

The Engineering Survival Guide 2017–18

Presented by the Engineering Society at UCLA (ESUC)

Table of Contents

1. Welcome to UCLA Engineering
2. How to use this handbook
3. Picking the right major for you
 - a. Engineering Majors offered at UCLA
 - b. Knowing your requirements
 - c. Double Major/ Minors
 - d. Switching majors
 - e. Questions about your major
4. Building the Class Schedule you want
 - a. How to enroll in classes
 - b. Checking major requirements, websites for them
 - c. Finding the right professors
 - d. What to do if your class is full
 - e. Textbooks
 - f. Rules for dropping classes
 - g. Rules for repeating courses
5. Earning the grades you want
 - a. Study places
 - b. Tutoring
 - c. The value of professor office hours
 - d. Study techniques
6. Awards & Scholarships
 - a. Dean's Honors List
 - b. TBP, HKN, UPE
 - c. UCLA Engineering Scholarships
 - d. UCLA Scholarships
 - e. Third party scholarships
7. Getting into research
 - a. Why should I do research?
 - b. Types of research (paid, credit, 199, etc)
 - c. How do I get into research?
8. Applying to graduate school
 - a. Why should I apply to graduate school?
 - b. What types of programs can I apply to?
 - c. UCLA graduate school & requirements
 - d. About the Standardized tests
9. Preparing for industry
 - a. Where do I go for career help?
 - b. Internships
 - c. Can I do anything outside of engineering?
10. Life outside of Boelter
 - a. Engineering Clubs

- b. Engineering Fraternities & Sororities
- c. Where to find more info on Clubs and Orgs outside of Engineering

Welcome to UCLA Engineering!

Dear student, welcome to UCLA Engineering! You are one of the selected few individuals given a spot in UCLA's Henry Samueli School of Engineering and Applied Sciences, one of the most prestigious and competitive engineering programs in the world. Ahead of you lies a remarkable academic and professional journey filled with many obstacles, uncertainties, and challenges. This handbook aims at helping to clarify many of the questions undergraduates ask at your point in time, as well as giving valuable pieces of advice and wisdom needed for success in UCLA Engineering.

How to use this handbook

This handbook serves three primary purposes:

- 1. To prevent common mistakes made by new UCLA Engineering students.**
As a new student to UCLA Engineering, you are bombarded with extreme amounts of work and responsibilities towards advancing your academic and professional career. The biggest mistake new students in universities make is wrongfully *assuming* the required actions items needed for accomplishing their academic and career goals. This handbook aims to help identify the steps and resources needed for surviving UCLA Engineering.
- 2. Facilitate a successful academic and professional UCLA Engineering career.**
In this document we hope to consolidate all the basic information and resources in one place so that students can easily refer to them when needed. By answering many of the most commonly asked questions that undergraduate engineering students ask in this document, we hope future Bruin Engineers can focus less on trying to answer these questions and spend more time on improving their academics, career, and UCLA Engineering community.
- 3. Improve the quality of UCLA Engineering by revising this version for future UCLA Engineering students.** Our only consolation is that you take this handbook and revise it to suit the needs of future generations of students. Should you find any additional information or wisdom should be included feel free to contact the owners of this document at the Engineering Society of UCLA. For revision suggestions, please submit your entries to esuc.ucla.secretary@gmail.com.

Note to the reader

Please note that since this is all advice from your fellow engineering comrades, all information regarding degree requirements and other administrative policies should be sought first from your academic counselors in the Office of Academic and Student Affairs (OASA). While a lot of academic and administrative details are consolidated in this Survival guide, this information should be double checked accordingly.

Picking the Right Major for you

Your major is an important decision of your life, determining not only what you'll be working on for the next four years but also what you could potentially be doing for the rest of your life. As such, it is imperative that you spend a significant amount of effort ensuring that you make the right choice. One of the top reasons for depression in the world today is from job dissatisfaction, often resulting from an improper major choice back in college. Therefore, it is important that you begin with the end in mind and that you pick majors that you are not only interested in, but are passionate about and can see yourself developing a lifelong career in.

A. Engineering Majors Offered at UCLA

In order for you to make a proper major decision, it is important to know what are the various Engineering majors offered at UCLA. It might be a good idea to do your research on the internet for your specific field, as the real-world application of these subjects can vary over time. Here is a list of the majors currently offered at UCLA:

1. Aerospace Engineering
2. Bioengineering
3. Chemical Engineering
 - i. Biomedical Engineering Option
 - ii. Biomolecular Engineering Option
 - iii. Environmental Engineering Option
 - iv. Semiconductor Manufacturing Engineering Option
4. Civil Engineering
5. Computer Science
6. Computer Science and Engineering
7. Electrical Engineering
 - i. Biomedical Engineering Option
 - ii. Computer Engineering Option
8. Materials Engineering
 - i. Electronic Materials Option
9. Mechanical Engineering

B. Helping You Decide

After doing your research on all the various engineering majors offered at UCLA, you should have hopefully narrowed your choices to a few that you're most interested in. To help narrow this list down to the number one major for you, here are some steps you can take to help you make your decision:

1. **Consulting Others.** Talk to as many people as you can that have knowledge on the major you're interested in. Academic counselors, faculty advisors, and senior students of the major should be your primary sources of consultation because they would know the most about the curriculum relevant to the major. They can give you a sense of what are the pros (and potential cons) of specific majors so that you can weigh these in yourself. Note that advice can vary from person to person, which is why it is best to talk to as many people as possible to decipher true fact from personal opinion.
2. **Social Media/Online Forums.**

Social media and online forums are great ways for you to connect with people that had the same questions or experienced the same need for advice as you.

collegeconfidential.com – this is a forum dedicated to answering college related questions. If you have any questions about college life, major choices, etc., this is a great place to start. Note however, that this is a forum and mostly contains other students opinions and not necessarily official information, so be careful in trusting some information as true fact. Always double check with official sources for the correct details.

quora.com – Quora is a website where you can ask any question and get real answers from people with first hand experience. This is a great place to gain valuable wisdom from experienced people.

Facebook groups – several facebook groups have been set up that are designated for each specific engineering major at UCLA. Many students resort to this group to ask for advice of their fellow peers and alumni.

3. Career Surveys. Career surveys are a great way for you to find out about yourself if you're unsure about what career to pursue. What these career surveys mostly measure are your both strengths and interests, giving you suggestions on professions that you're most just likely to be interested in but are likely to succeed in.

Myers Briggs Type Indicator – this is a questionnaire that measures your psychological preferences in how you perceive the world and make decisions. It is used to determine what jobs that would be most comfortable and effective for your given personality type. For more details, see:

<http://www.myersbriggs.org/my-mbti-personality-type/mbti-basics/>

Strong Interests Inventory – this is a survey used to gain insight into a person's interests, so that they may have less difficulty in deciding on an appropriate career choice for themselves. It is also used for educational guidance as one of the most popular career assessment tools. For more information, see: <https://www.cpp.com/products/strong/index.aspx>.

The UCLA Career center offers these tests for free to their students. In order to take advantage of this, set up an appointment with your career counselor at <http://www.career.ucla.edu/Career-Counseling-Appts-Drop-In-Hours>.

C. Knowing your course requirements

Once you're satisfied in your major choice, it is important that you know your course requirements in order to successfully graduate with a degree in the subject.

1. **4 Year Plan.** Your 4 year plan is your roadmap for obtaining your Engineering degree. It is a outline of what courses you are recommended to take each quarter. While the 4 year plan does list all the courses needed to graduate within 4 years, it is merely a guideline and does not have to be strictly followed in order to graduate. For example, if you have incoming AP credit or are unable to enroll in a certain class, you may be forced to have a plan that's different than the four year plan outlined for your catalog year. However, do not worry, as most engineering students end up taking courses at different times than those stated in the four year plan.
2. **GE's.** Engineering students aren't allowed to take just any GE offered at UCLA. There is an explicit list of approved General Education courses that can be found on the OASA website here: [Engineering GE Requirements](#). This webpage also contains the requirements on which GE's from which category are necessary to graduate, so make sure that the GE's you take satisfy these requirements. Despite some restrictions, the vast majority of GE's are available to engineering students. They will be some of the most interesting classes you will take at

- UCLA, and are a great way to broaden your horizons. Use them as a way to discover something fun and new outside of engineering, whether it be EDM or Asian American history. GE's will provide a bigger picture of the many disciplines at UCLA, so be sure to use them to your advantage.
3. **Technical Breadth courses.** UCLA Engineering requires all its undergraduate students to take 3 Technical Breadth courses, which are 3 upper division courses in a field outside their specific major. It's a good idea to do your research early so that you know what classes to take to fulfill your Technical Breadth requirement. For a list of subjects that fulfill the technical breadth requirement refer to: <http://www.seasoasa.ucla.edu/wp-content/uploads/seasoasa/TBA.pdf>
 4. **Double Major/ Minors.** While UCLA Engineering students are not allowed to double major in two engineering majors, Engineering students *can* double major in a subject outside of the School of Engineering. The double major has to be approved through a petition obtained from OASA. Also, the student needs to satisfy the requirements for getting into the second major that they want to double major in.
 5. **Switching Majors.** There are two types of major changes within UCLA Engineering: switching majors within the School of Engineering and changing to a major outside of the School of Engineering. For switching majors within the School of Engineering, a major-change petition would have to be filled out along with a one page letter explaining your reasons behind your major change. For switching majors outside the School of Engineering, major-change petitions would have to be filled out with both the School of Engineering and the School you plan to switch into (such as College of Letters and Sciences). When switching majors outside of the School of Engineering, please note that major change requirements for *both* schools need to be satisfied. Major-change requirements can vary, so be sure to set up an appointment with your academic counselor first and foremost before you begin any action towards switching your major.
 6. **Additional resources:**
 - i. **OASA Academic Counselors.** For any questions relating to your major and major requirements, the best resource is your OASA academic counselor. Definitely get a chance to get to know your academic counselor by setting up an appointment or going during the walk-in hours.
 - ii. **DARS** - the Degree Audit Reporting System is a great resource for seeing how much progress you've made to fulfilling the requirements for your engineering major. There you can also view information such as total units, as well as both your major and cumulative GPA. It can be accessed via the following URL: dars.seas.ucla.edu.

Building the Class Schedule You Want

You might have already been taught all of this at UCLA's Orientation Program, but here are steps to build your class schedule just in case you forgot or didn't pay attention:

a. How to enroll in classes

See the Class Listings section for class times, rooms, instructors, and other enrollment information. For updated listings, see the online *Schedule of Classes* at <http://www.registrar.ucla.edu/>. The MyUCLA Class Planner is designed to help students formulate a study list for a term. It uses the same information and search features as the Schedule of Classes. Students can create a single plan or multiple plans and save each of them. The Class Planner is also where students can easily enroll in classes. It also offers enrollment functions such as drop, exchange sections, or change units or credit detail. See the Schedule of Classes (found at [Class Schedule](#)), and your school or College advisers (listed in the [Academic Counseling](#) section) to assemble a program of courses.

Plan two or three alternate programs in case your first choice of courses is not available. Do not choose two classes in the same final examination group (check in the details for the class on Schedule of Classes from above) or select classes that conflict in meeting times. If conflicts are unavoidable, consult with the instructor of each course at the first class meeting.

PRIORITY PASS. During their priority pass, students may only enroll in 10 units unless otherwise noted by their priority group. Students in a priority group who do not enroll during their priority pass appointment period must wait until their first pass appointment to enroll. Enrollment is not guaranteed during priority pass appointments.

Priority enrollment groups include Regents Scholars, athletes in NCAA sports, qualified veterans, and students served by the Office for Students with Disabilities. Sections are carefully monitored during each priority group pass to ensure that any one group does not exceed 30 percent and that all groups do not exceed 50 percent of a section's spaces, in accordance with recommendations of a task force appointed by the Committee on Educational Policy.

NOTE: Priority pass students may only enroll in a total of 12 units during their priority *and* first passes.

FIRST PASS. During their first pass, students may only enroll in 10 units. This gives all undergraduates a better chance to obtain at least two courses needed toward graduation. Students who do not enroll during their first pass appointment period must wait until their second pass appointment to enroll.

SECOND PASS. During their second pass, students can add courses up to the maximum units allowed by their College or school. They can enroll from the beginning of the specified appointment day and time through midnight on Friday of the second week of classes, when wait lists are eliminated and Study Lists of enrolled courses become official. Students should be enrolled in courses with unit credit by that date to avoid paying the late Study List filing fee and obtaining instructor signatures and College/school approval on Enrollment Petitions (for more details, see "Official Study Lists").

After second pass appointments begin, undergraduates may

1. Use a Permission to Enroll (PTE) number to enroll for restricted or closed classes
2. Submit approved petitions for contract courses
3. Request enrollment in Passed/Not Passed (P/NP) courses over the eligible limit of units
4. Submit approval for an excess unit Study List

b. Checking major requirements, websites for them

The UCLA Office of Academic and Student Affairs (OASA) has created a list of sample 4 year plans for each Engineering major. This includes a list of courses offered and any pre/co-requisites that accompany each course. Curricular requirements and departmental information can be found at the [OASA](#) website.

When referring to major/curriculum requirements, make sure to check that you are referring to the requirements for your catalog year.

Requirements for individual departments are listed below:

- 1) [Bioengineering](#)
- 2) [Chemical Engineering](#)
- 3) [Civil and Environmental Engineering](#)
- 4) [Computer Science](#)
- 5) [Electrical and Computer Engineering](#)
- 6) [Materials Science and Engineering](#)
- 7) [Mechanical and Aerospace Engineering](#)

c. Finding the right professors

i. Check professor reviews

Spend some time checking reviews on the professors that will be teaching your respective courses. The easiest and most convenient source of information (and a great resource for any Bruin) is [Bruinwalk](#). This website offers student reviews on most professors at UCLA. For some of the professors, you will also find an approximate grade distribution. This can help you determine the relative difficulty of a class taught by particular professor. Another well-known source is the UCLA section of [RateMyProfessor](#). In addition to checking reviews, consider investigating the professor's areas of research, projects they may be working on, and body of work.

d. What to do if your class is full

- OASA has an Enrollment Consideration Request form that they use to open up discussions for classes that are full and in high demand. In order to take advantage of this resource, fill out the request form if you are unable to enroll in the course and tell your friends that also cannot get into the course to fill out the form as well. If there is enough student demand, OASA will open up new discussions and automatically enroll those that filled out the form. The form

takes less than a minute long and can be found at:

<http://www.seasoasa.ucla.edu/ECR>.

- If you don't get the classes after filling out the ECR, you could still get in the classes when the quarter starts by attending lecture, emailing the professor, and going to his/her office hours. Attending lecture (and doing assignments) means you'll be up to speed when you're officially enrolled in the class, and interacting with the professor is a chance to show how badly you want the class and that you deserve to be enrolled. Oftentimes, spots will open up in the class after a couple weeks, as some students switch classes or otherwise change their schedules.

e. Textbooks

i. Do you even need a textbook?

- Some classes list required textbooks for the class, but don't really reference them, and oftentimes you only need to take notes during lecture to cover all the material in the class. Examples of this are CS 31. To be sure of whether you truly need the textbook or not, you should ask your professor or TA at the beginning of the course.

ii. Checking out from library

- if you need a textbook and don't want to purchase it, UCLA's library system might have the book for you to check out. You can start by using Melvyl, an online catalog that searches for books not just in the UCLA Library, but in other colleges across the world. It can be found here <http://ucla.worldcat.org/>. If you find the book you need, you can have the book delivered to a UCLA Library for you to pick up, free of charge. In addition, UCLA Libraries often have "reserve" books for classes that are high in demand. These reserve books are textbooks that can be checked out for a couple hours maximum to ensure that they are properly shared. If you don't have the book and need it (or you're just too lazy to carry it to campus), the reserve books could definitely prove to be useful.

iii. Ordering online

- Online retailers offer significant discounts on books

iv. Ask friends and peers to borrow books or purchase them at a bargain price. Generally after students are finished with a course they are willing to sell their books or loan them to friends. Make sure you can get the right edition of the book for your class.

f. Rules for dropping classes

Online enrollment is available for all continuing undergraduate students subject to the deadlines indicated below, which also applies to the use of PTE numbers. The

online Schedule of Classes contains complete instructions. Undergraduates must enroll in 12–21 units each quarter. Students wishing to enroll in less than 12 units or more than 21 units must obtain approval by petition to the Associate Dean, 6426 Boelter Hall, prior to enrollment.

Impacted courses must be dropped before Friday of 2nd week (1st week for Summer Sessions). Any non-impacted course may be dropped before the Friday of 4th week. If you are unsure of the impacted-ness of your course, check the *Schedule of Classes* for clarification. Failure to follow these deadlines may incur additional charges and/or notes on your transcript.

All petitions for exceptions to enrollment rules or for changes to study lists after the deadlines must be submitted to the Office of Academic and Student Affairs, 6426 Boelter Hall. IF approved, the student must file the enrollment petition with the Registrar, 1113 Murphy Hall. The student's BAR account will be charged for any fee. For other exceptions see a HSSEAS academic counselor.

g. Rules for repeating courses

Courses taken MAY BE repeated at UCLA only when subject to the following:

1. Student received a grade of C- or lower in the course
2. Course may not be repeated more than once without the approval of the Associate Dean
3. For undergraduates who repeat a total of 16 units or less, only the most recently earned letter grades and grade points will be computed into the grade-point average.
4. Certain departments can place additional restrictions on repetition, be sure to check the department website, or talk to a counselor.

After repeating 16 units, the GPA will be based on all letter grades assigned and total units attempted.

Earning the Grades You Want

a. Study places

UCLA provides a lot of places to study both on campus and on the hill. For students living on the hill, each floor has a lounge, which can be used for studying if there are no programs going on. The Covell Commons study lounge (Room 227) is open daily from 6am – midnight. There are also group study rooms that can be reserved in Rieber Hall and Sproul Hall. On Campus the Boelter Science and Engineering Library located in 8270 Boelter Hall is a South Campus gem that a lot of people don't know about. Also, the Engineering Society has a study Lounge next to 5800 Boelter that is open 24/7 (it can be booked due to Club meetings, however). If you're ever in North Campus, the Anderson School: Rosenfeld Library is very quiet and open.

b. Tutoring

i. HKN, TBP, AAP

UCLA provides a lot of tutoring opportunities for students that want to seek some

outside help.

For engineering classes specifically, HKN along with UPE provide tutoring in CS, EE, math, and physics classes from 10 AM to 5 PM in Engineering IV 67-127 (Undergraduate Lounge) Monday through Friday weeks 3 through 9. The link to their website is <http://hkn.ee.ucla.edu/>.

TBP also provides tutoring for all majors in subjects ranging from introductory physics, chemistry and calculus, to advanced levels of computer science and other upper division engineering courses. They are available Monday through Friday from 10 AM to 5 PM in Boelter 6266. The link to their tutoring schedule is <http://tbp.seas.ucla.edu/schedule/>.

AAP is the Academic Advancement Program, which provides a whole host of services aside from tutoring such as counseling and mentorship. You can sign-up for AAP tutoring online through MyUCLA and its free to all AAP students in more than 450 courses. Tutoring is done primarily by AAP undergraduates in small groups. The link to their website is <https://www.aap.ucla.edu/>.

ii. Private tutoring

Besides tutoring offered by UCLA organizations, there are students and private organizations that offer personal tutoring. Sometime these tutors are effective since many of them are experts in their related field and can offer a more personalized tutoring session. However, these tutors typically charge an hourly rate. Check the bulletin boards in Boelter Hall for related advertisements.

c. The value of professor office hours

Professor Office Hours are a great way for you to get to know your professor more personally. Lectures at UCLA tend to be quite large, with most classes having over 100 students, so it impossible for them to get to know each and every single one of their students each quarter. If you want to establish a good relationship with your professor, you must take the incentive and attend their office hours. There you can gain help in any concepts you're unsure of, and you can strike up conversations about topics that you found interesting in the class. If you plan to apply for graduate school in the future, it is absolutely necessary for you to establish these personal relationships with faculty so that they can write your letters of recommendation.

d. Study techniques

i. Start early, don't procrastinate. Procrastination is a habit that seems to befall almost every college student, some more severely than others. With so many distractions and less accountability than high school, it is no wonder that college students struggle with procrastination. In order to succeed in engineering and your career beyond, however, you must learn how to conquer procrastination as soon as possible. The good news is that procrastination is a habit, and just like any habit you can combat it by making proactivity and accountability habits instead. If you find yourself battling against procrastination, one technique to try is to set deadlines for assignments well ahead of the actual dates that they are due. This takes advantage of Parkinson's Law, which states that work tends to expand to the time allotted. By setting deadlines early, you tend to start your work earlier and leave some extra time to finish if you go over your early deadline.

ii. Read the syllabus, keep track of dates for planning ahead. At the start of

every quarter, take a glance through all your syllabi and make a roadmap for the weeks ahead. If you see that you have multiple midterms in the same week, note that you have to study well ahead of time to ensure you have enough time to study the material for all of the classes. If you see that two of your classes both have a large assignment due on the same day, allocate your time appropriately.

iii. Form study groups. It is critical that you connect with people in your classes. These groups can not only help you study for exams, but also can fill you in on what you missed if you are absent to a lecture. Study groups are great for comprehending subjects because they enable you to discuss and ask questions to other students in a personal setting. There is no pressure to be judged from asking simple questions as it is in lecture or in TA office hours. When you study in study groups, you can potentially cover and grasp concepts significantly faster than if you studied alone with a book. Also, you learn how to collaborate with a team and practice articulation of ideas, skills that are extremely valuable in industry.

iv. Continually do your utmost best. If there's one surefire formula for success in college, it is consistent hard work. Don't be disheartened by a bad midterm score, and don't be overconfident from a good one. There have been plenty of instances where students doing poorly on the midterm were able to pull up their grade to an A, and vice versa. One way is to not let your failures or successes get to you, and to not compete with others but to compete with yourself. This way, you don't let the stresses and pressures of the past and those around you hinder your ability to focus.

Awards & Scholarships

a. Dean's Honors List

Students following the engineering curricula are eligible to be named to the Dean's Honors List each term. Minimum requirements are a course load of at least 15 units (12 units of letter grade) with a grade-point average equal to or greater than 3.7. Students are not eligible for the Dean's Honors List if they receive an Incomplete (I) or Not Passed (NP) grade or repeat a course. Only courses applicable to an undergraduate degree are considered toward eligibility for Dean's Honors.

b. Engineering Honor Societies

i. TBP - Tau Beta Pi is the honor society representing all engineering majors. In Order to be eligible, you must be in the top 1/5th of engineering seniors and top 1/8th of engineering juniors in UCLA Engineering. For more information, go to:

<https://tbp.seas.ucla.edu/>.

ii. HKN - Eta Kappa Nu is the honor society for EE and CSE majors in the top 1/4th of the junior class and top 1/3rd of the senior class. For more information, go to:

<http://www.hkn.ee.ucla.edu/>.

iii. UPE - Upsilon Pi Epsilon is the honor society for CS, CSE, or EE majors at UCLA with 3.5+ GPA and Junior/Senior Standing (90+ units). For more information, go to: <https://upe.seas.ucla.edu/>.

c. UCLA Engineering Scholarships

More information about these scholarships could be found at

Scholarship Opportunities.

There is only one scholarship application that makes you eligible for 100+ scholarships. The majority of scholarships listed at the above link are administered by the Office of Academic and Student Affairs (OASA), which is located at 6426 Boelter Hall. However, some department offices also administer their own scholarships. Scholarships maintained by OASA will be part of the HSSEAS Scholarship Program: They typically announce open online applications in early Fall with a hard deadline set for the first Monday in November. Recipients will be notified in early winter, and award monies disbursed over winter and spring quarters. HSSEAS students are highly encouraged to stop by the SRC prior to the application due date for assistance, in addition to attending the HSSEAS SRC workshop. Please note that week 5 & 6 are very busy at the SRC, so stopping by week 3 & 4 is advised <http://scholarshipcenter.ucla.edu/> They highly recommend students visit the Scholarship Resource Center for assistance with writing essays and completing applications.

d. UCLA Scholarships

UCLA has several need/merit based scholarships on offer. The Scholarship Resource Center located Covell Commons is a great resource.

These scholarships are administered through the Office of the Vice Provost for Undergraduate Education and are made possible by the generosity of alumni, donors and friends.

Many of the deadlines to apply for these scholarships are in May for continuing students and June for incoming students who have submitted a Statement of Intent to Register.

Please click here to review submission requirements for these scholarships.

All essays submitted by applicants will be used as writing samples.

e. Third party scholarships

Several of the prominent engineering companies, such as Microsoft, Northrop Grumman, Intel, and Google, offer third party scholarships to students that qualify. Definitely check out their company websites for more details. Another good website to check is Fastweb, which consolidates a lot of scholarship resources:

<http://www.fastweb.com/>. In addition, several student clubs such as IEEE, ACM, and SWE also have local and national scholarships offered to their members.

Getting into Research

1. **Why should I do research?** Whether you are interested in attending graduate school or want to go straight to work after undergrad, getting involved in research will allow you to explore different aspects of your major. Research gives you the chance to do something new. You will have the opportunity to

work with PhD students, professors, doctors, and a variety of other professionals at UCLA. Research can be fun too! It is a great break from your daily class routines and gives you glimpse of how it's like out there in the real world.

2. **How do I get into research?** Even though you'll be bombarded with hundred of emails from the counseling office each week, be sure to read them. Many labs throughout the UCLA campus are looking for undergraduate engineers to fill up positions. Many labs like to invest in their students, so even if you are a first or second year student, do not hesitate to apply!
3. **Types of Research:** You can do research during the school year or over the summer! Some research positions are paid while you can even get course credit and a grade for others. For more information on the research programs UCLA has to offer, click on this link [Student Research](#).

Applying to Graduate School

- A. **Why should I apply to graduate school?** Graduate School is a great way to further your education in any field of your choosing and thus increase your future employment opportunities. In fact, in many career sectors, including many engineering related fields, a master's degree is replacing a bachelor's as the minimum requirement for employment. Earning a postgraduate degree also makes sense financially. U.S. workers between the ages of 21 and 64 with a master's degree or higher earn an average annual salary of \$55,242, compared to \$42,877 for those with only a bachelor's degree, according to the U.S. census bureau.
- B. **What types of programs can I apply to?** Anything you want! Contrary to popular belief, the graduate programs you apply do not need to be similar to your undergraduate degree. With an engineering degree, you can apply to law school, med school, or any other graduate program, provided that you take all the required prerequisite classes before applying.
- C. **UCLA Graduate School Requirements** The UCLA graduate council publishes an annual report of all requirements for graduate and professional programs at UCLA. This report can be found online at <http://www.gdnet.ucla.edu/gasaa/library/pgmrqintro.htm>
- D. **About The Standardized Tests** There are 4 main tests that one is required to take depending on what kind of graduate/professional school one wants to attend: GRE, GMAT, MCAT, and LSAT. Below is an outline of what these tests are and for what they are needed.

1. GRE - the Graduate Record Examinations (GRE) is an admissions requirement for most graduate schools in the United States. The exam aims to measure verbal reasoning, quantitative reasoning, analytical writing, and critical thinking skills that have been acquired over a long period of time and that are not related to any specific field of study. GRE scores are used by admissions or fellowship panels to supplement your undergraduate records, recommendation letters and other qualifications for graduate-level study. The GRE General Test is offered as a computer-based exam. In the Graduate school admissions process, the level of emphasis that is placed upon GRE scores varies widely

between schools and between departments within schools. The importance of a GRE score can range from being a mere admission formality to an important selection factor, so be sure to check with the graduate school you intend to apply to for requirements. For more information go to <http://www.ets.org/gre>.

2. GMAT – the Graduate Management Admission Test assesses a person’s preparation for being admitted into a graduate management program, such as an MBA Master of Accountancy, or Master of Finance. GMAT is a registered trademark of the Graduate Management Admission Council, and many of the top business schools use the test as a criterion for selection into their program. It is a computer adaptive test (CAT) which means that the questions get harder and worth more as you answer more questions correct. It measures a person’s analytical writing, quantitative, verbal, and reading skills in standard written english. It is a 3.5 hour test and costs around \$250. For more information go to www.gmac.com.

3. MCAT – the Medical College Admission Test is a computer-based standardized examination for prospective medical student. It is designed to assess problem solving, critical thinking, written analysis, and knowledge of scientific concepts and principles. The candidate must be preparing to apply to a health professional school. Students are given a score of 118 to 132 for each of four sections: Chemical and Physical Foundations of Biological Systems, Critical Analysis and Reading Skills, Biological and Biochemical Foundations of Living Systems, and Psychological, Social, and Biological Foundations of Behavior. The total score ranges from 472 to 528. For more information, go to <https://www.aamc.org/students/applying/mcat/>.

4. LSAT – the Law School Admission Test is a half-day standardized test for prospective law school candidates. The LSAT is designed to assess reading comprehension, logical, and verbal reasoning proficiencies. The test is an integral part of the law school admission process in the US and Canada. An applicant cannot take the LSAT more than three times within a two year period. The exam has six total sections: four scored multiple choice sections, an unscored experimental section, and an unscored writing section. Raw scores are converted to a scaled score with a high of 180, a low of 120, and a median score around 150. It costs \$165 to take in the US. For more information, go to: <http://www.lsac.org/jd/lsat/about-the-lsat/>.

Preparing for Industry

a. Where do I go for career help?

i. **UCLA Career Center** This is an incredibly useful resource often overlooked or unknown to undergraduate students. Located on the corner of Strathmore and Westwood Blvd. (across the street from the Engineering IV building), The UCLA Career Center has one primary focus--to develop your professional skills and network so that

you may land the career you want. Students who use their services are better prepared for the world of work. By being proactive and visiting the Career Center, you can:

- Gain a better understanding of your skills, interests, and personality and learn how they -Relate to your possibilities
- Increase your knowledge of the job search process
- Learn how to get an internship
- Write an effective resume
- Gain greater confidence in interviewing skills
- Learn about the process of applying to graduate and/or professional school
- Learn how to write an effective personal statement.

Below are descriptions of some of the most notable programs that the UCLA Career Center Provides:

1. Career Counseling – the UCLA Career center offers both same day and advanced counseling appointments for students, and this is available from the first day you arrive at UCLA. During your first year at UCLA, the Career Center will introduce you to an amazing array of career possibilities and help you explore the link between academic majors and employment options. If you’ve already chosen your dream job, they can help you develop skills and strategies to get you where you want to go.
2. Fairs, Career Nights – the UCLA Career center offers several info sessions and career fairs throughout the year for you to get acquainted with the many companies in your industry. These are valuable opportunities for you to learn more about each company and establish professional connections with them to help you in your career pursuits. Career Fairs and Career Nights are typically intended for recruiting, so be sure to bring your resume and practice how to introduce yourself and talk about your interest in their company. Info sessions are typically not intended for recruiting, so don’t expect to for them always to take your resume. Instead, utilize info sessions to get to know more about the companies
3. BruinView – this is UCLA Career Center’s main website for applying for jobs. In fact, many companies only take resume applications through the BruinView website. However, in order to apply to companies online through BruinView and obtain access to on campus interviews you must attend a mandatory Orientation. This orientation focuses on the important aspects of the OCR program, including process overview, BruinView navigation, interviewing tips, key ethical considerations, and valuable Career Center services and resources.
4. UCLA ONE – this is a online networking website to connect UCLA students with alumni. It is great resource if you are looking for new resources: it offers a way to acquire new resources, connect with experienced professionals, receive personalized career advice, and even search for job openings.

ii. Faculty Adviser Your faculty adviser is a great resource for gaining valuable insights and advice towards working in your industry. Even better, if you are unsure of

what specific companies or fields you want to delve into, these faculty advisers would definitely help you learn more about the many applications of your major so you can decide which one you would be most interested in. Many of these professors have worked with several companies before, and so they can give you much of their wisdom in what classes/research opportunities to take that would most benefit you in working in a specific industry. Also, many of these experienced faculty have contacts in industry that they can refer you to if you establish a good relationship with them.

iii. OASA counselors. Your OASA counselors are your best friends. They are there to address your concerns about anything academic or career related. For any uncertainties about your career future, feel welcome to discuss them with your OASA counselors.

b. Internships

i. Why should I get an internship?

1. Gain real world-job experience. Internships are a great way to gain real-world experience in your related subject or field. While learning the theory in your courses is important, actually applying these principles to solve real world problems can prove to be extremely valuable. Also, you learn the many lessons of working for an actual company, such as working in professional setting, collaborating on teams, and dealing with strict project deadlines. The more exposure you have to these hands-on skills, the more advantage you'll have in succeeding in your full time position.

2. Credibility you can list on your resume and LinkedIn. Companies like to hire full-time candidates that are credible and that they can trust. You can establish this credibility by listing previous internships you've had from previous years and including detailed descriptions of the accomplishments you've made in those past internships.

3. Pay and/or Course Credit. Most internships offer hourly pay or monthly salaries to students. This can be a great way to earn some extra money, and many companies offer internships not just during the summer but also throughout the year. UCLA does have an option for giving course credit for internships through the ENGR 95 and ENGR 195 courses. However, the approval scope for petitions to these courses is quite narrow. Typically OASA approves giving course credits for internships that don't pay, so don't expect to get course credit and get paid at the same time. For more information regarding course credit, go to this website: [Course Enrollment Information](#).

ii. How to get an internship

1. Build your resume and CV. This is practically the most important part about getting an internship because this is the document that actually gets you the interviews and highlights attention to why you should be hired as an intern candidate. Since your resume is the introduction of who you are to the company, significant time should be spent on ensuring you have an ideal resume. The best way to build up a good resume is to view examples online and at the Career center's various resume building resources. The Career Center even hands out a Career Guide updated every year for free, which contains many samples of resumes for a variety of majors. This Career Guide also offers many articles on how to write a proper cover letter and effective vocabulary. Next is to get lots of feedback on your resume by showing it to career

counselors, friends, and even recruiters, and asking for critiques. Beware that many of them might give drastically different suggestions, so be sure to pick and choose the right suggestions that yield the most effectiveness.

2. Join extracurricular clubs, and run for leadership positions in them. Especially if you've never had any work experience before, extracurricular clubs are a great way to gain some professional experience. Having leadership positions in extracurricular clubs shows that you are a proactive, responsible individual with a thirst for leadership and service to your school and community.

3. Go to career fairs, and start early. One of the most valuable benefits of being a student of UCLA Engineering is the opportunity to attend the career fairs held in the Ackerman Grand Ballroom each quarter (for the dates use this link: [Fairs and Targeted Events](#)). Engineering students should attend these career fairs as early as possible, even as a freshmen, because they are a good introduction to some of the most prominent engineering companies and a great way to gain experience interacting with professional engineers.

4. Go to info sessions and networking events. Another effective way of obtaining an internship is establishing a personal relationship with the company and recruiters. By learning more about companies through info sessions and networking with its employees, you can set yourself apart from the competition. Be ready to take note of their contact information and have a resume handy as some companies even take resumes at these events.

5. Create a LinkedIn and start building your profile and professional network. LinkedIn is increasingly growing as a reliable means for companies to recruit candidates. As a result, it is important that you get with the times and place emphasis on developing your LinkedIn profile. Proactively seek connections, endorsements and recommendations to boost your credibility online.

6. Practice Interviewing. One of the biggest obstacles to obtaining an internship is the actual interview. Engineering companies in particular often like to make their interviews technical, sometimes requiring several rounds of interviews before giving you an offer. One way you can prepare is to utilize many of the mock interview resources offered by the career center. Another is to ask experienced students or search online for what kinds of questions are asked and advice on how to succeed on the interview. Also, it can be a good idea to email the company's recruiter or talent acquisition representative about what questions to expect and how to appropriately dress for the interview. Then, be sure to go through many practice runs with friends to get a feel for the actual thing. Practice not just for the technical questions, but also behavioral questions where you talk about yourself and your past experiences. It helps to have much of the behavioral questions already rehearsed so that on the interview you can focus on answering the technical questions. Interviews are truly a learning process, and the more you practice the better you'll do!

c. **Can I pursue a career outside of engineering?**

Yes! Your engineering degree is very valuable, even to employers in other fields such as finance, consulting, or even medicine. They understand that getting an engineering degree from UCLA is no easy task, and that

you'll have a solid quantitative and analytical background which will allow you to succeed in any field. However, this does not mean that offers will just roll into your hands as soon as you graduate, since you still need to campaign heavily to be recruited into these competitive fields. Please see the above guidelines for recruitment.

Life outside of Boelter

1. Engineering Clubs

a. Why join an engineering undergraduate club?

By joining an engineering club during your undergraduate years, it allows you to meet more students of the same major or interests. These connections often flourish into lifelong friendships. Another reason clubs are beneficial are that they give an opportunity for new members to gain leadership experience if they choose to run for a position for the following year.

b. Types of clubs

Engineering clubs vary from general majors to specific majors. Each club has its own projects that allow the undergraduates to have a hands on experience with engineering and it allows them to apply their class materials to everyday life situation.

c. Notable annual events

Throughout the school year, each club hosts their annual event. Some annual events are open to non-members while others are restricted to members only. R- Restricted NR- Not Restricted

FALL QUARTER:

ESUC: Engineering Welcome Day (NR), Engineering Leadership Conference (R)

ESUC: Fall Ball (R)

WINTER QUARTER:

ESUC: Dinner with Professors (NR)

SPRING QUARTER:

ESUC: Engineers' Week (NR)

ESUC: Engineers Ball (NR)

2. Engineering Fraternities & Sororities

a. Why join a fraternity or sorority?

Greek life is not as what it seems on television and the exaggeration made over the years. By joining the engineering greek life, it allows you to meet people from other schools of the same fraternity or sorority. Alongside with other chapters, their alumni from that fraternity or sorority would take time out of their day to come back and help build a successful path for their younger members. The members will know specific companies that their older members have been able to get a job from. The environment is more comfortable because the new members would have pledged together. By pledging together, it allows each pledge and active member to get to know each other on a personal level. With

the awkward barrier broken down, it makes the new members more comfortable to ask older students for help.

b. Engineering Greek

Phi Sigma Pho (Sorority) is a social sorority with the house mostly south campus. For women who want to join the greek system without being in a co-ed fraternity, but still gain sisterhood and networking.

<http://www.phirhobruins.com/>

Triangle (Fraternity) is a social fraternity and is the only fraternity whose members only consists of engineers, architects, and scientists. They have projects throughout the school year and interact with other chapters.

<http://www.trianglebruins.com/>

Theta Tau (Co-ed Fraternity) is a professional fraternity. Compare to Phi Sigma Pho and Triangle, this fraternity solely only contains engineers. They do not have as many social events as Phi Sigma Rho or Triangle. Theta Tau also have other chapters they interact with and are more career oriented. They do not interact with other social sororities or fraternities as much as they are not under the same council compared to Phi Sigma Rho and Triangle.

<http://thetataubruins.org/>

3. Where to find more info on Clubs and Orgs outside of Engineering ?

Don't limit yourself to just engineering clubs. At UCLA there are more than 800 clubs on campus. As seen from the Enormous Activities Fair, clubs reach out to just about all different types of interest, whether major related or not. For a list of clubs on campus go to the following website:

<http://www.studentgroups.ucla.edu/>

4. Extracurricular activities

Aside from joining clubs, clubs host free events for the general student population to watch. Culture shows, plays, a cappella groups perform throughout the year.

Wooden and BFIT is another great resource to go to for physical activities. They host classes per week for the general public to join. The first class or sample class is usually free for you to try out and see if you like it.

There are also IM sports on campus if you would like to form or join a team.

www.imleagues.com/UCLA

5. Studying Abroad

Studying abroad is a great life experience and allows us to expand our views of the world beyond what we would get by staying in one place. However, as engineering majors, it can be difficult to find a program that is right for you. Still, there are select schools that do offer transferrable credit in engineering courses. Another common choice is to take GE classes abroad so that you don't lose credit for all of the classes you take. Before you study abroad, or even plan to, it is important to work out your transferrable classes with a counselor. The engineering counselor's office is in Boelter Hall, Room 6426. More information can be found here:

<http://www.ieo.ucla.edu/UCEAP/>

6. Non-Engineering Greek Life

As important as it is to network with other engineers, it is equally as important to expand your network beyond the school of engineering, which is only a small portion of the UCLA population. Being involved in Greek life is a great way to meet people who are involved in a variety of other activities. Getting involved with Greek life just means having another network of people to support you.

That being said, joining a sorority or fraternity is the same as joining any other club; it is a commitment and there is a certain level of involvement that is expected of each member. It is by no means impossible to balance a Greek organization and a tough major as can be seen by the sheer number of students who do it. Joining a Greek organization can help ensure that you don't fall into a pattern that leads you to become a one-trick pony. Greek life can help diversify you as a person and help you realize what a large network of people exist and how all types of people are necessary to support our society. Greek life typically goes through recruitment periods twice a year, once in fall and once in spring.