

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

Math Department recommends a minimum ALEKS Placement score of 61 to be successful in the class.

COURSE INSTRUCTOR

Instructor: Nathan Rehfuss

Email: nrehfuss@westga.edu

Office: 111A Boyd

Office Hours:

Monday	9:50 – 10:50 AM
Tuesday	10:00 – 12:00 AM
Friday	1:10 – 3:10 PM

REQUIRED COURSE MATERIALS

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

ALEKS: All students in MATH 1113 are required to have an ALEKS Account. Go to www.aleks.com to purchase an account.

The course code for this section is V4RXH-LE4XG

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.

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

MODULE	Section	Title	Learning Outcome
1	2.3	Functions and Relations	1
	2.6	Transformations of Graphs	1
2	2.7	Analyzing Graphs of Functions and Piecewise Defined Functions	3
	2.8	Algebra of Functions and Function Composition	2
	3.1	Quadratic Functions	3
3	3.2-3.4	Polynomials	5
	3.5	Rational Functions	4
	3.6	Polynomial and Rational Inequalities	4,5
		TEST 1	
4	4.1	Inverse Functions	6
	4.2	Exponential Functions	7
5	4.3	Logarithmic Functions	7
	4.4	Properties of Logarithms	7
6	4.5	Exponential and Logarithmic Equations	8
	4.6	Modeling with Exponential and Logarithmic Functions	16
		TEST 2	
7	5.1	Angles and Their Measures	
	5.2	Right Triangle Trigonometry	9
8	5.3	Trigonometric Functions of Any Angle	9
	5.4	Trigonometric Functions Defined on the Unit Circle	9
9	5.5	Graphs of Sine and Cosine	10
	5.6	Graphs of Other Trigonometric Functions	10
	5.7	Inverse Trigonometric Functions	6
		TEST 3	
10	6.1	Fundamental Trigonometric Identities	11
	6.2	Sum and Difference Formula	12
11	6.3	Double Angle and Half Angle	12

	6.5	Trigonometric Equations	13
12	7.1	Applications of Right Triangles	16
	7.2	Law of Sines	14
	7.3	Law of Cosines	14
	8.1	Polar Coordinates	15
	8.2	Graphs of Polar Equations	15
		TEST 4	
		Review	

IMPORTANT DATES:

<u>First Day of Class:</u>	Monday, January 8
<u>Drop Ends:</u>	Wednesday, January 10
<u>Last Day to Withdrawal with W:</u>	Wednesday, February 28
<u>Last Day of Class:</u>	Monday, April 30
<u>Final Exam Period:</u>	May 2-8 (see here for specific times)
<u>No classes:</u>	Monday, January 15 (MLK) Friday, March 9 (Math Day) March 19-24 (Spring Break)

COURSE ASSESSMENT

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

ALEKS modules (15%), 10 in-class quizzes (20%), 4 in-class midterms (35%), and a cumulative final exam (30%). I will drop your lowest quiz grade and your lowest test grade. Quizzes will be given every week except for test weeks, and always on Friday.

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

Attendance is strongly encouraged. Class will emphasize student participation, which has been shown to improve learning outcomes. No extra credit will be given. If you know you cannot attend an exam, contact me at least 48 hours in advance and we may be able to make alternate arrangements. Otherwise no make-up tests or quizzes will be given.

To ensure confidentiality and timely response, all course-related email must originate from a westga.edu account and be addressed to my westga.edu email. FERPA prohibits me from discussing grades over email – if you have questions or concerns about your grade, please come to office hours or arrange an appointment.

COURSE POLICIES AND INFORMATION

University Policies and Academic Support

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

Because these statements are updated as federal, state, university, and accreditation standards change, you should review the information each semester.

Academic Honesty

Quizzes and exams are closed-book, closed note, individual assessments. Any attempt to cheat using notes, books, or communication with other students or outside sources will result in a grade of 0 and a report to school administration.

Students are encouraged to work with others on ALEKS modules and test review.

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. **Silence all electronic devices** and respect your classmates by refraining from activities that might distract them.