Syllabus

MATH 3 (Precalculus) • MWF: 1:00 PM - 3:30 PM • Summer 2020

Instructor: Deewang Bhamidipati
(Please address me by my first name, which is pronounced *thee-waang*. Pronouns: he/him/his.)

Office Hourse: Mondays & Fridays: 9:30 AM - 11:00 AM

Canvas: I will be using the Canvas for anything and everything course related.
(Log in at https://canvas.ucsc.edu using your CruzID and Gold password.)

Zoom: I will be using Zoom to teach, links and more details will be available on Canvas.

Piazza: We will be using Piazza as a discussion forum for anything and everything course related, links and more details will be available on Canvas.

Communication Guidelines: Please contact me primarily via Canvas, between 8 AM - 7 PM, Mondays to Saturdays; if your question is math-related, please post it as a question on Piazza first. Please make sure you give me as much information as you possibly can about the subject you intend to discuss. You can send me an email (at bdeewang@ucsc.edu) as well but only if I haven't responded on Canvas.

Course Description: Precalculus provides an introduction to concepts essential to upper-division courses, and the language and tools used to describe real-life situations mathematically. Functions, algebra and trigonometry are used to explore reality and unearth properties that may not be otherwise apparent. We will begin by introducing functions and understanding their notational representation and important properties and explore inverse functions and graphs. We'll look more deeply at specific kinds of functions: polynomials, exponential and logarithmic, and trigonometric, and demonstrate their use in mathematical models of the real world. Throughout the course, you will also be working on a project, developing components of it every other week, to illustrate an application of mathematics in the real world.

Prerequisite(s): MATH 2 or mathematics placement (MP) score of 200 or higher.

Learning Outcomes:
- Students will be able to use functions to to describe mathematical relationships and real life situations, and will be able to identify different mathematical models.
- Students will gain familiarity with mathematical notations and terminology used in the course, laying the foundation to understand more advanced mathematical language introduced in subsequent mathematics courses.
- Students will be able to appreciate the significance of mathematics by developing various kinds of examples, both from within mathematics and real life, for concepts introduced throughout the course.
- Students will develop studying skills, improve time management, devise working strategies, in effect formulate a framework towards problem-solving.
- Students will build connections between mathematical thinking and real-life situations by working on a project.

References: *Precalculus* (3rd Corrected Edition) by Stitz and Zeager – *Main Reference*
(available for free online here: https://www.stitz-zeager.com/)

Precalculus: Concepts Through Functions by Sullivan and Sullivan

Precalculus at OpenStax
(available for free online here: https://openstax.org/details/books/precalculus)

Assessment Distribution:

- *Pre-Lecture (15%)*: These will consist of readings and review questions that you will be expected to have finished before we start that topic in class/before you start watching the lecture. They can be found under the relevant Modules on Canvas.
- *Post-Lecture (10%)*: The will consist of (a) a feedback quiz, and (b) a recommended list of exercises to try from the main reference, these will prepare you for the homework and your final; if there any questions: ask on Piazza. They can be found under the relevant Modules on Canvas.
- *Glossary (10%)*: You will create a glossary of the mathematical notations and terminology you have encountered, after every lecture. You will complement each entry with examples, three from mathematics and two real-world examples. Important deadlines (end of) – Week 2: Draft #1; Week 4: Draft # 2; I will be reviewing your glossary and making suggestions, if needed, to improve them. You will get a full score if you have one entry for each past lecture.
- *Homework (25%)*: You will have a homework assignment due weekly on **Saturdays at midnight**. It will cover the content addressed during the week. You will upload your written work to Canvas, apps like CamScanner, Office Lens etc. will be useful here.
- *Project (20%)*: The aim of the project is to highlight mathematics relation to the real world, you will work in pairs. The project can be about *any* topic related to mathematics and the real world. Important deadlines (end of) – Week 2: Topic and 2 References; Week 4: Outline/Structure; Week 5: Final Report.
- *Final (20%)*: Final will be comprehensive.

Make-up Policy: You will have 4 days, after your homework score is available, to re-attempt and re-submit your homeworks. Other ad-hoc policies may be implemented for your success as the course progresses, you will be promptly informed of them on Canvas.

Late Submission: I will not accept any late work. Since you will have an opportunity to re-attempt your homeworks, as mentioned above, please submit as much as you can by the due date.

Tentative Lecture Schedule:
Week 1: Functions & Polynomials
Week 2: Exponential and Logarithmic Functions
Weeks 3 & 4: Trignometric Functions
Week 5: Review & Final

*The **Final** will be on **24th July**.*

On ProctorU: I will **NOT** be using ProctorU.

I reserve the right to change any particular of the syllabus above.
(Any changes will be to your advantage, and you will be informed of them promptly via Canvas.)

Other Important Information

Summer Deadlines:

- (Session 1) Drop: *Monday, June 29*; Request for "W": *Friday, July 10*;
- (Session 2) Drop: *Monday, August 3*; Request for "W": *Friday, August 14*;
- (8-Week & 10-Week) Drop: *Monday, July 6*; Request for "W": *Friday, July 24*.

You will not be dropped for non-attendance or non-payment, you must drop yourself. Dropping before the deadline results in a full-tuition reversal/refund. Withdraw posts a W for the grade and full tuition is charged (no refund). For all dates and deadlines, including 'change of grade option' (P/NP) and grades due, here is the summer academic calendar: https://summer.ucsc.edu/studentlife. For questions about dropping, requesting a W grade for a course, or withdrawing from the summer quarter, email summer@ucsc.edu.

DRC Remote Accommodations: The Disability Resources Center (DRC) reduces barriers to inclusion and full participation for students with disabilities by providing support to individually determine reasonable academic accommodations. Operations continue via remote appointments. If you have questions or concerns about exam accommodations or any other disability-related matter, email the DRC Schedulers at drc@ucsc.edu for an appointment; you can also visit their website at http://drc.ucsc.edu.

CAPS (Counseling and Psychological Services): This is a stressful time, so if you are in distress, managing heightened stress and anxiety, or want to get more support and a counselor's perspective on something you're going through, CAPS provides a variety of services for your needs, please visit their website for more information https://caps.ucsc.edu.

Small Group Tutoring: Small Group Tutoring (SGT) supports students academically to advance educational equity by designing inclusive learning environments outside of the classroom. In SGT, you can expect the Tutor to facilitate cooperative group activities designed to have students work together on the course content and develop study skills for the course, please visit their website for more information https://lss.ucsc.edu.

Academic Integrity: Academic integrity is the cornerstone of a university education. Academic dishonesty diminishesvthe university as an institution and all members of the university community. It tarnishes the value of a UCSC degree. All members of the UCSC community have an explicit responsibility to foster an environment of trust, honesty, fairness, respect, and responsibility. All members of the university community are expected to present as their original work only that which is truly their own. All members of the community are expected to report observed instances of cheating, plagiarism, and other forms of academic dishonesty in order to ensure that the integrity of scholarship is valued and preserved at UCSC. For the full policy and disciplinary procedures on academic dishonesty, students and instructors should refer to the Academic Integrity page at the Division of Undergraduate Education.

Title IX: The university cherishes the free and open exchange of ideas and enlargement of knowledge. To maintain this freedom and openness requires objectivity, mutual trust, and confidence; it requires the absence of coercion, intimidation, or exploitation. The principal responsibility for maintaining these conditions must rest upon those members of the university community who exercise most authority and leadership: faculty, managers, and supervisors.

The university has therefore instituted a number of measures designed to protect its community from sex discrimination, sexual harassment, sexual violence, and other related prohibited conduct. Information about the Title IX Office, the online reporting link, applicable campus resources, reporting responsibilities, the UC Policy on Sexual Violence and Sexual Harassment, and the UC Santa Cruz Procedures for Reporting and Responding to Reports of Sexual Violence and Sexual Harassment can be found at `titleix.ucsc.edu`.

The Title IX Office is actively responding to reports and requests for consultation. If you are not currently working with someone in the office and want to make a report/request a consult, you can expect the fastest response by using our online reporting link.

For more information please visit the Title IX Operations under Covid-19 page.