Transfer Admission Strategies
Summer Research Internships in STEM

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Admissions “Secrets”

- There’s no secret of how to get into engineering
- We utilize the same screening process for all applicants regardless of major
- Students should apply for the major they’re interested in
- We’re looking equally for competitive candidates for engineering and the likelihood of admission depends upon the quality of the applicant pool and the number of spaces available in the program
- For additional information please visit our web site or attend an Admit Info Session (offered weekly in April)

Source: Berkeley Engineering
We’re Interested in Students Who…

- Have a solid foundation in math and the sciences
- Are analytic thinkers who want to solve problems/ develop efficient ways to improve quality of life
- Like to figure out how things work
- Enjoy utilizing technology
- See themselves as designers, builders, researchers, and managers of technical enterprises
- Are able to attend full-time

Source: Berkeley Engineering
Transfer Admissions Criteria

- 60 transferable semester units
- Minimum 3.0 GPA
- 100% completion of “required” courses prior to transferring:
  - Reading & Composition included in 100% completion (we require both the 1st and 2nd half of R&C)
  - Fall 2010: primary reason applicants denied admission was lack of R&C completion (due to following IGETC instead of www.assist.org)
  - Fall 2011: 78% of reviewed applicants who did not have 100% completion were missing R&C requirement (due to following IGETC instead of www.assist.org)
  - Fall 2011: Many of the applicants did not complete one or both of the Prerequisite and Work In Progress forms in January as instructed on the MyBerkeleyApplication web site and on the transfer applicant checklist despite email reminders
- Students encouraged to take as many "strongly recommended" articulated courses as possible so they are stronger candidates for admission and better prepared for success in engineering

Source: Berkeley Engineering
It is critical that students check [www.assist.org](http://www.assist.org) for requirements specific to their intended major.

All courses listed as “Required Courses” must be completed.

As many courses as possible listed as “Recommended Courses” should be completed.

Courses must be completed by the end of the spring semester of the year in which you will transfer (summer courses are not counted).

**Source: Berkeley Engineering**
Articulation Agreement by Major
Effective During the 12-13 Academic Year

To: UC Berkeley
11-13 General Catalog

| From: Contra Costa College |
| Semester: | 11-12 General Catalog |
| Semester |

Required Courses for Admission:

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Semester

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11-12 General Catalog
Semester

Strongly Recommended Courses (if your college offers courses listed below and they are articulated, taking them will strengthen your application):

COMPSCI 61A The Structure and Interpretation of Computer Programs
(4) NO COURSE ARTICULATED

COMPSCI 61B Data Structures (4) COMP 252 Data Structures and Algorithms

Any course/s approved as comparable to COMPSCI 61B must include coverage of object-oriented programming, hashing, heaps, priority queues and graphs, together with at least one programming assignment of 1000 or more lines of code. If needed, any of this material may be acquired by taking a bridge course, COMPSCI 47B, at Berkeley.

EL ENG 20N Structure and Interpretation of Systems and Signals
(4) NO COURSE ARTICULATED

OR

COMPSCI 61C Great Ideas in Computer Architecture
(4) NO COURSE ARTICULATED

OR

NOTE: COMPSCI 61C formerly Machine Structures

EL ENG 40 Introduction to Microelectronic Circuits
(4) NO COURSE ARTICULATED

ENGIN 7 Introduction to Computer Programming for Scientists
(4) NO COURSE ARTICULATED
COE Personal Statement

- How did you become interested in engineering?

- Why are you interested in the major to which you’re applying? What excites you about studying this major?

- What experiences influenced your decision (i.e. job experience, discussions with faculty, professional engineers or engineering students, related projects, courses, etc.)?

- What other experiences, such as co-curricular activities, have you had that relate to engineering? What non-engineering related activities have you participated in? What skills did you learn from these experiences that will help you in engineering (i.e. leadership, time management, teamwork etc)?

- What are your goals, aspirations, and plans for after graduation?

Source: Berkeley Engineering
Why Consider a Summer Research Internship?

- Hands-on experience in science and engineering
- Experience life at a 4-year institution
- Find new mentors and network with faculty and students in science and engineering
- Meet other community college students with similar goals
- Strengthen your admissions application for transfer to a 4-year university
Highlight of UC Berkeley’s Transfer-to-Excellence Program
Exciting Research Opportunities
Designing and Testing Low-Energy Electronic Devices
As the world’s largest search engine, Google processes nearly 13 Billion monthly searches. They are able to handle such large volumes of data because they have huge datacenters with thousands of servers capable of handling immense capacities. Such large amounts of computing power require a great deal of electricity. This electricity consumption translates directly into carbon emissions. Take a look below:

Source: [http://www.wellhome.com/blog/2010/03/google-energy-use-infographic/](http://www.wellhome.com/blog/2010/03/google-energy-use-infographic/)
Based on data presented at [http://googleblog.blogspot.com/2009/03/powering-google-search.html](http://googleblog.blogspot.com/2009/03/powering-google-search.html)
Exploring Nanomaterials for Next Generation Energy Storage, Nanochips, Chemical Biosensors and Adhesives
Mobile Environmental Monitoring

- Expensive and power hungry, most current mobile monitoring systems require either gas-powered vehicles or humans for mobility.

- After disasters, collapsed buildings, mine shafts, or damaged plants are dangerous for response teams making it difficult to monitor and control situations.

- COINS goal: Create mobile robots with application-appropriate detection capabilities, such as survivor or hazard location.

  - Should be self propelled, communicate wirelessly, and able to reach confined spaces
Creating Advanced Biofuels with Engineered Microbes
We build computers from off-the-shelf parts...

Assemble from standard, off-the-shelf parts

Fundamental knowledge to build basic computer components

Basic science and applied research

Devices from any vendor; open source software

Abstraction, standardization

Design  Composability  Characterization

Human Practices  Abstraction  Standardization
Assemble from standard, off-the-shelf parts

...but can we build drug-producing cells from off-the-shelf parts?

Fundamental knowledge to build biological parts, devices, and hosts

Abstraction, standardization

Basic science and applied research

Devices from any lab; open source parts registry

Gene2cs

Social Sciences

Chemistry

Physics

Engineering

Biology

Genetics

Sensors

Promoters

Logic gates

Binding sites

Transporters

Switches
Answer:
We’re getting close!
What can we use synthetic biology to do?

- Human diagnostics and therapeutics
- Drug production
- Energy production
- Information processing
- Chemical processing
- Materials fabrication
- Environmental sensing and remediation
2013 Transfer-to-Excellence Program
TTE Research Experiences for Undergraduates (TTE REU)

- 9-week summer research internship at UC Berkeley (June 8 – August 10)
- $3,200 stipend, room and meals, travel allowance
- Independent research project supervised by UC Berkeley faculty
TTE Research Experiences for Undergraduates (TTE REU)

- Mentoring from UC Berkeley faculty, graduate students, and staff
- Access to seminars to prepare for a career in science and engineering
- TAP advising for transfer to a 4-year institution
- Community-building activities with other community college students and summer research interns
Who is eligible for TTE REU?

- Students who have:
  - A 3.25 GPA for science, engineering and math courses
  - Completed two calculus courses
  - Completed three science or engineering courses, one of which has a laboratory component
  - Plans to return to a community college in fall 2013
  - Plans to apply to transfer to a baccalaureate program in science or engineering in fall 2013
  - US citizenship or permanent residency

*Students who are planning to transfer to a 4-year institution in fall 2013 are ineligible for TTE REU.*
What are the benefits?

- Experience life as a researcher or student at UC Berkeley
- Get to know UC Berkeley faculty, graduate students, and staff
- Meet other scientists and engineers
- Build long lasting friendships with summer researchers
- Receive additional advising and support for transfer to a 4-year institution during academic year
- Gain an experience to expand upon in your personal statement for your transfer admission application
Where can I learn more?

Visit our website!

http://www.e3s-center.org/TTEREU2013.htm
Are there other programs?

- NSF REU Sites

- Pathways to Science

- National Institute for Health

- NASA
  [http://www.nasa.gov/centers/ames/education/internships/index.html](http://www.nasa.gov/centers/ames/education/internships/index.html)

- Brookhaven National Laboratory

- Lawrence Berkeley National Laboratory (LBNL)
  [http://csee.lbl.gov/Programs/CCI/index.html](http://csee.lbl.gov/Programs/CCI/index.html)

- Lawrence Livermore National Laboratory (LLNL)
  [https://www-pls.llnl.gov/?url=jobs_and_internships-internships](https://www-pls.llnl.gov/?url=jobs_and_internships-internships)
How can you WOW the selection committee?

- **Academic track record**
  - Grades
  - Courses

- **Relevant work experience**
  - Volunteer, part-time or full-time work
  - Science or engineering projects
  - Science or engineering related volunteer activities or part-time/full-time work

- **Leadership experience**
  - Science clubs
  - Volunteer, part-time or full-time work
Contacts for Transfer Applicants

- **Admissions Questions, Decisions & Appeals:**
  - Edwina Taylor
  - Office of Undergraduate Admissions
  - etaylor@berkeley.edu

- **Transfer Course Equivalencies:**
  - Genie Foon
  - Engineering Student Services
  - eugenia@berkeley.edu
Cal Day
Saturday, April 20, 2013

Annual campus-wide Open House with presentations, workshops, demonstrations, and entertainment!

For more info sign up @ pictureyourself.berkeley.edu
Thank you!

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