Introduction to the Major

The Applied Mathematics major prepares students to use mathematical concepts to formulate, analyze, and solve real-world problems. Students in the major learn:

• Research, communication, analytical, and modeling skills to develop their mathematical reasoning skills.
• Techniques and procedures to formulate and solve problems in mathematical notation.
• To identify real-world problems as subject to mathematical reasoning and to abstract general principles from the examples.

Visit the Berkeley Academic Guide for more information.

Integrate Your Major

• Add a Teaching Concentration to your major and join CalTeach to prepare for a career in education.
• Build community through MPS Scholars.
• Test your problem-solving skills in the prestigious Putnam Competition.
• Apply to a Research Experience for Undergraduates Summer Program.
• Work alongside a grad student mentor via the Directed Reading Program.
• Write an honors thesis or execute an independent study project.

Major Clusters

The Applied Mathematics major provides students with the opportunity to customize their learning by selecting a cluster pathway. A cluster is an approved concentration of courses in a specific field of applied mathematics. There are more than 15 approved clusters with the most popular being:

• Actuarial Science
• Computer Science
• Economics
• Statistics

More information on approved clusters can be found at math.berkeley.edu. Students can also design their own cluster with the guidance and approval of faculty.

The rigorous classes helped me think deeply about problem-solving and made me a more analytical thinker.

— Applied Math Major

Visit ue.berkeley.edu/majormaps for the latest version of this major map.
APPLIED MATHEMATICS

FIRST YEAR

- Review your major and college requirements, and map out a 4-year plan on CalCentral.
- Get tutoring help from the Student Learning Center or individual tutors.
- Check out the Math peer advisor blog.
- Learn how to plan your major, select courses, use LaTeX, and more at MUSA workshops.

SECOND YEAR

- Complete the prerequisites and declare Applied Mathematics as your major.
- Challenge yourself by taking Honors sections of courses.
- Consider a minor or a summer minor.
- Review major guidelines for study abroad.

THIRD YEAR

- Plan your cluster courses or design your own with the help of a faculty advisor.
- Review your degree progress with your major and college advisors.
- Learn more about the Honors Program with help from the Major Advisors.

FOURTH YEAR

- Do a degree check to ensure you are on track to graduate. Finish remaining major, college, and campus requirements.
- Complement your major with a certificate or course thread.
- Register for the department and campus-wide commencement ceremonies.

Connect and build community

- Find community with Math student groups.
- Get mentoring with Berkeley Connect, MPS Scholars, and L&S Mentors Program.
- Enroll in MPS 1: Navigating the Mathematical and Physical Sciences.
- Find study groups, tutoring, and academic support at the Student Learning Center.
- Attend a Math lecture or workshop.
- Connect with Math peer advisors.
- Go to office hours to build connections with professors and graduate student instructors.
- Consider MATH 74 to learn skills for transitioning to upper division math.

Discover your passions

- Discover new interests in a Freshman Seminar (Math 24), L&S 1, or DeCal course.
- Visit the Office of Undergraduate Research and Scholarships.
- Compete in the Putnam Competition. Take MATH 191 to elevate your success.
- Connect with faculty to discuss their work and research in Mathematics.
- Work closely with a graduate student through the Directed Reading Program.
- Enroll in a Sophomore Seminar, Big Ideas, or Discovery Course.
- Apply to a Research Experience for Undergraduates Summer Program or the MSRI Undergraduate Program.
- Check out research opportunities with SURF, URAP, and the Haas Scholars Program.
- Apply for a leadership position in your student organization.

Engage locally and globally

- Discover hundreds of organizations at the Calpalooza student activities fair.
- Explore study abroad options now, so you can start planning your upcoming semesters.
- Check out volunteer opportunities on campus.
- Deepen your knowledge of applied mathematics by attending workshops and conferences.
- Study abroad as a sophomore, junior, or senior with Berkeley Study Abroad.
- Take classes at another UC or college through a visitor and exchange program.
- Intern and study in Washington D.C. with UCDC or Cal in the Capital.
- Study Mathematics abroad through Berkeley Study Abroad, or Budapest Semesters in Mathematics.
- Engage in STEM education and mentorship with Bridging Berkeley. Expand Your Horizons, or SENDforC.
- Apply to be an Undergraduate Math Tutor.
- Explore gap year opportunities that you may wish to pursue before your next big adventure.
- Go on a service-learning trip with the Alternative Breaks program.
- Hone your leadership skills with the Peter E. Haas Public Service Leaders program.

Reflect and plan your future

- Use the Yearly Planner to guide your career path.
- Join Handshake to find Berkeley-specific internship opportunities and career development workshops.
- Explore career fields in the Career Connections Series or a winter externship.
- Conduct Informational Interviews to learn more about different career fields.
- Attend internship fairs to find internship opportunities. MATH 197 Field Study can be taken for study (internships) in off-campus organizations.
- Learn about graduate and professional school. See Step-by-Step for planning help.
- Discuss graduate school options with advisors and professors.
- Attend career and graduate school fairs.
- Network with professionals from various industries in Employer Information Sessions.
- Prepare to take exams required for graduate school.
- Boost your networking skills by attending events with UC Berkeley alumni. Find full-time jobs and paid internships through On-Campus Recruiting.
- Update your resume and LinkedIn profile.
- Apply to jobs, graduate and professional school programs and other opportunities.

WHAT CAN I DO WITH MY MAJOR?

Jobs and Employers

- Actuarial Analyst, Aon Risk Services
- AI Research Director, Numerate
- Analyst, Kohl’s
- Applications Engineer, Revitvative
- Business Analyst, Wayfair
- Data Analyst, Tribe Dynamics
- Data Scientist, Oracle
- Digital Analyst, McKinsey & Company
- Energy Analyst, CA Energy
- Financial Consultant, Deloitte
- Research Assistant, IMF
- Software Develop. Engineer, Amazon
- Software Engineer, PayPal
- SW Engineer Intern, City & Cty. of SF
- Software Quality Associate, Waymo

Graduate Programs

- Accounting
- Actuarial Science
- Artificial Intelligence and Robotics
- Applied Mathematics
- Biomedical Sciences
- Business
- Computational Mathematics
- Computer Graphics
- Computer Science
- Economics
- Electrical Engineering
- Finance
- International Studies
- Neurobiology
- Physics
- Secondary Education
- Statistics

Examples gathered from the First Destination Survey of recent Berkeley graduates.

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