INTRODUCTION TO THE MAJOR

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.

“...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**

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**FIRST YEAR**

- Meet with your ESS advisor to discuss your academic plans.
- Familiarize yourself with major and college requirements.
- Take an ESS advisor about department programs and research opportunities.

**SECOND YEAR**

- Talk to ESS peer advisors about life in the major.
- Meet with your ESS advisor to discuss your academic progress.
- Complete lower division prerequisites and start planning your upper division courses.
- Plan now if considering a double major, simultaneous degree, minor, or study abroad.

**THIRD YEAR**

- Focus on upper division requirements and electives.
- Continue meeting with your ESS advisor to review your academic progress.
- Submit paperwork for a double major, simultaneous degree, minor, or study abroad.

**FOURTH YEAR**

- Meet with your ESS advisor to do an official degree check and plan for your final year.
- Complete any “bucket list” courses and remaining major, college, and campus requirements.

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**WHAT CAN I DO WITH MY MAJOR?**

Grads 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.

**Jobs and Employers**

- 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

**Graduate Programs**

- 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

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**Reflect and plan your future**

- Visit the Career Center and Career Counseling Library.
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- Meet with a Career Center counselor to discuss your career options and goals.
- Explore career opportunities through a winter externship and informational interviews.
- Learn about graduate and professional schools.
- Pursue an internship and attend an internship career fair.
- Attend career and graduate school fairs such as the STEM Career & Internship Fair.
- Discuss graduate school options with advisors and professors.
- Sign up for an ESS career workshop, networking dinner, speaker series, or career conference.
- Make an advising appointment in ESS and explore options such as 5th year MS, MEng, and PhD.
- Ask professors and graduate student instructors for recommendation letters.
- Utilize job search tools from the Career Center. Meet employers at Employer Info Sessions and On-Campus Recruiting.
- Attend the Job offer negotiation workshop in ESS.
- Apply to jobs, graduate school, and other opportunities.

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**Discover your passions**

- Browse research taking place in Engineering centers, institutes, and labs.
- Attend the Undergraduate Research and Scholarships Fair in October.
- Discover new interests in a Freshman Seminar or student-run DeCal course.
- Broaden your perspective by attending Newton Series or View from the Top Lecture.
- Consider pursuing a research opportunity for Engineering and ESS students.
- Apply to a REU research program. Check Berkeley Lab and UCSC for more research options.
- Check out design and maker opportunities at the Jacobs Institute.
- Enrich your studies with a minor in Energy and Resources or Sustainability.
- Explore your mission and impact as an Engineer through the LeaderShape Institute.
- Consider the Sutardja Certificate in Entrepreneurship and Technology or a summer abroad through the European Innovation Academy.
- Apply for a research opportunity if you haven’t done so already.
- Take your engineering skills international through Engineers Without Borders.
- Consider a Berkeley Global Internship such as the Engineering Internship in Toronto.
- Experience life at another UC or college on a visitor and exchange program.
- Planning a summer internship abroad? Apply for travel funding from GLOBE Scholars.
- Sutardja Certificate in Business, such as green technology, solar business, such as Energy and Engineering firms.
- Continue to pursue your interests through a fellowship or gap year after graduation.
- Choose your post-baccalaureate plans based upon your intended mission and impact as an Engineer.
- Serve as a student representative on a college committee.
- Hope your leadership skills with the Peter E. Haas Public Service Leaders program.
- Explore service opportunities after graduation, such as Peace Corps. Teach for America; or U.S. Department of State.
- Apply for a research opportunity if you haven’t done so already.
- Consider pursuing a research opportunity such as the American Cultures Engaged Scholarship course such as ENGIN 98.
- Join a professional association such as the Association of Energy Engineers or American Physical Society.
- Continue attending tutoring and workshops, and reading the weekly ESS newsletter.
- Connect with alumni groups and leverage your network as you prepare to graduate.

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**Connect locally and globally**

- Attend the Calpalooza student activities fair and get involved with a student organization.
- Find service opportunities through the Public Service Center.
- Connect with other students during Engineers Week.
- Work with a community organization in an American Cultures Engaged Scholarship course such as ENGIN 98.
- Apply to GLOBE Ambassadors, a learning and travel program for Engineering students.
- Mentor local youth with Pioneers in Engineering. Berkeley Engineers and Mentors, or Engineering for Kids.
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**Explore your major**

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