MATH 3 - 01

Precalculus

MWF, 09:00am-11:30am, Thimann Lab 101

2019 June 24 - July 26

Instr: Patrick Allmann

Email: pallmann@ucsc.edu
Website: https://canvas.ucsc.edu/
Office Location: McHenry Library 4112
Office Hours: MWF 12:00 - 1:00pm, or by appointment
(either in person or online at https://uconline.zoom.us/j/2423065602)
Phone: (949) 468-7133

LSS tutor: Anuraag Visweswaran

Email: aviswesw@ucsc.edu
Location:
Hours:

The contents of this syllabus are subject to change.

Course Description: Inverse functions and graphs; exponential and logarithmic functions, their graphs, and use in mathematical models of the real world; rates of change; trigonometry, trigonometric functions, and their graphs; and geometric series.
Prerequisite: course 2 or mathematics placement (MP) score of 200 or higher. Prerequisites waived for non-UCSC students.
Credit Hours: 5

Text: *Ucsc Custom- Math 003 Book W/ Homework Access Code (2016)*, 3rd Edition **Authors:** Sullivan Math 003 Fall 18; **ISBN:** 9781269836623

Course Objectives:
Throughout this course, students will at least:

1. Represent relations and functions in various ways.
2. Define functions to solve word problems.
3. Fit functions to data.
4. Characterize certain functions in terms of their rates of change.
5. Build functions from given ones.

6. Graph rational, exponential, and logarithmic functions and understand their asymptotic behavior.
7. Show identities and inequalities involving functions and their inverses.
8. Compute trigonometric function values from the unit circle.
9. Graph trigonometric functions and fit sinusoidal curves.

Grade Distribution (maximum of):

Scheme 1	
Reading quizzes	15%
Online Assignments	15%
Written Assignments	25%
Midterm Exam	20%
Final Exam	25%

OR

Scheme 2	
Reading quizzes	0%
Online Assignments	0%
Written Assignments	35%
Midterm Exam	30%
Final Exam	35%

Course Policies:

- **Attendance and Reading quizzes**
  - **Dates of reading quizzes:** Each class meeting (excluding the first and both exam meetings).
  - The assigned readings will be sections of the text, posted on the course website and in course outline below.
  - The reading quiz on a given day is based on the assigned readings for that day. For example, the quiz on the fourth class meeting is based on sections 2.1, and 2.2 in the text.
  - Reading quizzes are meant to both improve your reading comprehension and to encourage you to read before class.

  - The quiz during the nth class meeting can only be taken then and in class. That is, there are no makeup quizzes.
  - Omit the lowest three quiz scores in grade calculation.

  - Class attendance is expected and encouraged.
  - Students are responsible for all missed work, regardless of the reason for absence. It is also the absentee's responsibility to get all missing notes or materials.
  - Office hours will be problem solving sessions with the potential to go through more examples.

- **Assignments**
  - **Due dates of online assignments:** Friday each week (excluding the last week).
  - https://www.pearsonmylabandmastering.com/northamerica/mymathlab/ **TBD**
  - Online assignments are meant to improve your computational speed and understanding.

  - **Due dates of written assignments:** Monday each week (excluding the first week).
  - Check the course website for each written assignment.
  - Written assignments are meant to improve your conceptual understanding and writing skills.

  - Each student is allotted two late submissions of any of the eight assignments.
  - Students are encouraged to work together during assignments, but are expected to turn in their own work.
- **Exams**
  - **Date of Midterm exam:** Friday, July 12 (in class).
  - Sections of text covered during midterm: 1.1 - 1.5, 2.1 - 2.4, 2.6, 3.1, 3.4 - 3.5, 4.1 - 4.6.

  - **Date of Final exam:** Friday, July 26 (in class).
  - Sections of text covered during final: Every section covered during the midterm, section 4.8, and chapters 5 and 6 up to and including 6.5.

  - Check the course website for recommended study materials.

  - Exams are closed book, closed notes.
- **Corrections**
  - Corrections will be accepted the class meeting following the class meeting the graded work was handed back.
  - Corrections will only be accepted if the original work is handed in with it.
  - Corrections must consist of the full solution. The new solutions must be complete and written away from the graded work, preferably on a separate sheet.
  - Corrections will be graded for full credit.
  - The work available to make corrections on are the reading quizzes, the written assignments, and the midterm.
  - Corrections of corrections will also be accepted. And so on, until the final exam.

Tentative Course Outline:
The daily coverage might change as it depends on the progress of the class. The reading assignments are all chapter sections from the book. For example, 1.2 below means chapter 1: Functions and their graphs, section 2: The graph of a function.

Class meeting	Content
1	• Functions; relations; Cartesian products; sets
2	• graphs: symmetry, monotonicity, extrema, average rates of change • Readings: 1.1, 1.2, 1.3
3	• composition; piecewise-defined functions; transformations of graphs • Readings: 4.1, 1.4, 1.5
4	• lines; linear functions; linear models • Readings: 2.1, 2.2
5	• polynomial functions and models • Readings: 2.3, 2.4, 2.6, 3.1
6	• rational functions and their graphs • Readings: 3.4, 3.5
7	• Inverse functions, exp and log • Readings: 4.2, 4.3, 4.4
8	• Properties of Logs. Exponential and logarithmic equations. • Readings: 4.5, 4.6
9	• Exponential growth and decay models. • Readings: 4.8 • Midterm exam, Friday, July 12.
10	• the Cartesian plane, circles and their parametrizations. • Readings: 5.1, 5.2, 5.3
11	• Sinsusooidal curve fitting • Readings: 5.4, 5.5, 5.6
12	• Inverse trig functions. Trigonometric equations and identities. • Readings: 6.1, 6.2, 6.3, 6.4
13	• More trig formulas • Readings: 6.5, 6.6, 6.7.
14	• Trig applications • Readings: 7.1
15	• Final exam, Friday, July 26

2019 Summer Session 1 Deadlines:

Drop: Monday, July 1
Change grade option: Friday, July 5
Withdraw: Friday, July 12

Neither the registrar nor instructors drop students for non-payment or non-attendance. Students must drop themselves. Dropping results in 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 UCSC academic calendar (for the summer)- https://summer.ucsc.edu/studentlife/index.html

DRC Accommodations:

The Disability Resources Center reduces barriers to inclusion and full participation for students with disabilities by providing support to individually determine reasonable academic accommodations. If you have questions or concerns about exam accommodations, or any other disability-related matter, please contact the DRC office, located in Hahn 125 or at 831-459-2089 or drc@ucsc.edu.

Academic Dishonesty:

Academic integrity is the cornerstone of a university education. Academic dishonesty diminishes the 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.
In the event a student is found in violation of the UCSC Academic Integrity policy, he or she may face both academic sanctions imposed by the instructor of record and disciplinary sanctions imposed either by the provost of his or her college or the Academic Tribunal convened to hear the case. Violations of the Academic Integrity policy can result in dismissal from the university and a permanent notation on a students transcript.
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/Sexual Harassment Office is located at 105 Kerr Hall. In addition to the online reporting option, you can contact the Title IX Office by calling 831-459-2462.