

# Syllabus

MATH 181 – History of Mathematics  
Summer 2024 • MWF: 9:30 AM – 12:00 PM

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**Instructor:** Deewang Bhamidipati

(Please address me by my first name, pronounced *thee-waang* (or see NameCoach on Canvas). Pronouns: he/him/his.)

**Office Hours:** Mondays and Fridays, 4:30 – 5:30 PM

(This is when you come and talk to me if you have any questions, or otherwise.)

**Canvas:** I will be using Canvas primarily as a course repository. It will also be a place where you will receive course announcements, access homework etc.

(Log in at <https://canvas.ucsc.edu> using your CruzID and Gold password.)

**Ed Discussion:** We will be using Ed Discussion as a discussion forum for anything and everything course related. It will be checked frequently and unresolved questions will be answered. You're highly encouraged to collaborate with each other and answer each other's questions; engaging in such discussions amongst yourselves is an incredibly invaluable part of succeeding in this course. You can access it by navigating to it from the Canvas menu on the left on our Canvas course page.

**Gradescope:** Any assessment (see below) that needs to be turned in will have to be uploaded to Gradescope; links and more details will be available on Canvas.

**Learning Outcomes:**

- You will increase your mathematical reasoning and content knowledge by understanding the mathematical contexts of various mathematical discoveries and gaining an insight into how these discoveries were made.
- You will strengthen your ability to explain complex mathematical concepts clearly and accurately while engaging diverse audiences.
- You will better understand the culture of and surrounding mathematics and your own identity as a mathematician.

**References:** Assigned readings will be posted on Canvas. No textbook purchase is necessary.

**Assessment Distribution:** Our course will have the following assessment components, please read them carefully. More information on them will be available on Canvas.

- AUTOMATHOGRAPHY (5%)

This is one- or two-page autobiographical essay where you will review your personal history with mathematics. The essay will be due Week 1; you will also submit an *epilogue* end of Week 5, where you will reflect on the learning that took place in our course.

- ENGAGEMENT WORK (10%)

There will be assigned readings on Canvas, which you go through and engage with. We will have regular activities during class time. You need to attempt at least two a week; there will be no make-ups.

- HOMEWORK (25%)

There will be weekly homeworks, due in Weeks 2 – 5.

- **IMP POSTER (15%)**

You will choose an *Important Math Person* (IMP) produce a biographical poster for your chosen person. This will be due end of Week 3. Further instructions and details will be available on Canvas, so will a non-exhaustive list of people.

- **TOPIC TERM PAPER (25%)**

You will submit a written paper exploring the historical development of a single mathematical concept. This will be due end of Week 4. Further instructions and details will be available on Canvas, so will a non-exhaustive list of topics.

- **ERA PRESENTATION (20%)**

You will create a presentation that covers the development of mathematics in an “era”. The final submission will be in form a presentation given end of Week 5. Further instructions and details will be available on Canvas, so will a non-exhaustive list of eras.

**Grading Scale:** Passing grade is C or above.

<b>A+</b>	≥ 95%	<b>B+</b>	80 – 84%	<b>C+</b>	65 – 69%	<b>D</b>	40 – 54%
<b>A</b>	85 – 94%	<b>B</b>	70 – 79%	<b>C</b>	55 – 64%	<b>F</b>	< 40%

**L<sup>A</sup>T<sub>E</sub>X** (LAH-tekh or LAY-tekh) is the preferred choice among mathematicians for creating mathematical documents. You will learn basic **L<sup>A</sup>T<sub>E</sub>X** during this course by looking at the .tex (tekh, the **L<sup>A</sup>T<sub>E</sub>X** file extension) files that I provide you, mimicking the **L<sup>A</sup>T<sub>E</sub>X** in them, and heading to [TeX Stack Exchange](#) for anything that is not included in them. You can start this journey by using [Overleaf](#), an online **L<sup>A</sup>T<sub>E</sub>X** editor. **Please contact me if this is not a viable option for you for any reason**, and, of course, if you need help getting started.

**Course Schedule:** Find below a tentative list of topics that will be covered each week.

<b>WEEK 1</b> (06/24 – 06/28)	<i>Introduction to the class Counting, Number Bases Numerical Notation, Arithmetic &amp; Fractions Ancient Methods: Egyptian, Babylonian, Chinese</i>
<b>WEEK 2</b> (07/01 – 07/05)	<i>Demonstrative Mathematics: Early Proofs Euclid’s Elements &amp; Euclidean Geometry</i>
<b>WEEK 3</b> (07/08 – 07/12)	<i>History of Number Theory History of Group Theory</i>
<b>WEEK 4</b> (07/15 – 07/19)	<i>History of Early Calculus History of Modern Analysis</i>

<b>WEEK 5</b> (07/22 – 07/26)	<i>Visit to Special Collections, McHenry Library</i> Era Presentations
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### Guidelines:

- HOMEWORKS (AND OTHER ASSIGNMENTS)
  - ▷ Please turn in the homework on the due date.

**Extension Policy.** If you need an extension, please ask, but make sure you ask before the due date. You can ask for, and will be awarded when asked, at most a two day extension.
  - ▷ Discuss the homework with your peers on Ed Discussion. (I insist on this.)
  - ▷ Write your work, **individually**, using  $\LaTeX$ .
  - ▷ Pay close attention to the presentation and clarity of your reasoning in your answers.
  - ▷ Cite resources you have used while solving the homework.
  - ▷ Name your peers with whom you have discussed the homework.
  - ▷ Only a portion of the problems will be graded, chosen at the grader's discretion.
  
- COMMUNICATION
  - ▷ Please contact me by email (at bdeewang@ucsc.edu) if you wish to chat with me about anything! If your question is math-related, I insist that you ask it on Ed Discussion, directly or anonymously.
  - ▷ Please make sure you give me as much information as you possibly can about the subject you intend to discuss when you contact me.
  - ▷ You are more than welcome to contact me at any time, you will get a response from me promptly between 8 AM - 7 PM, Monday to Saturday.
  - ▷ **Never hesitate to reach out, I always want to hear from you.**

**practice, discuss, ask**

*practice* problems

*discuss* problems with your peers

*ask* me questions; more importantly: ask *follow-up* questions

SUBSEQUENT ADDENDUMS, IF ANY, TO ABOVE WILL BE MADE VIA CANVAS.  
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

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### Summer Deadlines:

- (Session 1) Drop: **Monday, July 1**; Request for “W”: **Sunday, July 14**;
- (Session 2) Drop: **Monday, August 5**; Request for “W”: **Sunday, August 18**;
- (8-Week & 10-Week) Drop: **Monday, July 8**; Request for “W”: **Sunday, July 28**.

**Land Acknowledgement:** The land on which we gather is the unceded territory of the Awaswas-speaking Uypi Tribe. The Amah Mutsun Tribal Band, comprised of the descendants of indigenous people taken to missions Santa Cruz and San Juan Bautista during Spanish colonization of the Central Coast, is today working hard to restore traditional stewardship practices on these lands and heal from historical trauma.

**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](mailto: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>.

**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](http://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.

**Report an Incident of Hate or Bias:** UC Santa Cruz is committed to maintaining an objective, civil, diverse and supportive community, free of coercion, bias, hate, intimidation, dehumanization or exploitation. The Hate/Bias Response Team is a group of administrators who support and guide students seeking assistance in determining how to handle a bias incident involving another student, a staff member, or a faculty member. To report an incident of hate or bias, please use the

## [Hate/Bias Reporting Form.](#)

**Religious Accommodations:** UC Santa Cruz welcomes diversity of religious beliefs and practices, recognizing the contributions differing experiences and viewpoints can bring to the community. There may be times when an academic requirement conflicts with religious observances and practices. If that happens, students may request the reasonable accommodation for religious practices. The instructor will review the situation in an effort to provide a reasonable accommodation without penalty. You should first discuss the conflict and your requested accommodation with your instructor early in the term. You or your instructor may also seek assistance from the Dean of Students office.

**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 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. 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.