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, communications, analytical, and modelling 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.

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.

AMPLIFY YOUR MAJOR

- Add a Teaching Concentration to your major and join CalTeach to prepare for a career in education.
- Test your problem-solving skills in the prestigious Putnam Competition.
- Apply to a Research Experience for Undergraduate Summer Program.
- Work alongside a graduate student mentor through the Directed Reading Program.
- Write an honors thesis or execute an independent study project.
# Applied Mathematics

**Bachelor of Arts**

## Design Your Journey

### First Year
- **Explore your major**
  - Review your major and college requirements.
  - Map out a 4-year plan on CalCentral.
  - Get tutoring help from the Student Learning Center or individual tutors.
  - Visit the peer advisor blog to learn about undergraduate life in the Math Department.

- **Connect and build community**
  - Discover hundreds of student organizations at Calpalooza student activities fair.
  - Build your community through Math undergraduate organizations.
  - Get a mentor by enrolling in a Mathematics mentorship program.
  - Attend the Orientation and Peer Mentor Placements Program.

- **Discover your passions**
  - Take L&Rs for an introduction to the College.
  - Visit the Office of Undergraduate Research and Scholarships.
  - Enroll in a Freshman & Sophomore Seminar.
  - Compete in the Putnam Competition.

- **Engage locally and globally**
  - Explore study abroad options now, so you can start planning your upcoming semesters.
  - Check out volunteer opportunities on campus.
  - Follow the Mathematics Undergraduate Calendar to stay up-to-date with important events and opportunities.

- **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.
  - Shadow alumni in the Winter Externship Program.

### Second Year
- **Explore your major**
  - Complete the prerequisites and declare Applied Mathematics as your major.
  - Consider a minor or a summer minor and plan your upcoming semesters accordingly.
  - Challenge yourself by taking Honors sections of courses.

- **Connect and build community**
  - Attend a lecture or workshop hosted by the Math department.
  - Connect with peer advisors at the Math department to learn how to make the most of your time at UC Berkeley.
  - Go to office hours to build connections with professors and graduate student instructors.

- **Discover your passions**
  - Connect with faculty to discuss their work and research in Mathematics.
  - Assist a professor in their research through the Undergraduate Research Apprenticeship Program.
  - Work closely with a graduate student through the Directed Reading Program.

- **Engage locally and globally**
  - 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 the Inter-University Program.

- **Reflect and plan your future**
  - Meet alumni and learn about their career paths in the Career Connections Networking Series.
  - Conduct Informational Interviews to learn more about different career fields.
  - Attend Internship fairs to find internship opportunities.

### Third Year
- **Explore your major**
  - Plan your cluster courses or design your own with the help of a faculty advisor.
  - Apply to complete the Honors Program in Applied Mathematics with the help of the Honors Program Advisor.

- **Connect and build community**
  - Join career-oriented groups, such as Data Scholars or the Cal Actuarial League.
  - Consider applying for a leadership position within your student organization.
  - Become a Golden Bear Orientation Leader and welcome new students to the UC Berkeley campus and community.

- **Discover your passions**
  - Attend a Research Experience for Undergraduates Summer Program.
  - Apply to SURF Rose Hills/L&S and Haas Scholars Program.
  - Conduct research during the summer through the MSRI Undergraduate Program.

- **Engage locally and globally**
  - Tutor students at the Student Learning Center.
  - Intern and study in Washington D.C. with UCDC or Cal in the Capital.
  - Study Mathematics abroad in Moscow, Russia or Budapest, Hungary.

- **Reflect and plan your future**
  - Attend career and graduation fair opportunities.

### Fourth Year
- **Explore your major**
  - Meet with your major advisor and with your college advisor to verify your completion of all major and college requirements.
  - Take any “bucket list” courses and remaining major, college, and campus requirements.
  - Register for the department and campus-wide commencement ceremonies.

- **Connect and build community**
  - Become a Mathematics Peer Advisor and help prospective and current Mathematics students.
  - Connect with alumni groups and build your network as you prepare to graduate.

- **Discover your passions**
  - Apply to an Undergraduate Mathematics Tutor.
  - Explore gap year opportunities that you may wish to pursue before your next big adventure.
  - Go on service trips over spring or winter break with the Alternative Breaks program.

- **Engage locally and globally**
  - Attend your own DeCal course.
  - Write an honors thesis or execute an independent study under the supervision of a faculty member.
  - Keep pursuing your interests through a fellowship or gap year after graduation.

- **Reflect and plan your future**
  - Meet with your major advisor to discuss your career plans.
  - Conduct Informational Interviews to learn more about different career fields.
  - Attend Internship fairs to find internship opportunities.

### WHAT CAN I DO WITH MY MAJOR?

**Jobs and Employers**
- Actuarial Analyst
- Aon Risk Services
- AI Research Engineer, Numerate
- Analyst, Kohl’s
- Applications Engineer, Revotone
- 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.