



Photo credit: BioE Department

## 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

### Cal Day

Come to UC Berkeley's annual **Open House** in April for information sessions, campus tours, special talks, and more. BioE's Cal Day **website**.

### 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 **bioeng.berkeley.edu** for news and updates.

## ADVISING

Set an appointment or drop-in to meet with a Bioengineering undergraduate adviser.

### Advising Appointments available:

Tuesday - Friday, 9:30 - 11:30am

Tuesday - Thursday, 1:15 - 4:00pm

Advising appointments will primarily meet via Zoom. In-person advising available on Thursdays or by appointment, when needed.

Appointments can be made via email at **mariselal@berkeley.edu**. It is strongly recommended you email to schedule an appointment.

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

**Berkeley**

**Bioengineering**

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Berkeley, CA 94720-1762  
[bioeng.berkeley.edu](https://bioeng.berkeley.edu)

# BIOENGINEERING

Bachelor of Science

**Berkeley**  
UNIVERSITY OF CALIFORNIA

## INTRODUCTION TO THE MAJOR

Bioengineering is the application of engineering principles to biological systems. Students in the **Bioengineering** major study math, physics, chemistry, and biology, in addition to computer sciences, electrical and mechanical engineering, and/or materials sciences. They bring these skills together in bioengineering courses where they learn to analyze, understand, repair, and alter biological materials and systems.

Collaboration and interdisciplinary perspectives are key skills we encourage in all of our students, and we prize cooperation over competition whenever possible. BioE graduates pursue successful careers in industry, further study in medical school, and graduate studies in bioengineering and related disciplines at top universities.



Photo credit: BioE Department

“ *Bioengineering faculty care about my learning and success both as a student and as a future professional.* ”

– Bioengineering student

## THE FUTURE OF BIOLOGY. THE FUTURE OF ENGINEERING.

Our curriculum provides a strong foundation in engineering and the biological sciences, with the freedom to explore a variety of topics and specialize in advanced areas of research. All students take bioengineering fundamentals courses in areas such as biomechanics, instrumentation, and computational biology, and choose from a growing list of bioengineering topics for specialized advanced coursework. In addition, students will take BioE laboratory courses and complete a design or research project under faculty supervision.

Students can pursue a concentration in Biomedical Devices; Biomedical Imaging; Cell & Tissue Engineering; or Synthetic & Computational Biology.

## AMPLIFY YOUR MAJOR

- Engage in **undergraduate research** on a faculty-initiated project or your own research topic.
- Get teaching experience as an Undergraduate Student Instructor or **DeCal facilitator**.
- Berkeley offers a wealth of opportunities, from supplemental classes like **Bioprinting @ Berkeley** to the **Fung Fellowship** in wellness and technology.

# BIOENGINEERING

Bachelor of Science

## DESIGN YOUR JOURNEY

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	WHAT CAN I DO WITH MY MAJOR?
<b>Explore your major</b>	<p>Review the Bioengineering <b>concentrations</b> and <b>general degree requirements</b>.</p> <p>Take first-year BioE classes <b>BioE 10 &amp; 26</b>.</p> <p>Look for <b>classes</b> that spark your interest (such as <b>Freshman Seminars</b>).</p> <p>Choose your concentration.</p> <p>Attend the BioE Town Hall.</p>	<p>Finish lower division courses.</p> <p>Talk with adviser(s) and use the <b>multi-year teaching plan</b> to plan your prereqs and classes.</p> <p>Considering a <b>minor</b> or <b>summer minor</b>? Sketch out how it'll fit into your 4-year plan.</p> <p>Attend the BioE Town Hall.</p>	<p>Choose classes from your <b>concentration</b> that will build the career skills you need.</p> <p>Check in with a <b>major advisor</b> and <b>college adviser</b> on degree progress.</p> <p>Plan time for non-major courses on your bucket list.</p> <p>Attend the BioE Town Hall.</p>	<p>Meet with your <b>major</b> and <b>college advisor</b> to ensure you are fulfilling all major, college, and campus requirements.</p> <p>Take the <b>Bioengineering Capstone Design course</b> if you haven't fulfilled your <b>Design Requirement</b>.</p> <p>Attend the BioE Town Hall.</p>	<p><b>Jobs and Employers</b></p> <p>Clinical Research Coordinator, UCSF                      Engin. Tech., Verily Life Sciences                      Junior Specialist, UC Berkeley                      Optometric Asst., Golden Gate Opt.                      Process Engineer, Illumina                      Research Asst., Innovative Genomics                      Research Fellow, ETH Zurich                      Scientific Lab Asst., Adv. Clinical                      Software Developer, IBM                      Software Engineer, Capital One                      Software Engineer, Google                      System Engineer Assoc., IRhythm                      Systems Engineer, Bio-Techne                      Technical Services, Epic Systems                      Wireless Engineer Intern, Kaiser</p> <p><b>Graduate Programs</b></p> <p>Biological Sciences                      Biomedical Engineering                      Chemical Engineering                      Computer Science                      Genetics                      Medicine                      Molecular Biology                      Natural Resources Mgmt &amp; Policy                      Neurobiology</p> <p>Examples gathered from the <b>First Destination Survey</b> of recent Berkeley graduates.</p>
<b>Connect and build community</b>	<p>Meet other bioengineers at events and <b>student groups</b> like BioEHS and BMES.</p> <p>Go to office hours and study groups (<b>SLC, ESS</b>).</p> <p>Seek mentorship from upper division students.</p> <p><b>Get help if you need it</b> and respect your limits.</p>	<p>Keep going to office hours and study groups to build your connections.</p> <p>Get to know faculty and grad students at professor lunches, Town Hall, research exhibitions, etc.</p> <p>Gain leadership experience in student organizations and <b>ESS</b>.</p>	<p>Don't stop going to <b>events</b> and seminars to hide in the lab. Time at Berkeley is precious!</p> <p>Push your boundaries - connect with new student groups through the <b>LEAD Center</b> or become a <b>Golden Bear Orientation Leader</b>.</p>	<p>You've made it! Now be a mentor for others.</p> <p>Cement your knowledge by teaching: become a <b>Engineering peer advisor</b> or <b>tutor at the Student Learning Center</b>.</p> <p>Do your BioE and UCUES student surveys. Your perspective is at its most valuable.</p>	
<b>Discover your passions</b>	<p>Find opportunities in BioE Announcements emails.</p> <p>Go to the <b>BioE weekly seminars</b> to get inspired.</p> <p>Read about <b>faculty research</b> in Bioengineering, but don't worry about joining a lab your first year.</p>	<p>Plan for <b>research</b>. Make a resume, talk to faculty.</p> <p>Into health entrepreneurship? Apply for the <b>Fung Fellowship</b>.</p> <p>What kind of problems do you want to solve? Start thinking about how they relate to potential careers and what skills you'll need.</p>	<p>Doing research? Present your work whenever possible (CoE poster session, Cal Day) and apply for the <b>Dr. Budinger Award</b>.</p> <p>Narrow your careers list and make a plan to get there. <b>Faculty advisers</b> can help.</p>	<p>Attack your career plans. Job shadow, visit grad schools, network!</p> <p>Keep seeking out new experiences.</p> <p>Earn a certificate through the <b>Sutardja Center for Entrepreneurship &amp; Technology</b> or <b>Jacobs Institute for Design and Innovation</b>.</p>	
<b>Engage locally and globally</b>	<p>Interested in <b>studying abroad</b> later? Check out the requirements now.</p> <p>Explore volunteering opportunities on campus.</p>	<p>Apply for <b>study abroad</b>.</p> <p>Prime time for volunteering in the community - check out <b>PIE, BEAM, BioEHSC</b>.</p> <p>Apply to <b>NSF Research Experience for Undergraduates (REU)</b> and internship programs.</p>	<p>Find opportunities to pursue your passions that go beyond campus, such as a <b>Berkeley Global Internship</b>, community volunteering, or independent project.</p>	<p>Apply for <b>fellowships</b> available to recent Berkeley graduates.</p> <p>Explore gap year opportunities prior to embarking on your next academic or career adventure.</p>	
<b>Reflect and plan your future</b>	<p><b>Develop a plan</b> for getting career ready.</p> <p>Join <b>Handshake</b> for Career resources.</p> <p>Apply for <b>scholarships</b> and awards as available.</p> <p>What are you doing this summer? Look into jobs, volunteering, courses, and internships. (watch <b>BioE Announcements</b>).</p>	<p>Attend Biotech <b>Career Connections</b> and <b>Bio-Tech Connect</b> to learn about industry careers.</p> <p>Check out career paths through the <b>Career Connections Networking Series</b>.</p> <p>This is a great time for an off-campus internship! Visit another university for an <b>REU</b>.</p>	<p>Attend <b>Bio-Tech Connect</b> and <b>Employer Info Sessions</b>.</p> <p>Going to grad school? Take GRE/LSAT/MCAT.</p> <p>Explore post-grad options with <b>Career Educators</b> and at <b>Career and Graduate School Fairs</b>.</p> <p>This is a great summer for an industry internship!</p>	<p>Industry bound? Update resume, <b>practice interviewing</b>, and utilize <b>job board tools</b> from Berkeley Career Engagement. Watch for <b>On-Campus Recruiting, Info Sessions</b> and BioE Announcements.</p> <p>Grad school? Talk to <b>grad students</b> and <b>advisors</b>. Ask for <b>letters of recommendation</b> EARLY. Apply for <b>fellowships</b> (hint: <b>NSF</b>).</p>	