Hello, and welcome!

If you like to cook, have you ever doubled a recipe? Or if you like to garden, have you ever measured a section of soil to determine how many plants you should purchase? In both of those examples, you used algebra to complete your task. In fact, there are reasons to use algebra all around you! In this course, you will explore working with functions, the algebra of functions, and applied properties of functions. In addition, you will discover more real-life applications of algebra. You will learn about the rate of change, concavity, maximizing and minimizing, and asymptotes. Algebra can teach you to think a certain way, which helps you solve all sorts of problems—in your coursework and in your everyday life!

We invite you to take a minute to learn about the course by reviewing the following information. This way, you will be better able to understand the expectations of the course as a whole. Then you can determine how to manage your time and efforts as you navigate through it.

You are in the right place. You belong here. You can do this!
Course Description and Competencies

What to Expect

In this course, you will learn how to use algebra to model real-world data. You will use functions, graphs, models, and other math skills to understand the information in authentic and meaningful ways. The material includes readings, interactive graphs, as well as learning checks and quizzes.

Learners should complete Applied Probability and Statistics or its equivalent prior to engaging in Applied Algebra.

The objective assessment allows you to demonstrate seven core competencies from the course. You will have two attempts to pass the exam.

- 1 final assessment
- 3 competency units

This course covers the following competencies:

1. The learner interprets the real-world meaning of various functions based on notation, graphical representations, and data representations.

2. The learner applies linear functions and their properties to real-world problems.

3. The learner applies polynomial functions and their properties to real-world problems.

4. The learner applies exponential functions and their properties to real-world problems.

5. The learner applies logistic functions and their properties to real-world problems.

6. The learner analyzes graphical depictions of real-world situations using functional properties.

7. The learner verifies the validity of a given model.
## Course Outline

<table>
<thead>
<tr>
<th>Module</th>
<th>Upon completion of this unit, you will be able to:</th>
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| **Review**        | A. Identify and define functions  
                  | B. Create and interpret graphs  
                  | C. Convert data tables to graphs, and graphs to data tables                                                   |
| **Functions**     | A. Derive conclusions based on notation  
                  | B. Derive conclusions based on graphs  
                  | C. Derive conclusions based on data                                                                         |
| **Linear Functions** | A. Interpret inputs and outputs of linear functions  
                  | B. Interpret rates of change for linear functions                                                               |
| **Polynomial Functions** | A. Interpret inputs and outputs for polynomial functions  
                  | B. Interpret rates of change for polynomial functions  
                  | C. Interpret concavity for polynomial functions                                                                |
| **Exponential Functions** | A. Interpret inputs and outputs for exponential functions  
                  | B. Interpret rates of change for exponential functions  
                  | C. Interpret concavity for exponential functions                                                                |
| **Logistic Functions** | A. Interpret inputs and outputs for logistic functions  
                  | B. Interpret rates of change for logistic functions  
                  | C. Interpret asymptotes for logistic functions                                                                  |
| **Graphical Depictions** | A. Interpret inputs and outputs for situations  
                  | B. Interpret rates of change for situations  
                  | C. Interpret concavity for situations  
                  | D. Interpret maximum and minimum for situations  
                  | E. Interpret asymptotes for situations                                                                         |
| **Validity of Models** | A. Determine fit  
                  | B. Examine utility  
                  | C. Determine validity                                                                                         |
Technology Requirements

We want you to have the tools to succeed! Since this course includes at least one proctored test, please be sure to have a working microphone, speakers, and an external webcam. Unfortunately, an internal webcam (built into many laptops) is not acceptable. Review the Computer System and Technology Requirements to learn about the technology you’ll need. If you have questions about your setup, contact support@academy.wgu.edu.

Key Contacts

Your Fellow Learners
Check out the Applied Algebra Lobby in the course site! In this online community, you can ask questions and explore ideas. You can connect with your fellow learners. When you use this site, you will realize that other learners may have the same questions you have. You can all benefit from learning together!

Tutor.com
If you need academic support, don’t hesitate to contact Tutor.com. There, you have access to thousands of tutors. And they are available 24/7 from any internet-ready device. You can also benefit from instructional videos, study tools, and other assistance.

Technical Support
If you encounter technical issues, be sure to contact the Help Desk. Just submit a Support Request for assistance.

Program Support
Do you have questions about your account? Our Academy Support Team has answers. They can help with billing, switching courses, and other requests. You can contact them at (888) 320-0540 or support@academy.wgu.edu.
Accommodations

WGU Academy provides compliant and accessible learning experiences. If you require accommodation, please contact us at the start of the course. You can email StudentAffairs@academy.wgu.edu or call (888) 320-0540. We are committed to ensuring that all students with disabilities have equal access to WGU Academy's services and materials. We strive to use best practices for accessibility. Our goal is to conform to existing U.S. laws. These include the Americans with Disabilities Act and Section 504 and Section 508 of the Rehabilitation Act. Our learning management system (LMS) platform is Open edX. Open edX's commitment to accessible content is published on their Website Accessibility Policy.