

# MATH 1111: College Algebra

## Summer Semester 2017

**Instructor:** Dr. Abdollah Khodkar

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**Online Office Hours:** Tuesday 10am-11 am and Thursday 2pm-3pm.

If you would like to talk to me but cannot make it during one of these times, please make an appointment.

**Hours Credit:** 3 hours

**Class Type:** This class is 95% or more online

**Prerequisites:** None

**Courses Description:** This course is a functional approach to algebra that incorporates the use of technology. Emphasis will be placed on the study of functions, and their graphs, inequalities, and linear, quadratic, piece-wise defined, polynomial, rational, exponential and logarithmic functions. Appropriate applications will be included.

**TEXT:** College Algebra and Trigonometry, by Julie Miller and Donna Gerken (McGraw Hill Education)

**Learning Outcomes:** Students should be able to demonstrate:

1. An understanding of the equations of circles and lines
2. An understanding of functions and how to graph functions
3. An understanding of operations on functions including function composition
4. An understanding of polynomial graphs, including intercepts and end-behavior
5. An understanding of how to find the zeros of a polynomial and how to factor polynomials
6. An understanding of inverse functions and how to find them graphically and algebraically
7. An understanding of the properties of exponential and logarithmic equations
8. An understanding of how to solve exponential and logarithmic equations
9. An understanding of how to solve a system of equations

## **Topics include**

### **Chapter R: Review of Prerequisites**

- R2 Integer Exponents and Scientific Notation
- R3 Rational Exponents and radicals
- R4 Polynomials and Multiplication of Radicals
- R5 Factoring

### **Chapter 1: Equations and Inequalities**

- 1.1 Linear Equations and Rational Equations
- 1.2 Applications of Linear and Rational Equations
- 1.3 Complex Numbers
- 1.4 Quadratic Equations
- 1.5 Applications of Quadratic Equations
- 1.6 More Equations and Applications
- 1.7 Linear, Compound and Absolute Value Inequalities

### **Chapter 2: Functions and Relations**

- 2.1 The Rectangular Coordinate System
- 2.2 Circles
- 2.3 Functions and Relations
- 2.4 Linear Equations in Two Variables and Linear Functions
- 2.5 Applications of Linear Equations and Modeling
- 2.6 Transformations of Graphs
- 2.7 Analyzing Graphs of Functions and Piecewise-Defined Functions
- 2.8 Algebra of Functions and Function Composition

### **Chapter 3: Polynomials and Rational Functions**

- 3.1 Quadratic Functions and Applications
- 3.2 Introduction to Polynomial Functions
- 3.3 Division of Polynomials
- 3.4 Zeroes of Polynomials
- 3.7 Variation

### **Chapter 4: Exponential and Logarithmic Functions**

- 4.1 Inverse Functions
- 4.2 Exponential Functions
- 4.3 Logarithmic Functions
- 4.4 Properties of Logarithms
- 4.5 Exponential and Logarithmic Equations
- 4.6 Modeling with Exponential and Logarithmic Functions

### **Chapter 9: System of Equations and Inequalities**

- 9.1 Systems of Equations in Two Variables and Applications
- 9.2 Systems of Equations in Three Variables and Applications

**Homework:** I will upload homework problems that are not to be turned in and graded but that are meant to reflect the sort of questions you can expect on tests and final exam. I encourage you to use my online office hours if you have any questions about them.

**Rescheduling tests/final:** If you miss a test or the final, you must have a *university-approved excuse* and you must **make arrangements with me in advance** in order to take a make-up test/exam.

**Calculators:** You are not allowed to use “**advanced**” calculators such as TI-84 better in the proctored final exam.

**Quizzes:** There will be weekly quizzes (seven quizzes all together). Each quiz will be worth 4% toward your final grade. All quizzes are online.

**Tests:** There will be two online tests. Each will be worth 16%.

Test 1: Wednesday June 14 – Friday June 16, 2017

Test 2: Sunday July 2 – Tuesday July 4, 2017

(Tests dates are subject to change.)

**Proctored Final exam:** The final exam will be on Thursday July 20 at 1:00pm  
The final exam is worth 40% toward your final grade.

**There is no extra credit in this course.**

### **Grading Scale:**

- A= 90-100%
- B= 80-89%
- C= 70-79%
- D= 60-69%
- F= 0-59%

**Grading:** Your final grade will be determined as follows:

Quizzes: 28%

Tests: 32%,

Final exam: 40%

Students, please carefully review the following information at this link [http://www.westga.edu/assets/Dept/vpaa/Common\\_Language\\_for\\_Course\\_Syllabi.pdf](http://www.westga.edu/assets/Dept/vpaa/Common_Language_for_Course_Syllabi.pdf). It contains important material pertaining to your rights and responsibilities in this class. Because these statements are updated as federal, state, university, and accreditation standards change, you should review the information each semester.

## **ACADEMIC DISHONESTY**

Academic dishonesty is NOT tolerated. It will result in failure on assignment(s) as well as possible disciplinary sanction(s) as stipulated by university rules. The University of West Georgia Student Conduct Code defines academic dishonesty as cheating, fabrication, plagiarism, and facilitating or allowing academic dishonesty in any academic exercise.

**Cheating:** Using or attempting to use unauthorized materials, information or study aids;

**Fabrication:** Falsification or unauthorized invention of any information or citation;

**Plagiarism:** Representing the words or ideas of another as one's own. Direct quotations must be indicated and ideas of another must be appropriately acknowledged.

Academic dishonesty in any form compromises your grade and lowers the quality of your diploma. A fellow student who cheats may actually lower your grade, sometimes causing unfair and inflated grading scales. I hope each of you values your college education enough to protect yourself from dishonest classmates.

### **Help! I can't get Vista to work!**

If you experience problems using Vista do not panic! Please use the support link below:

<http://webct.westga.edu/>

UWG strives to solve all Vista related problems within 48 hours.

While UWG will do their part to help you resolve problems and other situation regarding Vista you do have some responsibilities.

1. You must seek help. See the link above.
2. Do not wait 2-3 days to report a problem. Do it immediately!
3. Notify me if your problems have not been resolved within 2 business days.
4. Have an alternate computer access plan.

If your ISP suddenly goes out of business, or your disk crashes, or your puppy chews up your modem, or you experience some other personal hardware issue, you are responsible for *having an emergency alternative computer access plan*. Know in advance where you can go (library, Internet cafe, friend's house, workplace) if your primary system fails!

5. If you are experiencing technical issues with CourseDen (not your computer /ISP) that are preventing you from turning in an assignment, responding to mail/discussions, or taking an assessment you have 2 responsibilities:

1. Contact the service desk by phone: 678-839-6587 or email:

[http://www.westga.edu/infosec/index\\_18474.php](http://www.westga.edu/infosec/index_18474.php)

2. Notify me via mail, personal email, or phone

### **Attendance/Participation Policy**

Students in an online course are expected to login a minimum of 3 times a week. My recommendation for doing well in this course is to login daily to check for new discussions, emails, announcements, etc.

If you are having trouble please contact me and talk with me rather than just dropping off the face of the earth! I want you to pass this class-- actually I want you to do more than pass-- I want you to love this class so much that you decide to study business in the future! When responding to discussion questions your response must be well thought out and of academic interest. A response of simply "I agree" or the like will not be counted as a response.

### **Library Resources**

UWG students have access to many online resources through the UWG Library.

<http://www.westga.edu/library/>

### **ADA**

#### **AMERICANS WITH DISABILITIES ACT STATEMENT**

If you are a student who is disabled as defined under the Americans with Disabilities Act and requires assistance or support services, please seek assistance through the Center for Disability Services. A CDS Counselor will coordinate those services.

### **Affirmative Action Statement**

University of West Georgia adheres to affirmative action policies to promote diversity and equal opportunity for all faculty and students.

## **Equal Opportunity Statement**

No person shall, on the grounds of race, color, sex, religion, creed, national origin, age, or disability, be excluded from employment or participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity conducted by UWG.