

Math 1113: Precalculus

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Meetings:

45765: MWF 9:10 AM – 10:00 AM in Food Science 202

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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 the idea of a *function*, and how we can reason about the most common ones.

There is a great deal of uncertainty due to Coronavirus, and both course and university policies are subject to change throughout the semester. We may have to shift the entire course to an on-line 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, I find the advice here quite complete (and a fun read):

[How to Email Your Professors](#)

- I am a graduate student instructor, so I do not have the title of “Doctor” or “Professor”. Please feel free to just address me as “Zack”, although if you are more comfortable with “Professor Garza”, that is fine despite being incorrect.
- **Communication:** announcements will frequently be sent out through ELC. These should forward to your UGA email, be sure to check it frequently!
- **Class calendar:** see ELC.

Office Hours

- My personal office hours: TBD.
- Meetings can also be arranged by appointment.
 - Email to arrange specific times, at least 48 hours in advance.
 - Include several potential days/times when you are available.

Course Format

The format for this course will be a *flipped* and we will use a *hybrid online and face-to-face* model for meeting.

- **Flipped:** This means that you will be able to watch recorded lectures for this class on your own time, which includes an optional worksheet. These include the easier/more mechanical topics so we can focus on difficult concepts in class.

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.

Classroom Experience

- General classes:
 - The classroom sessions involve a short lecture followed by group work.
 - I do not take attendance, but you must be in class to receive credit for various homework assignments.

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. This is included with the UGA edition of the book.

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 initiated.)

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 two graded worksheets per section:

- **Pre-class Assignments:**
 - These test your understanding of the preclass videos.
 - Complete and turn these in *before* you come to class.
 - Graded for accuracy and **mathematical writing style**.

- Includes a lot of feedback: very important to read and act upon!
- Graded more strictly, but you’re allowed to rework and resubmit to try to reclaim points.
- **“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 (i.e. they do not have to be complete!)

Quizzes and Exams

There are two types of quizzes: **take-homes** and **basic skills tests**.

- There will be **in-class or take-home quizzes** approximately weekly on Fridays.
 - Generally announced beforehand (i.e. not a “pop quiz”)
- There will be **online basic skills tests** (weekly).
- Taken at home with a locked down browser, using the ALEKS system

Grading

Final grades will be calculated using the following distribution:

35%	3 Midterms (equally weighted)
25%	Final Exam
20%	Pre-Class Worksheets and ALEKS Completion
10%	In-Class Quizzes
5%	In-Class Worksheets
5%	Basic Skills Tests (ALEKS)

And 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:

Quality of Work	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.

Quality of Work	Expectations
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

Topic	Important Ideas
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.symplicity.com/care_report/index.php/pid837919?