

**University of West Georgia**  
**DEPARTMENT OF MATHEMATICS**  
**Precalculus**  
**MATH 1113 – Sec 91**

Instructor:	Mr. Robert Burnham	Classroom:	140 Newnan Center
Email:	rburnham@westga.edu	Class time:	MW 9:30 – 10:45 am, F 9:50 – 10:45 am
Office:	116 Newnan Center	Office Hours:	MW: 8:00 – 9:00am, 5:00 – 6:30 pm, Other Times by Appointment
Phone:			

**Prerequisite:** A grade of C or better in MATH 1111 or an SAT Math score of at least 500 or an ACT Math score of at least 20.

**Required Text:** *College Algebra and Trigonometry, Abramson, Openstax*. Student can download for free at <https://openstax.org/details/books/algebra-and-trigonometry>. Students should go to “Download a PDF” and download the High Resolution version.

**Course Description:** This course is designed to prepare students for calculus, physics and related technical subjects. Topics include an intensive study of algebraic and transcendental functions.

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### Learning Outcomes

Students should be able to demonstrate:

1. An understanding of functions and how to graph functions
2. An understanding of operations on functions including function composition
3. An understanding of types of functions.
4. An understanding of rational functions and their graphs, including intercepts and asymptotes
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 find the values of the trigonometric functions from right triangles and circles
10. An understanding of how to graph the trigonometric functions
11. An understanding of how to prove trigonometric identities
12. An understanding of how to use the sum, difference, double-angle and half-angle formulas for sine and cosine
13. An understanding of how to solve trig equations
14. An understanding of how to solve triangle using the law of sines and law of cosines
15. An understanding of polar coordinates and graphs
16. An understanding of how to analyze and solve applied problems

In addition, since this course satisfies Area A2 of the Core, upon successful completion of the course:

- Students demonstrate a strong foundation in college-level mathematical concepts and principles.
- Students demonstrate the ability to apply symbolic representations to model and solve real-world problems.

## EXPECTATIONS / REQUIREMENTS

### Grade :

Your grade will consist of four Tests (12.5% each), Homework/Quiz Average (25%), and a cumulative Final Exam (25%).

### ASSESSMENT GRADING:

**Course Grade = .25\*(Hw/Quiz Average) + .125\*Test 1 + .125\*Test 2 + .125\*Test 3 + .125\* Test 4+0.25\*(Final Exam)**

**When computing your Final Course Grade I will replace your lowest test grade with your Final Exam Grade, if the Final Exam Grade is higher than your lowest test grade.**

**In the event of academic dishonesty the student forfeits this benefit.**

### Grading Scale :

Letter Grade	A	B	C	D	F
Grading Scale	90% to 100%	80% to 89%	70% to 79%	60% to 69%	0% to 59%

**Calculator Policy:** Graphing calculators equivalent to the TI 83, 84, 85, and 86, as well as scientific calculators are allowed for use in this course. The TI-89 and other equivalent calculators will not be allowed. **The instructor reserves the right to when you are allowed to use Calculators on in class graded assignments.**

**Lecture Notes:** Lecture notes play a big role in this course. I will post my lecture notes on CourseDen and I do expect you to print them off and bring them to class. Students who do not do this will have a difficult time keeping up in the class.

### Homework:

Homework assignments will be completed on CourseDen using MyOpenMath. You will have assignments due on CourseDen on almost a weekly basis. Do not wait until the due date to complete the assignments – if CourseDen is not available, you will get a 0 for those assignments.

### Quizzes :

Quizzes will be based on homework assignments as well as information discussed during class. Quizzes maybe given in class or online on CourseDen. I will announce (in class) the exact date of quizzes at least one class period in advance. Expect there to be a Quiz on almost a weekly basis.

### Tests/Final:

There will be 4 Tests and a comprehensive final exam. I will announce (in class) the exact dates for each test at least one week prior to said test. All 4 tests and the final exam will be completed in class on paper.

**Final Exam:** The Final Exam will be given on **Wednesday, April 29th, 8:00 - 10:00 am**

**Make-up Policy:**

In the event of a student missing a Test for any reason, I will allow the final exam grade to replace that missing test grade. There will be no make up quizzes.

**Withdrawal Policy:** The last day you can withdraw from this course and receive a “W” is Friday **Feb 28th, 2020.**

**Attendance:** There is no attendance policy in this class. But you must come to class to success. Please do not arrive late or leave early.

**Questions about grading:** Questions about grading must be asked within one week of the graded works return.

**University Closures:** If the University is closed due to weather or for any other reason, any test, quiz, or graded assignment that may have been scheduled for that date will be administered on the next available class date. If an assignment is due that day, it will be due the next class.

**UWG EMAIL POLICY:** University of West Georgia students are provided a MyUWG e-mail account. The University considers this account to be an official means of communication between the University and the student. The purpose of the official use of the student e-mail account is to provide an effective means of communicating important university related information to UWG students in a timely manner. It is the student’s responsibility to check his or her email.

**CourseDen:** Course materials will be posted on CourseDen. Please check CourseDen often for updates. You may log in to CourseDen at [www.westga.edu](http://www.westga.edu) or <http://webct.westga.edu>. If you are having problems logging into CourseDen, please go to <http://uwgonline.westga.edu/students.php> or call 678-839-6248

**Accessibility Services:**

Students with a documented disability may work with UWG Accessibility Services to receive essential services specific to their disability. All entitlements to accommodations are based on documentation and USG Board of Regents standards. If you need course adaptations or accommodations because of a disability or chronic illness, or if you need to make special arrangements in case the building must be evacuated, you should notify me in writing and provide a copy of your Student Accommodations Report (SAR), which is available only from Accessibility Services. I cannot offer accommodations without timely receipt of the SAR; further, no retroactive accommodations will be given. For more information, please contact Accessibility Services.

**Math Tutoring Center (MTC):** The Math Tutoring Center is located in 205 Boyd is available for any student who needs help. No appointments are necessary for the MTC. There are computers available in the MTC so students can get help with online assignments as well as homework assignments. The MTC is scheduled to open starting the second week. The hours for the MTC this semester will be announced in class as soon as they become official.

**Center for Academic Success:** The Center for Academic Success provides services, programs, and opportunities to help all undergraduate students succeed academically. For more information, contact them: 678-839-6280 or [cas@westga.edu](mailto:cas@westga.edu)

**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.

### **Cell Phones/Laptops:**

You are expected to give your full, undivided attention while class is in session. Turn off or do not bring electronics that will distract you and the class. Electronic devices are not to be used during the lecture, unless permitted by the instructor.

### **COURSE POLICIES AND INFORMATION:**

#### **University Policies and Academic Support**

Please carefully review the following Common Language for all university course syllabi at the link:

<https://www.westga.edu/UWGSyllabusPolicies/>

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.

#### **Academic Dishonesty:**

All students of the University of West Georgia are expected to follow the Honor Code as described in the student handbook (Definitions of academic dishonesty are defined in the student handbook: [www.westga.edu/handbook/](http://www.westga.edu/handbook/)). Any student who commits academic dishonesty will receive the following penalties.

1. For a first charge of academic dishonesty the student will receive a grade of “0” for said assignment. In the event of academic dishonesty the final exam grade will not replace your lowest test grade if it is higher.
2. For a second charge of academic dishonesty the student will receive a grade of “0” for the course.

Note that all incidents of academic dishonesty will be reported to the University.

### **IMPORTANT DATES:**

<b><u>First Day of Class:</u></b>	Monday, January 6th
<b><u>Drop Ends:</u></b>	Tuesday, January 10th
<b><u>Last Day to Withdrawal with W:</u></b>	Friday, February 28th
<b><u>Last Day of Class:</u></b>	Monday, April 27th
<b><u>Final Exam Period:</u></b>	April 29 <sup>th</sup> to May 5 <sup>th</sup> (see The Scoop for specific times)
<b><u>No classes:</u></b>	Monday, January 20th (MLK Jr Day) Friday, March 6 <sup>th</sup> (Math Day) Monday March 16th to Friday March 20th (Spring Break)

**\*\*Note\*\*** This syllabus provides a general plan for the course; deviations may be necessary

## COURSE OUTLINE

Section	Title
3.1	Functions and Function Notation
3.2	Domain and Range
3.3	Rates of Change and Behavior of Graphs
3.4	Composition of Functions
3.5	Transformation of Functions
4.1	Linear Function
5.1	Quadratic Functions
5.2	Power Functions and Polynomial Functions
5.3	Graphs of Polynomial Function
5.6	Rational Function
	TEST 1
3.7	Inverse Functions
6.1	Exponential Functions
6.2	Graphs of Exponential Functions
6.3	Logarithmic Functions
6.4	Graphs of Logarithmic Functions
6.5	Logarithmic Properties
6.6	Exponential and Logarithmic Equations
6.7	Exponential and Logarithmic Models
	TEST 2
7.1	Angles
7.2	Right Triangle Trigonometry
7.3	Unit Circle
7.4	Other Trigonometric Functions
8.1	Graphs of Sine and Cosine Functions
8.2	Graphs of Other Trigonometric Functions
8.3	Inverse Trigonometric Functions
	TEST 3
9.1	Solving Trigonometric Equations with Identities
9.2	Sum and Difference Identities
9.3	Double-Angle, Half-Angle and Reduction Formulas
9.4	Sum to Product and Product to Sum Formulas
9.5	Solving Trigonometric Equations
10.1	Non-Right Triangle: Law of Sines
10.2	Non-Right Triangle: Law of Cosines
10.3	Polar Coordinates
10.4	Polar Coordinates: Graphs
	TEST 4