Welcome to the UCI Math Department New Student Orientation!

Presented by:
- Dr. Christopher Davis
- Dr. Yifeng Yu

Possible guest stars: Dr. Alessandra Pantano, Dr. Zhiqin Lu

September 26, 2023

UCIrvine | Department of Mathematics

Outline

- Introduction to the Math Major
- Tips for Success
- How to get Involved

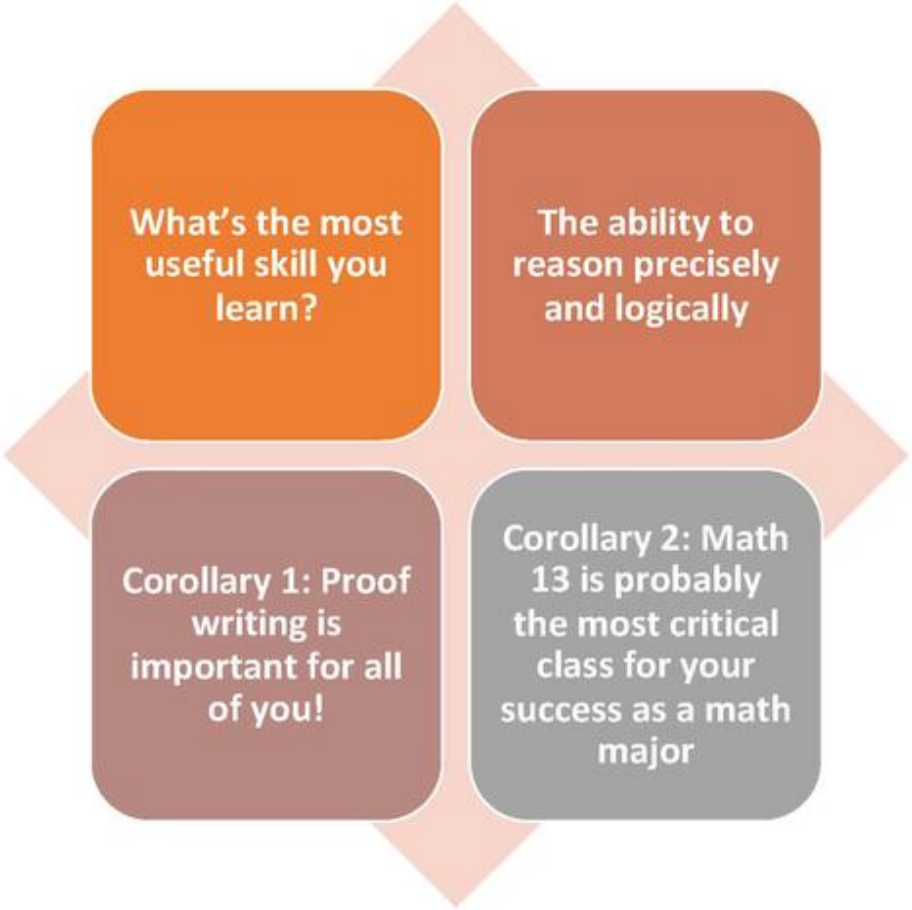
Who are you?

- Math major?
- Undecided?
- Freshman?
- Transfer student?

The UCI Department of Math has approximately:

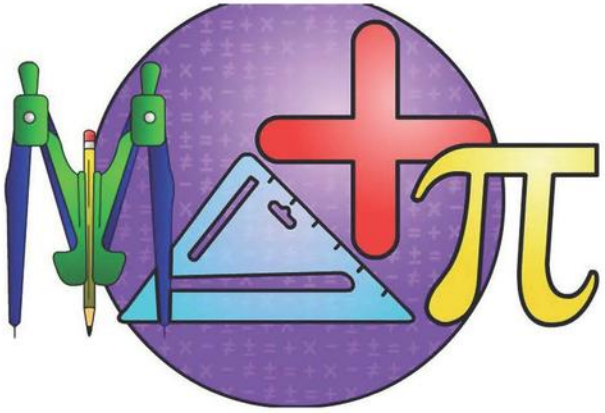
- 750 undergraduates
- 120 graduate students
- 45 permanent faculty

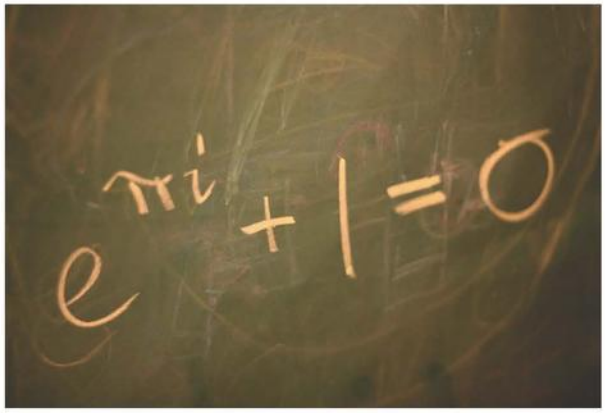
Why be a Math Major?



Seven Tracks in the Math Major

- Pure Mathematics
- Data Science
- Math Finance
- Applied and Computational Math
- Math Biology
- Math Education
- Math Education/Secondary Teacher Certification





Tracks in the Math Major

- You typically apply in your sophomore or junior year
- No application necessary for the Pure Math Major (the default)
- Some courses should be taken in your sophomore year at the latest

Which track is right for which career?

(Hint: There's no right answer!)

Work in AI? Data Science or Applied and Computational Math

Be an Actuary? Math Finance

Work at a Medical Research Lab? Math Biology

Be a Math Teacher? Math Education

Pure Math Major offers the most freedom to choose electives

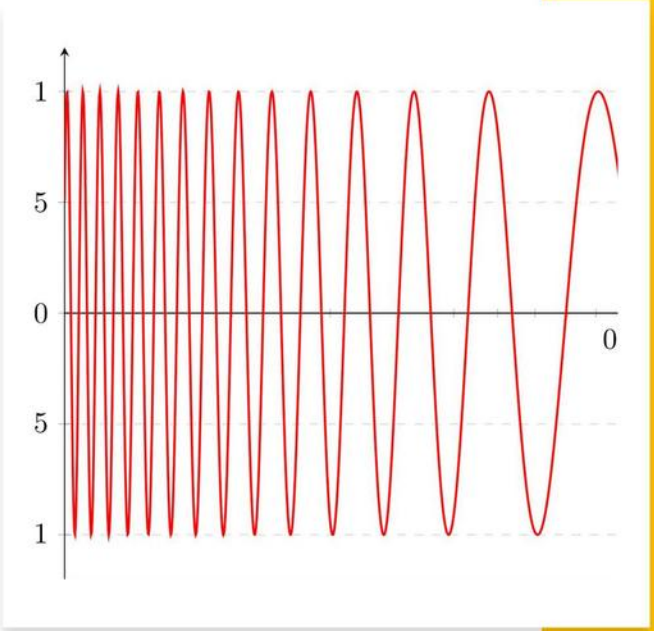
How do classes work?

Usually…

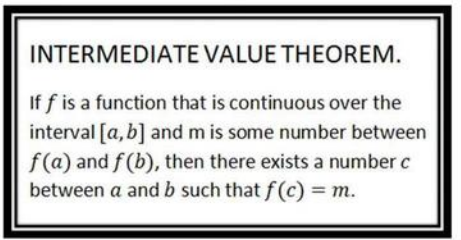
- **5** meetings per week: 3 lectures and 2 discussion sections each week
- **1** (cumulative) final exam: 35-40% of the course grade
- **1** or **2** midterms
- Weekly homework (not always graded)
- Quizzes (almost each week)

What's the point of Homework?

- Helps you know what the professor thinks is important
- Practice (it's crucial)
- Keeps you on pace with the class



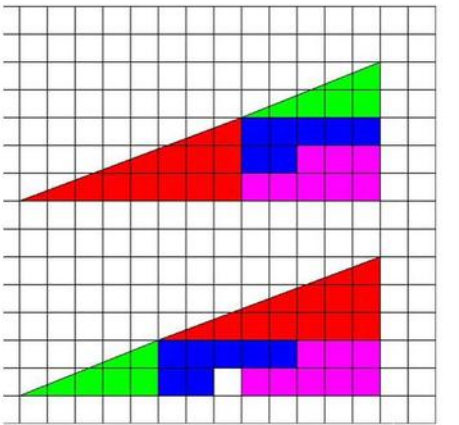
Study tips 1



- **The midterms and finals are testing understanding**
- To succeed in your classes, **memorization is not enough**
- **Repetition is *not* an effective study** method
- Repetition might help you remember that the derivative of cos(x) is -sin(x). But it won't help you understand what the derivative means
- **Instead**: Try to make flash cards, rewrite theorems in your own words, write your own practice questions, ask why hypotheses are necessary, try to find examples
- For online courses: Do the computations yourself and take notes while watching the videos

Study tips 2

- UCI is on the quarter system, so the **pace is very fast**. Don't fall behind!
- **Go to office hours**. If you're concerned about your grade, talk to the professor and TA early, not after the final exam.
- Expect to **read the textbook**. Not everything will make sense in lecture the first time you hear it.
- Pay special attention to **definitions**, make sure you understand them. Find examples.
- Most people learn better reading from a physical book than from a screen.



Getting the most out of your college experience

Tips if you want to start Math Research

- No easy path, especially as freshmen
- Math 199 (sometimes it's research, often it's directed reading)
- Get to know your professors: *Attend office hours! Ask questions! (LORs)*
- In your junior year: check out Summer REUs, Research Experiences for Undergraduates (all over the United States)
- Interested in math and bio research? Take Math 113 and apply to MathBioU in the summer between your junior and your senior year

Meet more majors and get involved!

Undergraduate Math Committee

Math CEO

UCI Actuarial Society

Math Finance Club at UCI

Data @ UCI

Undergraduate Mathematics Committee (UMC)

UCI's hub for math enthusiasts to collaborate, learn, and grow.

Linktree

Our Mission

Undergraduate Mathematics Committee's mission is to foster and sustain an inclusive community for all undergraduates interested in pursuing mathematics at University of California, Irvine.

Data @ UCI

A community for Anteaters to explore the world of data and their place in it.

Our Past Events

Careers in Data Science Panel

Python and Data Analysis Workshop

Game Night Social

Linktree

UCI Actuarial Society

- Meetings: 6pm on Wednesdays
- Email: actuarialsociety@uci.edu
  Instagram: @actuarialsocietyatuci
- Sign-up to mailing list:
https://forms.gle/FSg71dkZhmTEQhvw8
- Website:
https://sites.uci.edu/actuarialsociety/
- Linkedin; Facebook page; Discord

MATH FINANCE CLUB

- Meetings: *Not currently scheduled*
- Instead: They run a **Quarterly Stock Trading Competition (QSTC)** where students from all departments are welcome to join a stock market simulation game and compete for a prize.
- Contact: mathfinanceclub@uci.edu
- Website: *coming soon*

Linked In page: https://www.linkedin.com/groups/13695883/
Facebook page: https://www.facebook.com/groups/712446895841182/

MENTORING OPPORTUNITY @ UCI THIS FALL '23

UCI MATH CEO

COMMUNITY EDUCATIONAL OUTREACH

Help Your Community! Mentor Middle School Students here at UCI

HELP LATINX YOUTH LEARN MORE ABOUT COLLEGE

MAKE FRIENDS AT UCI

GAIN TEACHING EXPERIENCE (HERE AT UCI)

PROMOTE REASONING & PERSEVERANCE

GET KIDS INTERESTED IN STEM

EARN UNITS OR FIELDWORK HOURS

WEEKLY COACHING
AT UCI, ALP 2500

MONDAYS 2-3:50 PM

- OCT 2, 4, 9, 16, 23, 30
- NOV 6, 13, 20, 27
- DEC 4

WEEKLY MENTORING SESSIONS WITH YOUTH
AT UCI, ISEB 1310, ALP 2500 & NS2 1201)

WEDNESDAYS 2-3:50 PM

M1	M2	M3	M4	M5	M6	M7	M8
OCT 11	OCT 18	OCT 25	NOV 1	NOV 8	NOV 15	NOV 29	DEC 6

QUESTIONS:: MATHCEO@MATH.UCI.EDU

JOIN: :WWW.MATH.UCI.EDU/MATHCEO/JOIN

Join UCI Math Explorers!

Math in Action!

Weekly Meetings **Tuesdays, 3:30 pm to 5:00 pm!**
In person at Valley HS or online at UCI (ALP 1110)

Interested? Contact us at: mathcep@uci.edu

Or check out our website: https://sites.ps.uci.edu/mathcep

Sign up at QR code or https://forms.gle/awaq7K7YNu6pUHGu9

Mentor at Local High Schools!

Earn fieldwork hours and gain on-hand experience teaching at a free after-school program. Make friends with HS students and share your college experiences

New activities every quarter!

Explore novel and interactive math with UCI students and faculty. Develop activities interest you and learn how to build student enthusiasm for math and STEM.

Cryptography

How are messages kept secure? How do people break codes? Learn about the puzzles behind security!

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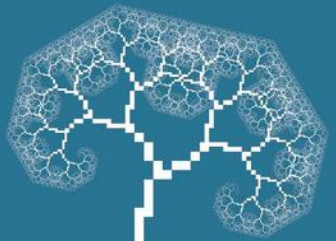
Generative Art

Express your creative side, draw fractals, discover visual patterns in nature and architecture.



Math Major Welcome Day

Math Org Presentation

Come learn about the different math affiliated orgs on campus!

Wednesday 9/27
3:30 PM - 5 PM
ISEB 1200

Resources

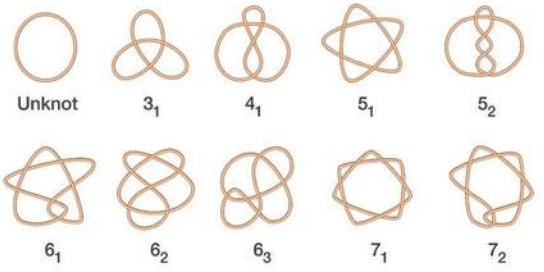
- Instructor and TA office hours
- Physical Sciences Student Affairs Office
  - Email: pssazot@uci.edu
  - Or contact via live chat (link in lower right): https://ps.uci.edu/undergraduates
- Department of Mathematics
  - Email: mathinfo@math.uci.edu

Department Website & FAQ

Department of Mathematics website:
https://www.math.uci.edu/undergraduate

Frequently Asked Questions (FAQ):
https://www.math.uci.edu/undergrad-courses/course-registration-and-placement-information

Prerequisite Video Webpage:
https://www.math.uci.edu/~prerequisite-videos

Course suggested schedules:
https://www.math.uci.edu/courses-instruction/course-syllabi

Thank You!
What questions do you have for us?