



This course supports the Finite Mathematics objective exam. It covers 3 competencies and represents 4 competency units.

## Introduction

### Overview

Finite Mathematics covers the knowledge and skills necessary to apply discrete mathematics and properties of number systems to model and solve real-life problems. Topics include:

- sets and operations; prime and composite numbers,
- GCD and LCM,
- order of operations,
- ordering numbers,
- mathematical systems including modular arithmetic,
- arithmetic and geometric sequences,
- ratio and proportion,
- subsets of real numbers,
- logic and truth tables,
- graphs,
- trees and networks, and
- permutation and combination.

There are no prerequisites for this course.

### Calculator

#### Graphing Calculator

Acquire a graphing calculator and familiarize yourself with how to use it. Refer to the [WGU Calculator and Scratch Paper Guidelines](#) document for calculators permitted on WGU exams. If you are in a secondary mathematics program, refer to the "[WGU Calculator Recommendations for Secondary Math and Science Programs](#)" document for calculator suggestions for your degree program.

## Study Plan

### Using the Interactive Textbook

[Read the section](#) indicated in the Study Plan below, including using the links for interactive materials and videos in the textbook to supplement your learning. (Also follow all of the links to materials outside your textbook listed in Activities below.) To evaluate your understanding of the material, [access the diagnostic](#) for that section. [Diagnostics](#) are also available for each topic within the coaching reports from the preassessment and objective exam. It is a short but timed experience. You should consider yourself competent only when you're scoring above 80% on



several attempts at the diagnostic in a row. When you've finished a diagnostic, you should [review results](#): this gives you access to all the interactive learning resources in the textbook. Make sure to use **show me an example** and **help me solve this** for items that you missed. If you'd like to see all of the recommended problems for a section which were pooled together to make the diagnostic problems, you can access the [homework problems](#) for each section. Keep in mind that it is much less efficient to try to wade through every one of those problems.

### Using other essential materials

The Study Plan below shows that some topics require activities for which you need to use materials other than the textbook. It is essential that you interact with those materials, even when the textbook supports that topic. For example, sometimes a video demonstrates an issue better than a reading.

### Seek help when you need it.

Work with your Course Instructor.

### Pacing Guide and Study Plan

Wk	Topic	Activities
1	Self-assessment	Take the <a href="#">“Competence in Finite Math”</a> test. If you score above 70%, you can probably skip to Week 6 and fill in the gaps to prepare for the preassessment instead of going through the course linearly.
	Number Patterns <i>1 exam item</i>	Complete 1.1 and 5.7 (read the <a href="#">textbook</a> , take the <a href="#">diagnostic</a> , and then <a href="#">review results</a> ).
	Rounding and Truncation <i>2 exam items</i>	Watch <a href="#">Truncating and Rounding</a> (4 min)
	Sets and Operations <i>1 exam item</i>	Complete 2.1, 2.2, 2.3, and 2.4 ( <a href="#">textbook</a> , <a href="#">diagnostic</a> , and then <a href="#">review results</a> ).
2	Logical Quantifiers and Connectives <i>2 exam items</i>	Do 3.1 and 3.2 ( <a href="#">Textbook</a> , <a href="#">Diagnostic</a> , and <a href="#">Review Results</a> ).
	Truth Tables <i>1 exam item</i>	Warning: Many students find this topic challenging, so make sure you do very well on the 3.3 and 3.4 <a href="#">diagnostic</a> before moving on by taking multiple attempts, and using <a href="#">review results</a> . You are invited to either watch our <a href="#">Truth Tables</a> video or read 3.3 and 3.4 in the <a href="#">textbook</a> as preparation.
3	Prime and Composite Numbers <i>1 exam item</i>	Complete 5.1 ( <a href="#">textbook</a> , <a href="#">diagnostic</a> , <a href="#">review results</a> ).



	Integers and Order of Operations <i>1 exam item</i>	Warning: Many students find this topic challenging, so make sure you do very well on the 5.2 <a href="#">diagnostic</a> before moving on by taking multiple attempts, and using <a href="#">review results</a> . You are invited to either watch an <a href="#">Order of Operations</a> (6 min) video or read 5.2 in the <a href="#">textbook</a> as preparation. You also need to examine <a href="#">Order of Operations Extra Info</a> .
	Rational Numbers <i>2 exam items</i>	Complete 5.3 ( <a href="#">textbook</a> , <a href="#">diagnostic</a> , <a href="#">review results</a> ).
	Powers and Roots <i>1 exam item</i>	Complete 5.4 ( <a href="#">textbook</a> , <a href="#">diagnostic</a> , <a href="#">review results</a> ).
4	Real Numbers <i>2 exam items</i>  Mathematical Systems <i>1 exam item</i>	Warning: Many students find these topics challenging, so make sure to carefully study the textbook materials along with our supplemental videos and other materials.  Complete 5.5 ( <a href="#">textbook</a> , <a href="#">diagnostic</a> , <a href="#">review results</a> ). Note that thoroughly understanding the diagram and table on the very first page of 5.5 is vital.  Watch <a href="#">Commutative, Associative, and Distributive Properties</a> . (9 min) Watch <a href="#">Math Systems Examples</a> . (11 min) Watch <a href="#">Inverses and Identities</a> . (11 min) Watch <a href="#">How Do you Put Real Numbers in Order?</a> (6 min)
	Scientific Notation <i>1 exam item</i>	Warning: Many students find this topic challenging, so make sure you do very well on the 5.6 <a href="#">diagnostic</a> before moving on by taking multiple attempts, and using <a href="#">review results</a> . You are invited to either watch our <a href="#">Scientific Notation video</a> or read 5.6 in the <a href="#">textbook</a> as preparation.
	Ratio, Proportion, and Percent <i>2 exam items</i>	Complete 6.2, read pages 357 through example 9 on page 360 (Proportions and Applications of Proportions) ( <a href="#">textbook</a> , <a href="#">diagnostic</a> , <a href="#">review results</a> ).  Also watch our video on <a href="#">Direct and Inverse Variation</a> (7 min) and take the <a href="#">Variation Diagnostic</a> and use <a href="#">Review Results</a> .
5	Finite Paths, Graphs, Circuits, and Trees <i>2 exam items</i>	Complete 14.1, 14.2, 14.3, 14.4 ( <a href="#">textbook</a> , <a href="#">diagnostic</a> , and <a href="#">review results</a> ).
6	Prepare for Preassessment	Take <a href="#">Competence in Finite Math test</a> . Use <a href="#">review results</a> for that test.
	Take Preassessment	The scoring report will show you where you ought to



	<i>20 items</i>	re-examine the Study Plan. Each line of the report is an exact match for one of the Topics above.
	Take Objective Exam <i>20 items</i>	If you do not pass, meet with a course instructor.