

Math 1113: Precalculus

D. Zack Garza

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E-mail: zack@uga.edu

Meetings:

28430: MWF 8:00 AM – 8:50 AM in Boyd Graduate Studies, room 304

15211: MWF 10:20 AM – 11:10 AM in Forestry Resources 1, room 209

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Intro and Basic Logistics

Welcome to Math 1113, *Precalculus*. The course is designed to offer a broad introduction to the topics necessary to succeed in calculus. The central theme in this course is the idea of a *function*, and how we can reason about the most common ones.

There is a great deal of uncertainty due to COVID, and both course and university policies are subject to change throughout the semester. We may have to shift the entire course to an online format on short notice. **This syllabus is a general plan for the course; deviations may be necessary as the semester progresses. If this is the case, any changes will be announced to the class.**

About Me and Contact

- My pronouns: He/Him/His
- Email/Contact Etiquette:
 - In emails, please take advantage of this opportunity to practice professional etiquette. If you have not emailed in a professional context before, please research this very important skill:

[How to Email Your Professors](#)
 - I am a graduate student instructor, so I technically do not have the title of “Dr.” or “Professor”. I’d most prefer if you just addressed me as “Zack”, although I’m perfectly fine with “Professor Garza” if you find that more comfortable.
- **Communication:** announcements will frequently be sent out through ELC, which is the website for this course. These should forward to your UGA email, be sure to check it frequently!
- You are responsible for all announcements made in class, whether or not you are present that day. Take a moment to introduce yourself to those around you and exchange contact information.
- **Class calendar:** see ELC.

Tutorials

- Sometimes called *office hours*, these are times I make available to work with you all one-on-one or in small groups.
- Most useful if you bring specific problems you have questions about, or prepared questions about specific topics.
- Dates and times: regularly scheduled weekly hours, or by appointment.
 - For appointments, email at least 48 hours in advance to arrange a meeting.
 - In your first email, include several potential days/times when you are available!

Course Format

The format for this course will be a *flipped* and in-person.

- **Flipped:** This means that you will be able to watch recorded lectures for this class on your own time and complete work outside of class. The point of this is to learn and practice rote topics and fundamentals outside of class, and reserve class time to explore and discuss the more difficult concepts.

The time we spend meeting will primarily be short reviews of lecture material and problem sessions where we will work and discuss specific problems together. This will often include in-class group work.

Day-to-Day Classroom Experience

- You'll watch a video and complete a workbook section before each class meeting ("preclass" videos and sections).
- We'll complete an in-class worksheet together most days in class, usually in groups.
- In parallel, you will have regular assignments in the ALEKS online system.
- Attendance is mandatory, and is reflected in your grade in multiple ways. Missing too much class is grounds for being dropped from the course.
- Regarding COVID: per UGA and USG policy, I can not *require* you to mask in class, to test or quarantine if you show symptoms, to be vaccinated before attending class, or to notify me if you get sick. Instead, I just ask that you take reasonable precautions and follow CDC and USG guidelines.
 - If you do get sick, you are welcome to reach out to me to arrange accommodations (e.g. makeup assignments, rescheduled quizzes/exams).
- We will try to make use of a variety of classroom practices including worksheets, group discussions, individual exploration, and some lecturing. You will be expected to read materials and view videos outside of class to familiarize yourself with basic ideas and techniques. In the end, though, you cannot learn mathematics by watching someone else. It is essential that you try things on your own, recognize when things are not going right, and figure out how to go back and change your approach. This can be difficult and frustrating, but we are here to support you and believe that you are fully capable of succeeding.
- The primary goal for this course is not algebraic manipulation. We wish to emphasize broad ideas, and there are often multiple ways to arrive at an appropriate response. You are expected to work with other students, think about the material and the questions themselves. You are also expected to be able to explain how you arrive at a particular result and share your reasoning using correct mathematical notation and style

Classwork Logistics

Textbook

Precalculus, Julie Miller and Donna Gerkin, McGraw Hill.

There are two options for acquiring the textbook:

- Obtain electronic access via the link to ALEKS 360 on ELC (easier, less expensive).
- Purchase the special UGA edition, available at the bookstore.
(ISBN 978-1-30-700456-4)

Regardless of which option you choose, **you will need access to the ALEKS 360 homework system ASAP**. This is included with the UGA edition of the book.

Note: you should acquire access the ALEKS system **by the end of the first week at latest**.

Homework

Much like musical or athletic skill, Mathematics is best learned by practice: both working problems and discussing/communicating them with others.

There are two types of homework: **ALEKS** and **Worksheets**.

ALEKS

- Most homework problems will be due on **ALEKS 360**.
- The details can be found on the ALEKS website, linked on the course ELC page.
 - When you click through the first time, your account on ALEKS will be initialized.

If you have an existing ALEKS account, do not use it:

- Make sure to create your account by following the link on ELC.
- Do not try to link an account that you have previously used, the old account *will not work*.

Regarding other technical issues:

- Due to possible website issues, please do not wait until the last minute to submit your work.
- If you have issues with the website, please use the help resources through ALEKS.

Worksheets

There are (usually) two graded worksheets per section:

- **Pre-class Assignments:**
 - These cover basic skills to test your knowledge of the material in the video.
 - Complete these *before* you come to class.
 - Checked for completion when you come to class.
 - These will be collected in batches every few weeks on Gradescope to be graded in detail.
 - Solutions will be posted shortly after the due date – you should review these and note your mistakes.
- **“In-class” Worksheets:**
 - You can start these as soon as you complete the pre-class assignment.
 - Begin before class, and bring your questions.
 - Due end-of-day, graded for attempting – generally awarded full points if significant progress is made.

Gradescope All non-ALEKS assignments are submitted through [gradescope.com](https://www.gradescope.com)

- The entry code is **Y7DDPG**. Use your UGA email and your full legal name.
- For homework checks, you should combine your submissions into a single PDF and submit it. You also have the option of submitting multiple images.
- Options for completing worksheets:

- Annotate a PDF on your tablet/phone.
- Take photos from your phone and upload.
- There is a quiz due **on the first day** in order to ensure you’ve created an account correctly and have sorted out a way to upload submissions.

Quizzes

There are two types of quizzes: **in-class/take-home** quizzes and **basic skills tests**.

- There will be **in-class/take-home quizzes** approximately weekly.
 - Generally announced in-class beforehand, so these are not “pop quizzes”.
- There will be **basic skills tests** weekly on ALEKS.
- Taken outside of class, online in the ALEKS homework system.
- You can **only** use a TI-30XS Multi-View calculator on quizzes and exams.

Quizzes are open-book and open-note, but you may not work with others or get help from anyone other than me! This can very quickly lead to academic integrity issues, which I am obligated to report, so please be mindful of this policy.

Exams

- There are three **midterm exams**
- Usual midterms and finals are replaced with **three projects**.
 - The projects will be done in pre-assigned groups and submitted via Gradescope.
 - See the calendar for due dates.
- The exams are tentatively scheduled as follows:
 - Exam 1: Wednesday 21 September.
 - Exam 2: Monday 17 October.
 - Exam 3: Friday 18 November.
 - Final Exam: Thursday 8 December, 7:00 – 10:00 PM.

Grading

Final grades will be calculated using the following distribution:

30%	3 Midterm Exams (equally weighted)
25%	Final Exam
10%	ALEKS Homeworks
10%	Pre-Class Worksheets
10%	In-Class/Take-Home Quizzes
5%	ALEKS Basic skills Tests
5%	In-Class Worksheets
5%	Attendance/Participation

Final letter grades are assigned as follows:

A	A-	B+	B	B-	C+	C	C-	D
92%	89%	87%	82%	79%	77%	72%	69%	60%

- Regrade requests or questions about grading should be submitted to your professor **within three days** work being returned.

Course Information and Outcomes

Evaluations

Evaluation is based on the following expectations:

- Needs Improvement: Cannot identify basic equations. Cannot determine solutions for basic systems of equations.
- Satisfactory: Can derive systems for basic situations. Can identify and solve all basic equations.
- Good: Derive own systems of equations for most situations. Determine solutions and stability of own systems.
- Excellent: Tie together different concepts to solution techniques. Can determine solution to any system using a variety of techniques.

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.

Key Topics

- Functions – Determine the relationship between dependent and independent variables. Determine the range and domain of a given function.
- Inverse Functions – 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.

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.

Policies

Course Communications

- You are responsible for all announcements made during class meetings, regardless of whether or not you are physically/virtually in attendance.
- Announcements will also be posted on the website, ELC, or sent via email.
 - Try to stay in contact with other students in the class to ensure you do not miss critical information.

Missed Assignments and Make Ups

Work can only be submitted after its due date in exceptional circumstances – please reach out ASAP if you know in advance that you will miss something.

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.

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>.
- *Ignorantia juris non excusat*: "Ignorance of the law does not excuse." **Lack of knowledge of the academic honesty policy does not excuse any violations.**
- 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 <https://reg.uga.edu/general-information/ferpa/>.

- FERPA allows disclosure of directory information (name, address, telephone, email, date of birth, place of birth, major, activities, degrees, awards, prior schools), unless restrictions are requested in a written letter to the registrar.

Student Care

Being at the university can be stressful, and we have high expectations for all of our students. We also understand that you may face difficulties beyond what happens in the classroom and may be overwhelmed by a number of different things. If you are struggling and feel that you are falling behind please reach out to me.

- Please keep in touch with the Office of Student Affairs, sco@uga.edu, they have many options and resources available.
- If you know of any student facing difficulties and requires help, please contact the Office of Student Care and Outreach:

https://uga-advocate.symlicity.com/care_report/index.php/pid837919?