

College of Engineering

Introduction to the College

Innovation and Impact

There are many reasons that Berkeley Engineering is ranked among the top three engineering schools in the world: We offer a dynamic, interdisciplinary, hands-on education; we challenge conventional thinking and value creativity and imagination; our students and faculty are driven by social commitment and want to change the world. In the classroom, the research lab, or in the design studio, our community is both welcoming and tightly knit. Whether they are pursuing groundbreaking research or teaching students, our faculty members are engaged and accessible. We are a village of entrepreneurs and collaborators within the big city of a renowned public university. At Berkeley Engineering, we're making a world of difference.

Explore majors and minors (http://guide.berkeley.edu/archive/2019-20/undergraduate/degree-programs/?filter_2=true) available through the College of Engineering.

University of California Requirements

Entry Level Writing (<http://guide.berkeley.edu/archive/2019-20/undergraduate/colleges-schools/engineering/entry-level-writing-requirement>)

All students who enter the University of California as freshmen must demonstrate their command of the English language by fulfilling the Entry Level Writing Requirement. Fulfillment of this requirement is also a prerequisite to enrollment in all reading and composition courses at UC Berkeley.

American History and American Institutions (<http://guide.berkeley.edu/archive/2019-20/undergraduate/colleges-schools/engineering/american-history-institutions-requirements>)

The American History and Institutions requirements are based on the principle that a US resident graduated from an American university should have an understanding of the history and governmental institutions of the United States.

Campus Requirement

American Cultures (<http://guide.berkeley.edu/archive/2019-20/undergraduate/colleges-schools/engineering/american-cultures-requirement>)

American Cultures (AC) is the one requirement that all undergraduate students at UC Berkeley need to take and pass in order to graduate. The requirement offers an exciting intellectual environment centered on the study of race, ethnicity and culture in the United States. AC courses offer students opportunities to be part of research-led, highly accomplished teaching environments, grappling with the complexity of American Culture.

Students in the College of Engineering must complete no fewer than 120 semester units with the following provisions:

- Completion of the requirements of one Engineering major program (<http://engineering.berkeley.edu/academics/majors-and-minors>) of study.
- A minimum overall grade point average (GPA) of 2.000 (C average) and a minimum 2.000 GPA in upper division technical course work required of the major.
- The final 30 units and two semesters must be completed in residence in the College of Engineering on the Berkeley campus.
- All technical courses (math, science & engineering), required of the major or not, must be taken on a letter-graded basis (unless they are only offered P/NP).
- Entering freshmen are allowed a maximum of eight semesters to complete their degree requirements. Entering junior transfers are allowed a maximum of four semesters to complete their degree requirements. (Note: Junior transfers admitted missing three or more courses from the lower division curriculum are allowed five semesters.) Summer terms are optional and do not count toward the maximum. Students are responsible for planning and satisfactorily completing all graduation requirements within the maximum allowable semesters.
- Adhere to all college policies and procedures (<http://engineering.berkeley.edu/academics/undergraduate-guide>) as they complete degree requirements.
- Complete the lower division program before enrolling in upper division engineering courses.

Humanities and Social Sciences Requirement

To promote a rich and varied educational experience outside of the technical requirements for each major, the College of Engineering has a six-course Humanities and Social Sciences breadth requirement (<http://engineering.berkeley.edu/student-services/degree-requirements/humanities-and-social-sciences>), which must be completed to graduate. This requirement, built into all the Engineering programs of study, includes two reading and composition courses (R & C), and four additional courses, within which a number of specific conditions must be satisfied. Follow these guidelines to satisfy this requirement:

1. Complete a minimum of six courses.
2. Courses must be a minimum of 3 semester units (or 4 quarter units).
3. Two of the six courses must satisfy the College's Reading and Composition (R&C) requirement. These courses must be taken for a letter grade (C- or better required), and must be completed by no later than the end of the sophomore year (4th semester of enrollment). The first half of R&C, the "A" course, must be completed by the end of the freshman year; the second half of R&C, the "B" course, by no later than the end of the sophomore year or a student's registration will be blocked. View a detailed list of courses (<http://guide.berkeley.edu/archive/2019-20/undergraduate/colleges-schools/engineering/reading-composition-requirement>) that satisfy Reading and Composition requirements.
4. The four additional courses must be chosen within College of Engineering guidelines from the H/SS lists (see below). These courses may be taken on a Passed/Not Passed Basis (P/NP).
5. Two of the six courses must be upper division (courses numbered 100-196).
6. One of the six courses must satisfy the campus American Cultures requirement. For detailed lists of courses that satisfy American Cultures requirements, visit the American

Cultures (<http://guide.berkeley.edu/archive/2019-20/undergraduate/colleges-schools/engineering/american-cultures-requirement>)page.

7. A maximum of two exams (Advanced Placement, International Baccalaureate, or A-Level) may be used toward completion of the H/SS requirement. View the list of exams (<http://engineering.berkeley.edu/academics/undergraduate-guide/exams>) that can be applied toward H/SS requirements.
8. Courses may satisfy multiple categories. For example, if you complete City and Regional Planning 118AC that would satisfy the American Cultures requirement and one upper division H/SS requirement.
9. No courses offered by any Engineering department other than BIOE 100, COMPSCI C79, ENGIN 125, 157AC, ME 191K and ME 191AC may be used to complete H/SS requirements.
10. Foreign language courses may be used to complete H/SS requirements. View the list of language instruction options (<http://guide.berkeley.edu/archive/2019-20/undergraduate/colleges-schools/engineering/approved-foreign-language-courses>).
11. Courses numbered 97, 98, 99, or above 196 may not be used to complete any H/SS requirement.
12. The College of Engineering uses modified versions of five of the College of Letters and Science (L&S) breadth requirements lists to provide options to our students for completing the H/SS requirement: Arts and Literature, Historical Studies, International Studies, Philosophy and Values, and Social and Behavioral Studies. No courses on the L&S Biological Sciences or Physical Sciences breadth lists may be used to complete H/SS requirements. For information on satisfying these requirements, please see College of Letters & Science Seven-Course Breadth Requirement (<https://ls.berkeley.edu/seven-course-breadth-requirement>).
13. Please refer to this list of language instruction courses for the Foreign Language Requirement (<http://guide.berkeley.edu/archive/2019-20/undergraduate/colleges-schools/engineering/approved-foreign-language-courses>).

Class Schedule Requirements

- Minimum units per semester: 12
- Maximum units per semester: 20.5
- Minimum technical courses: College of Engineering undergraduates must enroll each semester in no fewer than 2 technical courses (of a minimum of 3 units each) required of the major program of study in which the student is officially declared. (Note: for most majors, normal progress will require enrolling in 3-4 technical courses each semester).
- All technical courses (math, science, engineering), required of the major or not, must be taken on a letter-graded basis (unless only offered as P/NP).
- A student's proposed schedule must be approved by a faculty adviser (or on approval from the Dean, a designated staff adviser) each semester prior to enrolling in courses.

Minimum Academic (Grade) Requirements

- A minimum overall and semester grade point average of 2.000 (C average) is required of Engineering undergraduates. Students will be subject to dismissal from the University if during any fall or spring

semester their overall U.C. GPA falls below a 2.000, or their semester GPA is less than 2.000.

- Students must achieve a minimum GPA of 2.000 (C average) in upper division technical courses required of the major curriculum each semester. Students will be subject to dismissal from the University if their upper division technical GPA falls below 2.000.
- A minimum overall GPA of 2.000, and a minimum 2.000 GPA in upper division technical course work required of the major are needed to earn a Bachelor of Science in Engineering.

Unit Requirements

To earn a Bachelor of Science in Engineering, students must complete at least 120 semester units of courses subject to certain guidelines:

- Completion of the requirements of one Engineering major program (<http://coe.berkeley.edu/students/guide/departments>) of study.
- A maximum of 16 units of Special Studies coursework (courses numbered 97, 98, 99, 197, 198, or 199) is allowed towards the 120 units; a maximum of four is allowed in a given semester.
- A maximum of four units of Physical Education from any school attended will count towards the 120 units.
- Students may receive unit credit for courses graded P (including P/ NP units taken through EAP) up to a limit of one-third of the total units taken and passed on the Berkeley campus at the time of graduation.

Normal Progress

Students in the College of Engineering must enroll in a full-time program and make normal progress each semester toward the bachelor's degree. The continued enrollment of students who fail to achieve minimum academic progress shall be subject to the approval of the Dean. (Note: Students with official accommodations established by the Disabled Students' Program, with health or family issues, or other reasons deemed appropriate by the Dean, may petition for an exception to normal progress rules.)

As an engineer, you'll be finding solutions to the world's most pressing problems — but first, you'll need to get the finest possible training in your field. Our globally renowned program attracts the best and brightest students to study with top-tier faculty who are making groundbreaking discoveries. We believe in a solid foundation of math and science but also in the importance of enriching our rigorous curriculum with research opportunities, support services and team activities. At Berkeley Engineering, we're fully invested in preparing our future engineers to meet today's challenges with creativity and innovation. There's never been a better time to be an engineer.

There are many reasons why the program attracts the best and brightest. Students are encouraged to learn more about Berkeley Engineering by exploring the College's website (<http://engineering.berkeley.edu/admissions>).

For detailed information on how to apply, prospective undergraduates should go to the Berkeley admissions (<http://admissions.berkeley.edu>) website; prospective graduate students should visit the graduate admissions (http://www.grad.berkeley.edu/admissions/?utm_source=www.domtail.com) website.

Engineering Student Services (ESS) (<http://coe.berkeley.edu/ESS>) provides a wide array of programmatic and advising services to College of Engineering undergraduate students. Whether students want to get

expert advice on the right classes to take, find an inspiring research position, or start a student club, ESS helps them achieve their goals.

ACADEMIC ADVISING

Each College of Engineering undergraduate student is assigned an adviser upon admission who fosters the academic achievement, intellectual curiosity, and growth of the student. This person is referred to as the Engineering Student Services (ESS) Adviser. Advisers are assigned based upon the student's major and work with the student whenever possible throughout his or her entire undergraduate career.

An ESS Adviser helps with a wide range of issues including course selection, academic decision-making, explaining graduation requirements and College policies, monitoring degree progress, and providing support (or referrals to campus resources) to help students reach their academic goals. Explore the ESS website (<http://engineering.berkeley.edu/student-services/advising>) for detailed information on advising services.

FACULTY ADVISING

College of Engineering students are assigned a faculty adviser who serves as the professional mentor to a student throughout his or her years at Berkeley. Faculty advisers assist with technical course selection, curriculum planning based upon the student's goals, connection to research opportunities, and advice on planning for graduate school and/or industry.

DEPARTMENT ADVISING

Academic departments (<http://coe.berkeley.edu/students/current-undergraduates/advising/departmental-advising.html>) also have advisers who ensure that students get connected to faculty, programs, facilities, courses, clubs, and research opportunities that create a meaningful educational experience in the student's major department.

PEER ADVISING

Sometimes, it's helpful to have an experienced student's perspective on how to juggle classes, study, manage time, choose the best enrichment opportunities, or how to navigate the waters of a large university like UC Berkeley. In cases like these, Engineering Student Services (ESS) Peer Advisers are an amazing resource! They can also assist in answering questions like how to drop a class or choose an elective, and they can provide information about life in their particular majors and the College of Engineering in general.

ESS Peer Advisers provide general information to engineering undergraduates regarding university and college requirements and procedures. This includes information about registration, deadlines, research and leadership opportunities, student organizations, campus resources, and special events. Peer Advisers also meet with prospective students and lead workshops throughout the semester. Learn more about the Peer Advising program by visiting our website (<http://engineering.berkeley.edu/student-services/advising/peer-advising>).

CAREER ADVISING

Dedicated engineering career counselors (<http://coe.berkeley.edu/students/current-undergraduates/career-development-opportunities>) give feedback on resumes and cover letters, provide advice on finding internships, and coach students on preparing for career fairs and interviews.

It has been said that engineering is the liberal arts of the 21st century — because it's fundamental to so many other fields. And since Berkeley

Engineering offers nearly every possible sub-discipline, you can pursue your specific passion, from bioengineering to nuclear technologies. Whichever field you choose, you'll find that our engineering students all receive a robust, multidisciplinary education. They have direct access to top faculty, who happen to be some of the brightest minds in their professions. They're hands-on in the lab or studio. And they're all driven to find the most innovative, impactful ways to change the world.

To learn more, read on:

- Undergraduate programs (<http://engineering.berkeley.edu/academics/undergraduate-programs>)
- Majors and minors (<http://engineering.berkeley.edu/academics/majors-and-minors>)
- Research (<http://engineering.berkeley.edu/research>)
- Jacobs Institute for Design Innovation (<http://jacobsinstitute.berkeley.edu>)
- Center for Entrepreneurship & Technology (<http://cet.berkeley.edu>)
- Student Life (<http://engineering.berkeley.edu/student-life>)
- Study abroad (<http://engineering.berkeley.edu/academics/study-abroad>)
- Center for Access to Engineering Excellence (<http://engineering.berkeley.edu/student-services/tutoring-and-academic-support>)