MATH 1111 - College Algebra

**Hours Credit:** 3 hours  
**Prerequisites:** None

**COURSE INSTRUCTOR**  
**Instructor:** Mahdiyeh Soltaninejad  
**Office:** Boyd. 106-E  
**Email:** Mahdiyeh@westga.edu  
**Phone:** 678-839-4738

**OFFICE HOURS**  
Monday  
3:15 PM - 5 PM  
8:30 AM - 9:45 AM  
Friday  
Will be in MTC (Boyd. 205) on Wednesday 3:15 PM - 4 PM

**REQUIRED COURSE MATERIALS**  
**TEXT AND OTHER REQUIRED COURSE MATERIALS.**

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

**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.

**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 equation
COURSE ASSESSMENT

Students’ mastery of course learning outcomes will be assessed using the following methods:

-EXAMS: You will be given 4 in-class exams during the semester. Each exam will be worth 100 points. **STUDENTS CAN NOT TAKE AN EXAM LATE.** If a student misses an exam, for any reason, they will not be permitted to take the exam at a later time.

**A student’s Final Exam grade will replace their lowest or missed in-class exam grade.**

***If a student misses more than one test, for any reason, the student will automatically receive a 0 for the 2nd/3rd/4th missed test.

**I will announce the dates of the test one week beforehand and it is student’s responsibility to make sure they know the dates of the test.

-FINAL: Students will have a comprehensive final exam. Students are required to take the final exam on their scheduled day.

**The final exam schedule is found in the SCOOP.

ASSESSMENT GRADING:

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<table>
<thead>
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<tbody>
<tr>
<td>Exams:</td>
<td>75%</td>
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<tr>
<td>Final:</td>
<td>25%</td>
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NOTE: Graphing calculators equivalent to the TI 83, 84, 85, and 86 will be allowed on the exam, as will scientific calculators. The TI-89 and other equivalent calculators will not be allowed.

Grading Scale:

- 90% - 100%: A
- 80% - 89%: B
- 70% - 79%: C
- 60% - 69%: D
- <60%: F
OTHER COURSE INFORMATION

**Students are expected to come to class and be “present”. If you come to class to sleep, be disruptive, or use your phone, you may be asked to leave.**

**It is the student’s responsibility to catch-up on any missed material. You will not be permitted to have a copy of the instructor’s notes. It is your responsibility to find out any announcements/changes made during class.**

COURSE POLICIES AND INFORMATION

University Policies and Academic Support
Please carefully review the following Common Language for all university course syllabi at the link:

http://www.westga.edu/assetsDept/vpaa/Common_Language_for_Course_Syllabi.pdf

It contains important material pertaining to university policies and responsibilities. Because these statements are updated as federal, state, university, and accreditation standards change, you should review the information each semester.

For important policy information, i.e., the UWG Honor Code, Email, and Credit Hour policies, as well as information on Academic Support and Online Courses, please review the information found in the Common Language for Course Syllabi documentation at http://www.westga.edu/assetsDept/vpaa/Common_Language_for_Course_Syllabi.pdf.

Academic Honesty

Any form of academic dishonesty will result in a failing grade for the assignment for the first offense (students will not be able to replace this grade). A second offense will result in a failing grade for the course. All forms of academic dishonesty will be reported. Definitions of academic dishonesty are defined in the student handbook: www.westga.edu/handbook/

Disabilities Act/Accessibility for the Course

If you are a student whom is disabled as defined under the Americans with Disabilities Act and require assistance or support services, please notify me and provide me with a copy of your packet from Student Services. The university will provide you with resources for any audio/visual needs that you may have with the learning management system or course content. Please contact UWG Accessibility Services for more information.
**Student Conduct**

Students are expected to abide by the guidelines detailed in the university catalog. Respect and courtesy are required of all students while in the classroom. The following is also mandatory:

1) Cell phones and laptops will not be permitted in class, unless prior arrangements have been made with the instructor (emergencies, disabilities, etc). Continued use of cell phones/laptops will result in your dismissal of class.

2) Students are required to be courteous to others and the instructor. If a student is being disrespectful or disruptive, they will be asked to leave.

**COURSE OUTLINE**

<table>
<thead>
<tr>
<th>Sections</th>
<th>NOTE</th>
<th>Learning Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rules of Exponents and Simplifying Square Roots</td>
<td>from sections R.1, R.2 and R.3</td>
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<tr>
<td>Factoring and Simplifying Polynomials and Ratios of Polynomials</td>
<td>from sections R.4, R.5 and R.6</td>
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<tr>
<td>1.1: Linear Equations and Rational Equations</td>
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<td>1.2: Applications with Linear and Rational Equations</td>
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<td>1.3: Complex Numbers</td>
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<td>1.4: Quadratic Equations</td>
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<tr>
<td>1.5: Application of Quadratic Equations</td>
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<td>1.6: More Equations and Applications</td>
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<td>1.7: Linear, Compound and Absolute Value Inequalities</td>
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**TEST 1**

2.1: The Rectangular Coordinate System and Graphing Utilities | 1 |
2.2: Circles | 1 |
2.3: Functions and Relations | 2 |
2.4: Linear Equations in Two Variables and Linear Functions | 1 |
2.5: Applications of Linear Functions | 1 |
2.6: Transformations of Graphs | 2 |
2.7: Analyzing Graphs of Functions and Piecewise Defined Functions | Even/Odd, Symmetry, Increasing/Decreasing only | 2 |
2.8: Algebra of Functions | 3 |

**TEST 2**

3.1: Quadratic Functions and Applications | 4 |
3.2: Introduction to Polynomial Functions | 4 |
3.3: Division of Polynomials and Factor and Remainder Theorem | 4 |
3.4: Zeros of Polynomials | 5 |
3.7: Variation | |
9.1: Systems of Linear Equations in Two Variables and Applications | 9 |
9.2: Systems of Linear Equations in Three Variables and | 9 |
# Applications

<table>
<thead>
<tr>
<th>TEST 3</th>
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<tbody>
<tr>
<td>4.1: Inverse Functions</td>
<td>6</td>
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<tr>
<td>4.2: Exponential Functions</td>
<td>7</td>
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<tr>
<td>4.3: Logarithmic Functions</td>
<td>7</td>
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<tr>
<td>4.4: Properties of Logarithms</td>
<td>7</td>
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<tr>
<td>4.5: Exponential and Logarithmic Equations</td>
<td>8</td>
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<td>4.6: Modeling with Exponential and Logarithmic Functions</td>
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## IMPORTANT DATES:

- **First Day of Class:** Monday, January 8
- **Drop Ends:** Wednesday, January 10
- **Last Day to Withdrawal with W:** Wednesday, February 28
- **Last Day of Class:** Monday, April 30
- **Final Exam Period:** May 2-8 (see The Scoop for specific times)
- **No classes:**
  - Monday, January 16 (MLK Day)
  - Friday, March 9 (MATH DAY - Math classes cancelled)
  - Monday March 19 - Friday March 23 (Spring Break)

## IMPORTANT NOTE

I reserve the right to modify this syllabus at any time during the course of the term, particularly regarding the course schedule. If such a modification is substantial, I will reissue a revised syllabus and announce the change in class.