

Math 1113: Precalculus

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Spring 2021

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Office Hours: TBD

Office: TBD

Meetings:

59202: 10:20 AM - 11:10 AM MWF in Dawson 208

24929: 11:30 AM - 12:20 PM MWF in Boyd 203

CRN: TBD


Web: dzackgarza.com/courses/2021/Spring/1113/

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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.

 **Please read this document carefully..**

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 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! 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 “Dr.”. I am perfectly content to be addressed as “Professor Garza” or “Zack” (whatever you feel more comfortable with).
- Asynchronous Contact:
 - We will collectively organize some kind of group chat that everyone is willing to use regularly.
 - * Examples: GroupMe, Facebook Messenger, Discord, Whatsapp, etc.
 - If anyone sets one up, let me know so we can make sure that *everyone* in the class is included! You can choose whether you’d like me to join or not.

Website

- The website for this section can be found at
<https://dzackgarza.com/courses/2021/Spring/1113/>
- The department maintains a special web page for this course on the departmental website. Note that this may not be up-to-date regarding pandemic practices, so information in this syllabus currently supersedes anything on the departmental website.
- **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 the website.

Office Hours

- Math 1113 collective office hours: TBD
 - These will be Zoom sessions where other PreCalculus instructors will be available to help.
 - You can attend any and stay however long you’d like.

- My personal office hours: TBD
 - To be held via Zoom.
- Meetings can also be arranged by appointment.
 - Can be held via Zoom or in-person outside.
 - 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.

- **Hybrid Online and Face-to-Face:** This means that there may periodically be in-person classes held during the scheduled class time, depending on safety and student interest. The remaining meetings will be held during synchronous online meetings.

Classroom Experience

- General classes:
 - The classroom sessions will primarily be question and answer sessions.
 - There may be additional examples discussed if time allows.
 - Consistent attendance is recommended, but not mandatory. This figures into your participation in a minor way: e.g. those missing several weeks of classes may have points docked.
- Physical meetings:
 - These sessions are not mandatory,
 - * Note: if you have tested positive for Coronavirus and/or are under personal quarantine, please do **not** attend any physical sessions.
 - * Please email me ASAP if this happens so we can work together to find alternative options for you.
- We may have to convert to a fully online experience on short notice.
 - This may occur due to local conditions changing or because the instructor has to engage in a personal quarantine.
 - Please actively monitor your email and ELC as changes may occur with little warning.
- The department is currently weighing options to replace traditional in-person exams, such as group projects or remotely proctored exams.
 - **Note:** If remote proctoring is chosen, *there may be additional charges* associated. (We hope to avoid this, but it is a possibility.)
- Note: Spring Break has been removed from the calendar this semester, and we will instead have break days throughout the semester.

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.)

 **Please pay close attention to the due dates posted on ALEKS.**

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 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!)

Gradescope All worksheets are submitted through [gradescope.com](https://www.gradescope.com)

- The entry code is **6PZZDE**.
- For each section, you should complete and submit the worksheets as images or PDF files.
- Options for completing worksheets:
 - Annotate a PDF on your tablet/phone.
 - Print, fill out by hand, and scan or take a picture.
 - Handwriting answers: okay, but be careful! Easy to lose points for missing details.

Quizzes and Exams

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

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

⚠ All quizzes must be taken and completed alone.

This includes quizzes in Gradescope and in ALEKS. They are open-book and open-note, but you may not work with others or get help from anyone other than me! Since everything’s online, this can very quickly lead to academic integrity issues, which I am obligated to report. So please be careful!

- 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.

Grading

Final grades will be calculated using the following distribution:

| | |
|-----|-------------------------------|
| 35% | 3 Projects (equally weighted) |
| 15% | Final Project |
| 10% | Homework (ALEKS) |
| 10% | Basic skills tests (ALEKS) |
| 10% | Pre-Class Worksheets |
| 10% | At home quizzes |
| 5% | In-Class Worksheets |
| 5% | Participation |

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. |
| 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.symlicity.com/care_report/index.php/pid837919?