



Photo credit: Kevin Ho Nguyen

CONNECT WITH US

Cal Day

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

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 engineering-science.berkeley.edu for news and updates.

ADVISING

Visit Engineering Student Services in 230 Bechtel for advising on academic difficulty, change of major/double majors/simultaneous degrees, withdrawal/readmission, degree completion, education abroad, academic progress, and petitions and exceptions. See engineering-science.berkeley.edu/students/advising-counseling/.

Contact the ES Undergraduate Advisor at engineering-science@berkeley.edu about registration, departmental policy, and campus resources. Meet with an ES Faculty Advisor about coursework, careers in ES, graduate school, letters of recommendation, and summer internships. See engineering-science.berkeley.edu/faculty/.

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.

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

INTRODUCTION TO THE PROGRAM

The **Engineering Science** (ES) program is a multi-departmental and interdisciplinary undergraduate program that encompasses closely-related areas of the physical sciences, mathematics and engineering. Students in the ES program acquire knowledge of engineering methods and can pursue their interests in areas of natural science, as well as advanced study in engineering, science, or mathematics. Students choose one of four majors: energy engineering, engineering mathematics and statistics, engineering physics, or environmental engineering science. A minor in energy engineering is also offered.



Photo credit: ES Department

“The classes across a variety of departments have allowed me to take a very interdisciplinary approach to engineering. And the great community within this major has taught me how to work with a team.” – T.G. Mekenzi Roberts, Energy Engineering Science, Class of 2020

MAJOR OPTIONS

Energy Engineering interweaves the fundamentals of classical and modern physics, chemistry, and mathematics with energy engineering applications.

Engineering Mathematics and Statistics is the study of pure and applied mathematics as essential components of modern engineering.

Engineering Physics interweaves classical and modern physics, chemistry, and mathematics with their engineering applications.

Environmental Engineering pairs engineering fundamentals with courses in the environmental and natural sciences.

AMPLIFY YOUR MAJOR

- Get involved with a **student group** such as **Society of Engineering Sciences**.
- Apply to **GLOBE Ambassadors**, a learning and travel program for Engineering students.
- Pursue a **research opportunity** for Engineering students.
- Enrich your studies with a minor in **Energy and Resources** or **Sustainability**.

ENGINEERING SCIENCE

DESIGN YOUR JOURNEY

Bachelor of Science

	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	WHAT CAN I DO WITH MY MAJOR?
Explore your major	<p>Meet with your ESS advisor to discuss your academic plans.</p> <p>Familiarize yourself with major and college requirements.</p> <p>Talk to an ES advisor about department programs and research opportunities.</p> <p>Enroll in ENGIN 98: The Insider's Guide to Berkeley Engineering.</p>	<p>Talk to ESS peer advisors about life in the major.</p> <p>Meet with your ESS advisor to discuss your academic progress.</p> <p>Complete lower division prerequisites and start planning your upper division courses.</p> <p>Plan now if considering a double major, simultaneous degree, minor, or study abroad.</p>	<p>Focus on upper division requirements and electives.</p> <p>Continue meeting with your ESS advisor to review your academic progress.</p> <p>Submit paperwork for a double major, simultaneous degree, minor, or study abroad.</p>	<p>Meet with your ESS advisor to do an official degree check and plan for your final year.</p> <p>Complete any "bucket list" courses and remaining major, college, and campus requirements.</p>	<p>Graduates in Engineering Science gain a broad foundation for graduate studies in theoretical branches of engineering, as well as in mathematics, and are prepared for careers in specific sectors of industry or business, such as green technology, solar engineering, and environmental firms to name a few.</p> <p>Jobs and Employers</p> <p>Data Engineer, Capital One Data Scientist, Barclays Capital Engineer, Northrop Grumman Hybrid Calibration Engineer, General Motors Project Coordinator, Climate Corps Software Engineer, Primus Power Project Engineer, New Energy Equity Research Assistant, California Institute of Technology</p> <p>Graduate Programs</p> <p>Aerospace, Aeronautical, and Astronautical Artificial Intelligence and Robotics, PhD Atomic/Molecular Physics, PhD Electrical, Electronics, and Communications Engineering, Masters Engineering, Masters Materials Engineering, PhD Physics, PhD</p> <p>Examples gathered from the First Destination Survey of recent Berkeley graduates.</p>
Connect and build community	<p>Take advantage of tutoring and workshops for Engineering students.</p> <p>Find academic support at the Student Learning Center and Center for Access to Engineering Excellence.</p> <p>Find student opportunities in the ESS newsletter and new student podcast.</p>	<p>Join an Engineering student group such as Society of Engineering Sciences.</p> <p>Get to know Engineering professors and graduate student instructors during their office hours.</p> <p>Find study space and resources in the Kresge Engineering Library.</p>	<p>Give back by becoming an ESS peer advisor.</p> <p>Join the Berkeley Engineering group on LinkedIn.</p> <p>Explore student groups outside of Engineering, and deepen your involvement with an Engineering student group.</p>	<p>Join a professional association such as the Association of Energy Engineers or American Physical Society.</p> <p>Continue attending tutoring and workshops, and reading the weekly ESS newsletter.</p> <p>Connect with alumni groups and leverage your network as you prepare to graduate.</p>	
Discover your passions	<p>Browse research taking place in Engineering centers, institutes, and labs.</p> <p>Attend the Undergraduate Research and Scholarships Fair in October.</p> <p>Discover new interests in a Freshman Seminar or student-run DeCal course.</p> <p>Broaden your perspective by attending Newton Series or View from the Top lectures.</p>	<p>Consider pursuing a research opportunity for Engineering and ES students.</p> <p>Apply to a REU research program. Check Berkeley Lab and UCSF for more research options.</p> <p>Check out design and maker opportunities at the Jacobs Institute.</p> <p>Enrich your studies with a minor in Energy and Resources or Sustainability.</p>	<p>Explore your mission and impact as an Engineer through the LeaderShape Institute.</p> <p>Consider the Sutardja Certificate in Entrepreneurship and Technology or a summer abroad through the European Innovation Academy.</p> <p>Apply for a research opportunity if you haven't done so already.</p>	<p>Teach your own DeCal course.</p> <p>Consider being an instructor for ENGIN 98.</p> <p>Continue to pursue your interests through a fellowship or gap year after graduation.</p> <p>Choose your post-baccalaureate plans based upon your intended mission and impact as an Engineer.</p>	
Engage locally and globally	<p>Attend the Calapalooza student activities fair and get involved with a student organization.</p> <p>Find service opportunities through the Public Service Center.</p> <p>Connect with other students during Engineers Week.</p>	<p>Work with a community organization in an American Cultures Engaged Scholarship course such as ENGIN 157AC.</p> <p>Apply to GLOBE Ambassadors, a learning and travel program for Engineering students.</p> <p>Mentor local youth with Pioneers in Engineering, Berkeley Engineers and Mentors, or Engineering for Kids.</p>	<p>Take your engineering skills international through Engineers Without Borders.</p> <p>Consider a Berkeley Global Internship such as the Engineering Internship in Toronto.</p> <p>Experience life at another UC or college on a visitor and exchange program.</p> <p>Planning a summer internship abroad? Apply for travel funding from GLOBE Scholars.</p>	<p>Serve as a student representative on a college committee.</p> <p>Hone your leadership skills with the Peter E. Haas Public Service Leaders program.</p> <p>Explore service opportunities after graduation, such as Peace Corps, Teach for America, or U.S. Department of State.</p>	
Reflect and plan your future	<p>Visit Berkeley Career Engagement and the Career Counseling Library.</p> <p>Sign up for Handshake and CareerMail.</p> <p>Explore career resources on the Engineering website.</p> <p>Attend an ESS workshop to create a resume and LinkedIn page.</p>	<p>Discuss career options and goals with a Career Educator.</p> <p>Explore careers through the Cal Job Shadow Program and informational interviews.</p> <p>Learn about graduate and professional school.</p> <p>Pursue an internship and attend an internship career fair.</p>	<p>Attend career and graduate school fairs such as the STEM Career & Internship Fair.</p> <p>Discuss graduate school options with advisors and professors.</p> <p>Sign up for a ESS career workshop, networking dinner, or career conference.</p> <p>Make an advising appointment in ESS and explore options such as 5th year MS, MEng, and PhD.</p>	<p>Ask professors and graduate student instructors for recommendation letters.</p> <p>Utilize job board tools in your job search. Meet employers at Employer Info Sessions and On-Campus Recruiting.</p> <p>Attend the job offer negotiation workshop in ESS.</p> <p>Apply to jobs, graduate school, and other opportunities.</p>	