Math 1113 Precalculus (CRN 29597) – Syllabus

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Welcome to the Fall 2018 section of Math 1113, *Precalculus*. The course is designed to offer a broad introduction to the topics necessary to succeed in calculus. We will examine a range of issues from the definition of function, exponential and logarithmic functions, and trigonometric functions. Our goal is not to solve particular equations. The central theme of this course is the idea of a function, and our goal is to understand the different techniques and approaches to explore functions.

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.

The following topics are key parts of this course:

Topic	Important Ideas
Function	Determine the relationship between dependent and independent variables. Determine the range and domain of a given function.
Inverse Function	Determine an inverse function and relate it to the original function.
Exponential Functions	Define functions that model various phenomena and compare to other relationships such as linear and quadratic functions.
Logarithmic Functions	Relate logarithmic functions to exponential functions and solve equations with both exponential and logarithmic terms.
Trigonometric Functions	Relate trigonometric functions to the unit circle, define functions that model physical phenomena, solve equations with trigonometric terms, and define inverse functions for trigonometric functions.

Our evaluation is based on the following expectations:

Quality of Work	Expectations
Needs Improvement	Cannot identify basic equations Cannot determine solutions for basic systems of equations
Satisfactory	Can identify and solve all basic equations Can determine solutions of all basic equations
Good	Derive own systems Determine solutions and stability of own systems
Excellent	Tie together different concepts to solution techniques Can determine solution to any one system using a variety of techniques

Textbook: Precalculus, Julie Miller and Donna Gerkin, McGraw Hill. A special edition for UGA is available at a reduced rate, and the ISBN is 978-1-30-700456-4. You will need access to the ALEKS 360 homework system which is included with the UGA edition of the book. The book should be available at the UGA bookstore as well as other local bookstores.

Web-page: : `http://www.math.uga.edu/1113`

Description: Preparation for calculus, including an intensive study of algebraic, exponential, logarithmic, and trigonometric functions and their graphs. Applications include simple maximum/minimum problems, exponential growth and decay, and surveying problems.

A central idea is the definition of functions including the ability to determine the range and domain of a function as well as the inverse. You should be able to work with exponential and logarithmic functions, be able to solve equations with exponents, and know the relationship between the exponential and logarithmic functions. You should be able to work with the definitions of the trigonometric functions, the unit circle, and be able to work with the inverses of the basic trigonometric functions.

Goals: At the end of this course we expect that a student will be able to do each of the following:

- Identify oscillatory, exponential/logarithmic, and polynomial behaviour and derive appropriate functions to approximate the behaviour.
- State the definition of a function and determine the domain and range of a function as well as determine if the function has an inverse and be able to define the inverse.
- Provide and defend arguments for conclusions using correct mathematical notation and justify intermediate steps.
- Read a problem statement and determine a set of steps to answer the question using a formal and effective problem solving strategy.
- Manipulate relationships to correctly and efficiently isolate a variable of interest.

Meeting Times: We meet daily from *9:30am* to *10:45am* in *Miller Plant Sciences 1503*.

Attendance: Students who have more than three unexcused absences will be withdrawn from the course with a grade of W before the midpoint of the term. After the midpoint for the term the grade will be an F. The three unexcused absences should only be used for emergencies, and you may be asked to verify the reason for an absence and demonstrate that it was an emergency and not due to a social or work commitment. If you repeatedly leave class early or arrive late it may be counted as an absence.

Announcements: You are responsible for all announcements made in class regardless of whether or not you are in class. You should check with other people in the class. I will try to send announcements through UGA email.

Homework: Homework will be assigned throughout the course. Most will be due on ALEK-S. Do not expect to watch your professor work through a problem and then understand how to do it. Mathematics is best learned by doing it, and you should practice until you are proficient. It is no different than learning music or athletic skills.

Grading: The final grades are calculated using the following distribution:

45%	3 In Class Tests.
25%	Final Exam.
10%	Homework and ALEKS.
10%	In-class quizzes
5%	In-class Activities
5%	Basic Skills Tests

At the end of the semester we assign letter grades as follows:

Letter Grade	Numerical Grade
A	92–100
A–	89–91
B+	87–88
B	82–87
B–	79–81
C+	77–78
C	72–76
C–	69–71
D	60–68

Test Dates: The tests are tentatively scheduled for **13 September**, **11 October**, and **15 November**. The tests will take place in your regular classroom. You should bring your own pencils. The professor will not have any spare materials. These dates may change, and you should check with your professor to determine the final dates. You can use a TI-30 calculator on the tests. (See the calculator details below.) Sharing a calculator during a quiz or exam is not permitted and is grounds for initiating a discussion for a violation of the UGA Student Honor Code.

The final exam will take place on 6 December from 7pm to 10pm.

Basic Skills Tests: In addition to written tests there will be basic skills tests that will take place in the Mathematics Department's testing center. These will be tests on ALEKS, and the focus is on calculations and basic ideas. There will be three rounds of tests. In each round there will be two tests, and your grade for each round will be the higher of the two grades. The dates for these tests will be announced in class.

Grading: If you submit work after a deadline without obtaining permission then you will not receive any credit for the assignment.

Questions about grading of any work should be submitted to your professor within three working days of the return of the work. It is best if you write down the question and attach it to your graded work, otherwise we are likely to forget the details of your question.

Calculator Policy The required calculator for the course is the TI-30XS Multi-View. It is available at the book store, many retail outlets, and many on-line sites. You should not use a calculator that can perform any basic algebra steps. The TI-30X Pro is explicitly not allowed. You can use a TI-84 in class but cannot use it on quizzes or tests.

Make up Policy: The right to miss a scheduled exam and take a make up exam can be awarded only by your professor, and will be awarded rarely and only for a serious cause. **Do not count on being able to make up a test until you have explicit permission from your professor.** If for some reason you must miss an exam, you must apply in writing **before** the exam. Include your local address, phone number, and reason with written documentation attached. If you are unable to attend the exam due to an emergency that day you must contact the professor as soon as possible and provide documentation to confirm why you cannot take part in the exam. An unexcused absence will result in a grade of zero on the exam.

Academic Accommodations: If you anticipate any issues related to the format or requirements of this course, please contact me. We can discuss ways to ensure your full participation in the course. If formal, disability-related accommodations are necessary, it is vital that you register with the Disability Resource Center (Voice: 706-542-8719 or TTY: 706-542-8778) and notify me of your eligibility for accommodations. We can work together to figure out how to best address your needs.

Homework: Most homework problems will be due on ALEKS 360. The details can be found on the ALEKS website. Please pay close attention to the due dates posted on ALEKS.

ALEKS 360: You will have an account set up on ALEKS. You will find a link to ALEKS from the course ELC web page. When you click through the first time, your account on ALEKS will be initiated. You should access ALEKS through the link on ELC. Be aware of that we will not be available to answer questions about the content after 5:00pm. Do not wait till the last minute to do your work. If you have a problem with the website please make use of the help resources at ALEKS.

Office Hours: We will announce office hours when they have been determined. Meetings can also be arranged by appointment.

Academic Integrity: As a University of Georgia student, you have agreed to abide by the University's academic honesty policy, "A Culture of Honesty," and the Student Honor Code. All academic work must meet the standards described in "A Culture of Honesty" found at: `https://ovpi.uga.edu/academic-honesty/academic-honesty-policy`. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.

FERPA Notice: The Federal Family Educational Rights and Privacy Act (FERPA) grants students certain information privacy rights. See the registrar's explanation at `http://reg.uga.edu/ferpa_policy`)act . FERPA allows disclosure of directory information (name, address, telephone, email, date of birth, place of birth, major, activities, degrees, awards, prior schools), unless requested in a written letter to the registrar.

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