressions and Variables
Week 14: Expressions and Equations
Week 15: Solving Equations and Inequalities

Module 5: Ratios and Rates
Week 16: Ratios
Week 17: Rates
Week 18: Evaluation

Module 6: Proportions, Scale Dimensions and Conversion of Measurements
Week 19: Proportions
Week 20: Using Scale Dimensions and Factors
Week 21: Measurement Standards and Conversions
Week 22: Measurements and Scale Drawings

Module 7: Data and Statistics
Week 23: Data and Measures of Central Tendency
Week 24: Data and Graphing
Week 25: Data Organization
Week 26: Data Displays and Statistics

Module 8: Basics of Geometry
Week 27: Angles, Lines, and Planes
Week 28: Triangles and Other Polygons
Week 29: Congruency, Similarity, and Symmetry
Week 30: Transformations and Tessellations

(Continued on the next page)
Module 9: Probability and Counting Principles
Week 31: Probability and Counting Principles
Week 32: Permutations and Combinations
Week 33: Independent and Dependent Events
Week 34: Radicals, Exponents, and Square Roots

Module 10: Square Roots, Functions, and Linear Equations
Week 35: Functions, Linear Equations, and Graphing
Week 36: Linear and Nonlinear Functions