

MATH 100 Syllabus

Summer 2021

Instructor: Nathan Marianovsky (nmariano@ucsc.edu)

Lectures: MWF 11:00am - 1:30pm via Zoom

Instructor Office Hours: T 10:30am - 12:00pm, Th 12:00pm - 1:30pm (also by appointment)

Sections: TTh 4:00pm - 6:00pm via Zoom

TA: Junwen Liao (jliao13@ucsc.edu)

TA Office Hours: W 4:00pm - 6:00pm

Primary Text: *Book of Proof* by Richard H. Hammack

Tentative Course Outline

- **Lecture 01:** Sets (§1.1 - 1.5)
- **Lecture 02:** Sets (§1.6 - 1.8), Logic (§2.1 - 2.3)
- **Lecture 03:** Logic (§2.4 - 2.7)
- **Lecture 04:** Logic (§2.8 - 2.10), Counting (§3.1 - 3.3)
- **Lecture 05:** Counting (§3.4 - 3.7)
- **Lecture 06:** Counting (§3.8 - 3.10), Direct Proof (§4.1 - 4.3)
- **Lecture 07:** Direct Proof (§4.4 - 4.5), Contrapositive Proof (§5.1 - 5.3), Proof by Contradiction (§6.1)
- **Lecture 08:** Proof by Contradiction (§6.w - 6.4), Proving Non-Conditional Statements (§7.1 - 7.4)
- **Lecture 09:** Proofs Involving Sets (§8.1 - 8.3), Disproof (§9.1 - 9.3), Mathematical Induction (§10.1)
- **Lecture 10:** Mathematical Induction (§10.2 - 10.5), Relations (§11.1)
- **Lecture 11:** Relations (§11.2 - 11.5)
- **Lecture 12:** Relations (§11.6), Functions (§12.1 - 12.4)
- **Lecture 13:** Functions (§12.5 - 12.6), Cardinality of Sets (§14.1 - 14.4), ZFC Axioms

Section Policy: Sections are optional and are run according to the TA's preferences.

Piazza: It is likely that you will have questions as you review your notes and complete homework assignments throughout the course. Those that occur to you will likely also occur to other students, as such you should raise these questions on Piazza, accessed through canvas. Your activity on the forum can lead to up to fifteen extra credit points towards your homework grade.

Reflections Policy: Each week, you will have the opportunity to identify what course material needs to be revisited through weekly submissions of course-related reflections. For each thoughtful reflection statement you submit you will earn two extra credit points towards your homework grade.

Homework Policy: Every week you will be assigned a set of questions that will be due on Fridays at 11:59pm. The homework is to be submitted through Gradescope.

Mastery Grading Policy: Every week you will be assigned a couple of questions separate from the normal homework that can be submitted on any Friday at 11:59pm through Gradescope. These questions, unlike the homework, are meant to be more challenging and may require research on material outside of the class lecture notes. Each question will be graded out of ten points and can be resubmitted as many times as needed with the goal of attaining a perfect score. While any of these questions can be submitted each week the cap is set for only two question submissions per week. You will be responsible for attempting four distinct mastery grading questions throughout the course and for each additional attempt will be awarded an extra point towards the total. The original total prior to any extra points will be determined from the four highest scoring submissions.

Grading Policy:

- Homework: 40%
- Mastery Grading: 30%
- Written Assignment: 30%

Curving Policy: The final grades may be curved, if necessary.

Important Dates:

- Start Date: Monday, June 21st
- Drop Date: Monday, June 28th
- Request for "W": Friday, July 9th
- End Date: Friday, July 23rd

A Comment on the Above: Neither Summer Session nor instructors drop students for non-attendance or non-payment. 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 summer academic calendar: <https://summer.ucsc.edu/studentlife/index.html>. For questions about dropping, requesting a W grade for a course, or withdrawing from the summer quarter, email summer@ucsc.edu.

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 student's 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.