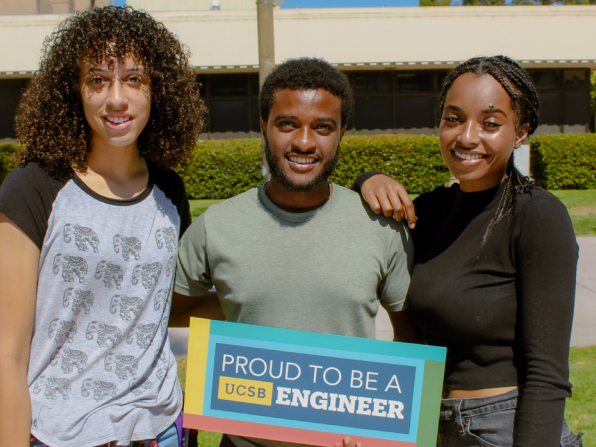


UC SANTA BARBARA
College of Engineering





Collaborate. Discover. Prepare.

For engineers, collaborating to solve complex problems is a way of life, and at UCSB, collaboration has long been seen as foundational to discovery. As an undergraduate engineering student here, you'll thrive within a uniquely supportive culture and community. You'll discover new worlds of professional possibility. Through constant collaboration — with your fellow students, with faculty, and with our highly supportive staff — you'll graduate as a creative, motivated engineer prepared to enter industry or continue in academia. Come to UCSB, and let us help you prepare for whatever path you choose.



FACTS

3

Nobel
Prizes



10:1

Undergraduate
Student to
Faculty Ratio

#1

Among Public
Universities in
percentage of
eligible assistant
professors who
received NSF
Career Awards,
2019

20

Outstanding
Student
Organizations
to provide
community,
networking and
experience

#1

Public University
in the world in
engineering
research impact
Leiden Rankings,
2015-2019



90%+

of Engineering
Courses
taught by faculty
or experts

Top 1%

in the World
for Engineering &
Technology Citations
Times Higher Education's
World University
Rankings, 2019

1,500+

Undergraduate
Students

400+

Companies
Recruiting UCSB
Engineering
Students
for internships and
careers





Undergraduate Research

As an undergraduate engineering student at UCSB, you'll have the opportunity to participate in leading-edge research in the labs of world-renowned faculty. You can take part in meaningful discoveries, see your name on published academic papers, and share research via poster presentations at colloquia and conferences.

"Few experiences better prepare a student for lifelong learning than actively participating in research early in his or her education." – Professor Herb Kroemer, Nobel Laureate, UC Santa Barbara, 2000



Study Abroad

Engineering programs are becoming increasingly international, and in the course of their careers, many engineers will find themselves working abroad or collaborating with engineers from around the world. Many engineering firms are multinational in character, and engineers with cross-cultural skills are increasingly in demand. Whether you spend one summer, multiple summers or an entire year out of country, the UC Education Abroad Program will give you the chance to get a global jump on your career.



“

I've studied abroad three times as a chemical engineering student, which most people don't think is possible. The EAP office was really helpful in making it happen.

– Carly Pawell,
Chemical Engineering

”



Honors Program

The Honors Program provides expanded educational opportunities for outstanding students within the College, allowing them to have enriched experiences in their major field, while also supporting them to find inspiration in research from disciplines beyond the engineering curriculum.

Map to Graduation

Whether you enter UCSB as a freshman or as a transfer student, we'll provide you with what we call a "grid," a road map of course requirements ensuring that you have a plan to graduate on time. Academic advisors will work with you one-on-one as often as you like to adjust your grid to fit your needs and goals. Whatever your major, the grid allows space to take meaningful electives to round out your program of study.



Internship & Career Opportunities

Internships with any of UCSB's industrial partners provide invaluable experience by giving you a glimpse of the "real world" of engineering. Some students take summer internships near campus or in other cities, and some are employed part-time during the school year. Individual guidance and skills training is available from Career Services counselors. Representatives from hundreds of companies visit campus for quarterly career fairs, information sessions, and recruiting meetings.

CHOOSE YOUR MAJOR

Chemical Engineering

Chemical engineers develop chemical processes and products that transform raw materials into useful technologies. Most UCSB chemical engineering alumni are employed in industry or by government agencies. The technical electives in chemical engineering at UCSB are flexible, allowing students to pursue special interests in such areas as biotechnology, materials science, and technology management.

Research areas: materials and interfaces; polymers; complex fluids; bioengineering; nanomedicine; systems biology; energy efficiency and sustainability; materials chemistry; modeling, theory, and simulation; molecular thermodynamics

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cheugrads@engr.ucsb.edu

Computer Engineering

Computer engineering focuses on the design of computer systems. Students learn hardware design, software concepts, robotics, circuit design, and networking. Computer engineers gain more software-based training than do electrical engineers, and differ from computer science majors in that the curriculum is focused more on the lowest-level interactions among software and hardware, digital hardware design, and peripheral-systems interfacing.

Research areas: bio-inspired computing; circuit and system design; computer architecture; electronic design automation and testing; emerging technologies for computing; energy-efficient computing; nanotechnology; networking; operating and distributed systems; software and language

ece.ucsb.edu
ugrad-advisor@ece.ucsb.edu

Computer Science

The computer science program emphasizes problem-solving using computer-program design, analysis, and implementation. Computer science graduates are qualified to pursue a wide range of exciting opportunities in software systems, networking, security, human-computer interaction, medicine, biotechnology, and business management and consulting, among many others.

Research areas: algorithms and theory; computational science and engineering; computer architecture; computer science education; database and information systems; machine learning and data mining; networking; operating systems; programming languages; security and cryptography; social computing; visual computing/interaction

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ugradhelp@cs.ucsb.edu

Electrical Engineering

Students are introduced to computing methods and foundational knowledge for building and designing circuits. They are exposed to a balance of theory and practice, and are encouraged to pursue technical electives in signal processing, control systems, computer engineering, and electronics and photonics. Electrical engineers develop computer processors, work in optical communications, and study signal processing. They often work with semiconductors, lighting systems and electronics, and in robotics hardware and software.

Research areas: communications and signal processing; wireless networks; computing technology; control systems; systems biology; robotics; electronics and photonics; semiconductor device structure and physics; nanophotonics

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Mechanical Engineering

Mechanical engineering students gain hands-on experience with modern tools for analysis, manufacturing, and computational design. The curriculum emphasizes fundamentals, but is also project-oriented and exposes students to biomedical technology, aerospace, microdevices, and more. Graduates enter into a broad range of career paths in the aerospace, computer, transportation, and defense industries, as well as in energy efficiency, electronic devices, and bioengineering.

Research areas: bioengineering and systems biology; computational science and engineering; dynamical systems, control, and robotics; micro- and nanoscale engineering; solid mechanics, materials, and structures; thermal sciences and fluid mechanics.

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Prospective students get over hearing how amazing the UCSB community is, but I can't stress it enough. Every single administrator was willing to help me out, and faculty were willing to meet outside of office hours. UCSB did everything it could to prepare me to work in industry. The preparation was pivotal; it changed my life.

– **Bernie Celis**
Electrical Engineering
2017 graduate



We were told from day one that engineers work as teams, and that if we aren't doing our homework with a team, then we're not preparing for how it will be in grad school or industry. They really encourage us to work together, so we can use everyone's different skill sets to solve the problems.

– **Carly Pawell**
Chemical Engineering



At first, I just wanted to get a bachelor's degree, so I could start making money to give back to my parents, who have helped me so much. But with the research position I had in MCDB over the summer, I realized that I didn't want to stop there and go into industry. Now, I might want to get my master's or PhD.

– **Ismael Carvajal**
Mechanical Engineering





In terms of your professors, UCSB is a top-tier research university, so everyone really knows their stuff. You're learning from the best.

– **Matthew Dupree**
Computer Engineering

Fabricating a device in the clean room is mind-blowing and very cool. I'm also doing research with a professor; we're working on something similar to a quantum device. Before coming to UCSB, I didn't know that was something you could do, and I definitely didn't know it was something I'd do. It's like science fiction stuff, and it's very cool.

– **Bowen Liu**
Electrical Engineering



Everyone here — the undergraduate advisors, professors — when they talk with you, they make sure you understand everything. They want you to be complete in your understanding.

– **Katiria Marie Colon Rivera**
Electrical Engineering

Read more student stories:
**[engineering.ucsb.edu/
undergraduate/voices](https://engineering.ucsb.edu/undergraduate/voices)**



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