



Photo credit: Keegan Houser

## HOW TO USE THIS MAP

Use this map to help plan and guide your experience at UC Berkeley, including academic, co-curricular, and discovery opportunities. Everyone's Berkeley experience is different and activities in this map are suggestions. Always consult with your advisors whenever possible for new opportunities and updates.

## CONNECT WITH US

### Golden Bear Orientation

Join your peers in the campus-wide UC Berkeley **orientation** program for all new students.

### Events

Attend department events with students, faculty, and staff. Visit [math.berkeley.edu](https://math.berkeley.edu) for news and updates.

### Math & Physical Sciences (MPS) Launch Day

Learn about campus opportunities and resources, get questions answered, and meet faculty, advisors, and students at the MPS new student orientation.

## ADVISING

The **Math advising** team serves both declared and prospective majors. Meet with them to discuss major requirements, policies and procedures, helpful resources, enriching opportunities, and much more!

For more information or to contact an advisor, visit [math.berkeley.edu/programs/undergraduate/advising](https://math.berkeley.edu/programs/undergraduate/advising).

# APPLIED MATHEMATICS

Bachelor of Arts

Berkeley  
UNIVERSITY OF CALIFORNIA

## 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.



Photo credit: Keegan Houser

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

– Applied Math Major

## 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](https://math.berkeley.edu). Students can also design their own cluster with the guidance and approval of faculty.

## AMPLIFY 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.

Visit [ue.berkeley.edu/majormaps](https://ue.berkeley.edu/majormaps) for the latest version of this major map.

Berkeley

Mathematics

970 Evans Hall #3840  
Berkeley, CA 94720-3840  
[math.berkeley.edu](https://math.berkeley.edu)



	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	WHAT CAN I DO WITH MY MAJOR?
Explore your major	<p>Review your <b>major</b> and college requirements, and map out a 4-year plan on <b>CalCentral</b>.</p> <p>Get tutoring help from the <b>Student Learning Center</b> or <b>individual tutors</b>.</p> <p>Check out the <b>Math peer advisor blog</b>.</p> <p>Learn how to plan your major, select courses, use LaTeX, and more at <b>MUSA workshops</b>.</p>	<p>Complete the prerequisites and <b>declare Applied Mathematics</b> as your major.</p> <p>Challenge yourself by taking <b>Honors sections</b> of courses.</p> <p>Consider a <b>minor</b> or a <b>summer minor</b>.</p> <p>Review major guidelines for <b>study abroad</b>.</p>	<p>Plan your <b>cluster</b> courses or design your own with the help of a <b>faculty advisor</b>.</p> <p>Review your degree progress with your <b>major</b> and <b>college advisors</b>.</p> <p>Learn more about the <b>Honors Program</b> with help from the <b>Major Advisors</b>.</p>	<p>Do a <b>degree check</b> to ensure you are on track to <b>graduate</b>. Finish remaining major, college, and campus requirements.</p> <p>Complement your major with a <b>certificate</b> or <b>course thread</b>.</p> <p>Register for the <b>department</b> and <b>campus-wide</b> commencement ceremonies.</p>	<div>Jobs and Employers</div> <p>Actuarial Analyst, Aon Risk Services AI Research Director, Numerate Analyst, Kohl's Applications Engineer, Revmotive Business Analyst, Wayfair Data Analyst, Tribe Dynamics Data Scientist, Oracle Digital Analyst, McKinsey &amp; Company Energy Analyst, CA Energy Financial Consultant, Deloitte Research Assistant, IMF Software Develop. Engineer, Amazon Software Engineer, PayPal SW Engineer Intern, City &amp; Cty. of SF Software Quality Associate, Waymo</p>
Connect and build community	<p>Find community with <b>Math student groups</b>.</p> <p>Get mentoring with <b>Berkeley Connect</b>, <b>MPS Scholars</b>, and <b>L&amp;S Mentors Program</b>.</p> <p>Enroll in MPS 1: Navigating the Mathematical and Physical Sciences.</p> <p>Find study groups, tutoring, and academic support at the <b>Student Learning Center</b>.</p>	<p>Attend a <b>Math lecture or workshop</b>.</p> <p>Connect with <b>Math peer advisors</b>.</p> <p>Go to office hours to build connections with professors and graduate student instructors.</p> <p>Consider MATH 74 to learn skills for transitioning to upper division math.</p>	<p>Join career-oriented groups such as <b>Data Scholars</b> or the <b>Cal Actuarial League</b>.</p> <p>Consider applying for a <b>leadership</b> position within your student organization.</p> <p>Become a <b>Golden Bear Orientation Leader</b> and welcome new students to UC Berkeley.</p> <p>Hear guest speakers at <b>Math Mondays</b>.</p>	<p>Become a <b>Mathematics Peer Advisor</b> and help prospective and current Mathematics students.</p> <p>Connect with <b>alumni groups</b> and build your <b>network</b> as you prepare to graduate.</p> <p>Help other students with Mathematics at the <b>Student Learning Center</b> or <b>independently</b>.</p>	<div>Graduate Programs</div> <p>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</p>
Discover your passions	<p>Discover new interests in a <b>Freshman Seminar (Math 24)</b>, <b>L&amp;S 1</b>, or <b>DeCal course</b>.</p> <p>Visit the <b>Office of Undergraduate Research and Scholarships</b>.</p> <p>Compete in the <b>Putnam Competition</b>. Take <b>MATH 191</b> to elevate your success.</p>	<p>Connect with <b>faculty</b> to discuss their work and research in Mathematics.</p> <p>Work closely with a graduate student through the <b>Directed Reading Program</b>.</p> <p>Enroll in a <b>Sophomore Seminar</b>, <b>Big Ideas</b>, or <b>Discovery Course</b>.</p>	<p>Apply to a <b>Research Experience for Undergraduates Summer Program</b> or the <b>MSRI Undergraduate Program</b>.</p> <p>Check out research opportunities with <b>SURF</b>, <b>URAP</b>, and the <b>Haas Scholars Program</b>.</p> <p>Apply for a leadership position in your student organization.</p>	<p>Teach your own <b>DeCal course</b>.</p> <p>Write an <b>honors thesis</b> or execute an independent study.</p> <p>Keep pursuing your interests through a <b>fellowship</b> or gap year after graduation.</p>	
Engage locally and globally	<p>Discover hundreds of organizations at the <b>Calapalooza</b> student activities fair.</p> <p>Explore <b>study abroad</b> options now, so you can start planning out your upcoming semesters.</p> <p>Check out volunteer opportunities on campus.</p>	<p>Deepen your knowledge of applied mathematics by attending <b>workshops and conferences</b>.</p> <p>Study abroad as a sophomore, junior, or senior with <b>Berkeley Study Abroad</b>.</p> <p>Take classes at another UC or college through a <b>visitor and exchange program</b>.</p>	<p>Intern and study in Washington D.C. with <b>UCDC</b> or <b>Cal in the Capital</b>.</p> <p>Study Mathematics abroad through <b>Berkeley Study Abroad</b>, or <b>Budapest Semesters in Mathematics</b>.</p> <p>Engage in STEM education and mentorship with <b>Bridging Berkeley</b>, <b>Expand Your Horizons</b>, or <b>SENDforC</b>.</p>	<p>Apply to be an <b>Undergraduate Math Tutor</b>.</p> <p>Explore gap year opportunities that you may wish to pursue before your next big adventure.</p> <p>Go on a service-learning trip with the <b>Alternative Breaks</b> program.</p> <p>Hone your leadership skills with the <b>Peter E. Haas Public Service Leaders program</b>.</p>	
Reflect and plan your future	<p><b>Develop a plan</b> for getting career ready.</p> <p>Join <b>Handshake</b> to find Berkeley-specific internship opportunities and career development workshops.</p> <p>Explore career fields in the <b>Career Connections Series</b> or a <b>winter externship</b>.</p>	<p>Conduct <b>Informational Interviews</b> to learn more about different <b>career fields</b>.</p> <p>Attend <b>internship fairs</b> to find internship opportunities. MATH 197 Field Study can be taken for study (internships) in off-campus organizations.</p> <p>Learn about <b>graduate and professional school</b>. See <b>Step-by-Step</b> for planning help.</p>	<p>Discuss graduate school options with advisors and professors.</p> <p>Attend <b>career and graduate school fairs</b>.</p> <p>Network with professionals from various industries in <b>Employer Information Sessions</b>.</p> <p>Prepare to take exams required for <b>graduate school</b>.</p>	<p>Boost your <b>networking skills</b> by attending events with UC Berkeley alumni.</p> <p>Find full-time jobs and paid internships through <b>On-Campus Recruiting</b>.</p> <p>Update your resume and <b>LinkedIn</b> profile.</p> <p>Apply to jobs, <b>graduate and professional school programs</b> and other opportunities.</p>	<div>Examples gathered from the First Destination Survey of recent Berkeley graduates.</div>