

## MATH 1113 - Precalculus

**Hours Credit:** 4 hours

**Prerequisites:** 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

### COURSE INSTRUCTOR

**Instructor:** Carrie Carmack  
**Office:** Boyd 104  
**Email:** ccarmack@westga.edu

### OFFICE HOURS

Monday	Wednesday	Friday
2:15 PM – 3:30 PM	2:15 PM – 3:30 PM	1:00PM – 3:00 PM

### REQUIRED COURSE MATERIALS

- 1) 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.
- 2) Binder with notebook paper for taking notes.
- 3) Calculator. TI-89s or equivalent will not be permitted.

### Courses 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.

### 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

## COURSE SCHEDULE

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

### **IMPORTANT DATES:**

**First Day of Class:**

Wednesday, August 15

**Drop Ends:**

Friday, August 17

**Last Day to Withdrawal with W:**

Monday, October 8

**Last Day of Class:**

Friday, December 7

**Final Exam Period:**

December 8-14 (see The Scoop for specific times)

**No classes:**

Monday, September 3 (Labor Day)

Thursday October 4 and Friday October 5 (Fall Break)

Monday November 19- Friday November 23 (Thanksgiving)

## COURSE ASSESSMENT

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

- 1) EXAMS: You will be given 4 in-class exams during the semester. Each exam will be worth 100 points.

**\*\*An exam can be taken up to 5 days late (including weekends). The student will incur an automatic 20 point deduction on their exam grade if they take the test late.**

If a test is scheduled for Monday and a student misses, they must take the exam by Friday. If a test is scheduled for Wednesday, and a student misses, they must take the exam by Monday. If a test is scheduled for Friday and a student misses, they must take the exam by the following Wednesday.

**\*To take an exam late, the student must contact the teacher within 2 days of the exam and schedule the exam during office hours only. The student will not be given extra time to complete the exam.**

**\*\*A student's Final Exam grade will replace their lowest exam grade.**

- 2) Class Participation: Students will be given assignments in class. The student must be in attendance during the assignment to receive credit. If the student arrives late to class and misses the assignment, they cannot make it up. If a student leaves class early and misses an assignment, they cannot make it up. If a student misses class altogether, they cannot make up the assignment. Students will not be given prior knowledge of when the class participation assignment will be given. If a student has an excused absence, they will have to follow these policies.

**\*The lowest 3 class participation assignments will be dropped at the end of the semester.**

- 3) 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. A student must take their final exam during their scheduled time, unless they receive prior instructor approval.**

**\*\*A student's final exam grade will replace the lowest test grade, if higher.**

- 4) STUDENT-TEACHER MEETING: The student is required to meet with the instructor once during the semester. The instructor will contact the student via their westga student email to schedule the first appointment. The student must respond to the initial teacher email within **2 weeks** to schedule an appointment. If a student fails to make their appointment time, they can reschedule once. If they fail to make the appointment a second time, they will receive a 0% for the grade.

**\*\*If there is any issue with a student receiving an initial email, it is the student's responsibility to contact the instructor no later than 2/28 to schedule an appointment.**

**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.

## ASSESSMENT GRADING:

STUDENT TEACHER MEETING:	3%
EXAMS:	60% (15% each)
CLASS PARTICIPATION	12%
FINAL EXAM:	25%

### Grading Scale:

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

## OTHER COURSE INFORMATION

- 1) **Homework:** Homework will be given but not assigned for a grade. Homework is for practice only but is very important in retaining information. Homework can be found in CourseDen under **Content**.
  
- 2) **Extra Credit:** Extra credit is a privilege in this class. If a student is dishonest or disrespectful to their tutor/peers within a session, this privilege can be taken away at instructor discretion. Extra credit will be offered in this class via:
  - i) **Supplemental Instruction:** You must attend 50 minutes of a 1 hour session with our SI leader for 1 bonus point.
  
  - ii) **Tutoring:** You must attend 1 hour of tutoring in the Center for Academic Success for 1 bonus point.  
\*You must submit a CAS verification card for tutoring.
  
  - iii) **Tutor Lab:** You can attend a 1 hour tutor lab for 1 bonus point. You must sign up with the instructor and commit to certain tutoring policies to be eligible to attend.
  
  - iv) **Math Tutoring Center – Boyd 205:** 1 hour of attendance at the MTC will yield 0.5 bonus points.  
\*You can acquire up to 10 bonus points at the MTC.  
\*You must keep up with your attendance using the attendance form **AND** you must **sign into the MTC when you arrive – sign out when you leave**. You will not receive bonus points if you did not sign in at the MTC.  
\*While at the MTC, you must actively work on math content to receive bonus.

**\*\*You may receive a maximum of 20 bonus points during the semester to go toward your exam grade. The dates for eligibility will be August 20 – December 2.**
  
- 3) **Miscellaneous**  
\*Students are expected to come to class and be “present”. **Cell phone/laptop use in class is not permitted (unless you have prior approval from the instructor)**

\*If a student is absent from class, it is their responsibility to catch-up on any missed material. Students will not be permitted to have a copy of the instructor's notes. If a student is absent from class, contact the instructor via email for any announcements and topics covered.

## **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/administration/vpaa/assets/docs/facultyresources/common\\_language\\_for\\_course\\_syllabi\\_v2.pdf](https://www.westga.edu/administration/vpaa/assets/docs/facultyresources/common_language_for_course_syllabi_v2.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.

### **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/](http://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:

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.