Master of Engineering Program

Berkeley MEng
Information Session

Berkeley ENGINEERING
Agenda

- Introductions
- Academics
- Capstone Experience
- Career Development
- Admissions
- Q&A
UC Berkeley: By the Numbers

- Nobel Prizes held by Alumni: 29
- Public US University: #1
- National Medals of Science held by current faculty: 13
- Faculty Fulbright Scholars: 77
- Faculty MacArthur Fellows: 33
- All-time top producer of Peace Corps volunteers: #1
- Olympic Gold Medals: 103
- Global University: #4
- Nobel Prizes held by current faculty: 7
#3 Overall Best Engineering Schools

1. Civil Engineering
   Electrical Engineering
   Environmental Engineering

2. Computer Engineering

3. Industrial Engineering
   Materials Engineering

4. Mechanical Engineering
   Nuclear Engineering

6. Bioengineering

US News 2022 Graduate School Rankings
MEng Program Design
Program Philosophy

- Core Leadership Curriculum
- Integrative Capstone Project
- Technical Specialization
Leadership is a key driver of your professional success

- Ability to Work in a Team: 77.8%
- Leadership: 77.8%
- Communication Skills (Written): 73.4%
- Problem-Solving Skills: 70.9%
- Strong Work Ethic: 70.4%
- Analytical/Quantitative Skills: 68.0%
- Technical Skills: 67.5%
- Communication Skills (Verbal): 67.0%
Berkeley MEng Overview

- Rigorous Engineering Coursework
- Leadership and Communication Classes
- Concentrations in FinTech, AR/VR, and more
- Networking and Career Events
- Strong Alumni Network

HIGHLIGHTS

- Capstone Project
- 2-Week Leadership Boot Camps (Aug/Jan)
- 1:1 Career Coaching
## Course Schedule

### REQUIRED LEADERSHIP BOOT CAMPS
**SUMMER: AUGUST 2-13, 2021 (INCLUDES ORIENTATION)**
**WINTER: JANUARY 3-14, 2022**

<table>
<thead>
<tr>
<th>Summer Courses</th>
<th>Winter Courses</th>
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<tbody>
<tr>
<td>Engineering Leadership Boot Camp:</td>
<td>Engineering Leadership Boot Camp:</td>
</tr>
<tr>
<td>R&amp;D Tech Management &amp; OB (2 units)</td>
<td>Two Electives (2 units)</td>
</tr>
<tr>
<td>Technical Elective I (3-4 units)</td>
<td>Technical Elective III (3-4 units)</td>
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<tr>
<td>Technical Elective II (3-4 units)</td>
<td>Technical Elective IV (3-4 units)</td>
</tr>
<tr>
<td>Capstone Project (2 units)</td>
<td>Capstone Project (3 units)</td>
</tr>
<tr>
<td>Communications for Engineering Leaders: Self (1 unit)</td>
<td>Communications for Engineering Leaders: Team (1 unit)</td>
</tr>
<tr>
<td>Teaming &amp; Project Management (1 unit)</td>
<td>Coaching for High Performing Teams (1 unit)</td>
</tr>
<tr>
<td>Fall Semester (12 units)</td>
<td>Spring Semester (13 units)</td>
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Engineering Leadership
1-Unit Modules

Fall Boot Camp
- Organizational Behavior & Negotiations
- R&D Technology Management & Ethics

Fall Semester
- Teaming & Project Management
- Communications

Spring Boot Camp (choose 2)
- Marketing & Product Development
- Industry Analysis
- Entrepreneurship
- Accounting & Finance
- Digital Platform Strategy
- Global Leadership
- Professional Ethics Tech, Law & Business
- Power & Politics
- Innovation Management

Spring Semester
- Coaching for High Performing Teams
- Communications

*Courses are subject to change based on availability.
Technical Concentrations*

Bioengineering:
Micro-Electromechanical Systems (MEMS)
Systems and Synthetic Biology
Biomaterials

Civil & Environmental Engineering:
Systems
Transportation

Electrical Engineering & Computer Sciences:
Data Science & Systems
Integrated Circuits & Physical Electronics
Robotics & Embedded Software
Signal Processing & Communications
Visual Computing & Computer Graphics
[AR/VR Design Experience]

Industrial Engineering & Operations Research:
General Program
FinTech
Intellectual Property and Entrepreneurial Strategy

Materials Science & Engineering:
General Program
Biomaterials
Electronic, Magnetic and Optical Materials
Chemical and Electrochemical Materials

Mechanical Engineering:
Advanced Energy Technology
Experimental Advanced Controls Systems Design
MEMS/Nano
Product Design
Biomechanics
Fluids and Ocean Engineering
Aerospace Engineering

Nuclear Engineering:
Nuclear Reactors Design, Mgmt & Infrastructure
Applied Nuclear Science and Radiation Detection
Nuclear Materials and Manufacturing
Medical Physics

*Sample list. See meng.berkeley.edu to learn about current concentrations offered.
NEW: MEEng Tech PLUS Certificate

- 7 new certificates launched AY21-22
- Eligible MEEng students: BioE, MSE, NE, or ME departments
- Requirements:
  - Technology Strategy integrating course (1 unit)
  - 2 Tech courses over MEEng requirement (6 units)

<table>
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<tr>
<th>Materials for Biological and Medical Applications</th>
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<tbody>
<tr>
<td>Structural Materials for Nuclear Applications</td>
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<tr>
<td>Nuclear Security</td>
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<tr>
<td>Intellectual Property and Entrepreneurship Strategy (IPES)</td>
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<tr>
<td>Engineering Data Science</td>
</tr>
<tr>
<td>Control of Robotic and Autonomous Systems</td>
</tr>
<tr>
<td>Modeling and Simulation of Advanced Manufacturing Processes</td>
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</table>
Capstone Experience
What is a capstone?

Every capstone addresses three phases of the innovation cycle.

- Need
- Solution
- Technology
Capstones are a hub for experiential, team-driven, and integrative learning.
Every project has a real-life technical challenge.

Integrative learning is key to innovation.

Improving Mobility for Elderly Users of Blue Goji’s Treadmill
Capstones are a hub for integrative learning

- **E270A-I** Eng Leadership Bootcamp
  - Industry Analysis, R&D Strategy, Marketing, etc.

- **E296 Capstone Project**

- **E270C/K** Teaming and Project Mgt
  - Team Charter, Project Plan, 360 Feedback, etc.

- **E295B** Communication for Eng Ldrs
  - Presentations, Reports, Promotional Materials, etc.

- **Technical Coursework**
University-led projects are supervised by COE faculty working on internal (i.e., university) technology.

Machine Learning, Wearable Computing and Alzheimer's Disease
Partner projects are led by an Industry Advisor using external (and possibly proprietary) technology.

A Low Cost Iron-Salt Battery for the Developing World
Be a part of a cohort that will reshape the world

- Rockets for deep space exploration
- Mechanism for fast UAV pick-up
- Medical Radioisotope Production
- Improving Traffic Mobility
- Collaborative Radio Network
- Knee-X: Making Walking Effortless
- Data collection for AV research
- Data Analytics for Airports
- Predicting Repeat Borrowers
- Improving Bus Performance
- Solar-Tracking Umbrella
- Bipedal Robotic Locomotion
Career Development
The mission of the Master of Engineering Career Development Program is to provide guidance, resources, professional skill development and networking opportunities to a diverse student population for the achievement of students’ career-related goals both now and throughout their career.
Develop with Fung

- Resume Critiques
- Cover Letter Writing
- Online + Personal Branding
- Job Search Strategy
- Interview Prep
- Salary Negotiation

Resources:

- 1:1 Career Coaching
- Classroom Integration
- Workshops

Berkeley MEng
Explore with Alumni

- Ask-the-Expert Webinars
- Career Chats
- MEng Startups
- MEng Alumni Brunch
- Alumni Office Hours
- FI Connect
Connect with Industry

- MEng Resume Book
- Employer Breakfast
- Design Challenge
- MEng-Dedicated Info Session
- Company Site Visits
- Bay Area Industry Networking
- Recruiting @ Cal
# MEng Careers Overview

## Roles and Positions out of Berkeley MEng

### Founders
- CEO/Founder
- COO/CTO

### Sr. Engineer
- Software + App Dev.
- Product Design
- Control Systems
- Digital Verification
- Credit Risk
- R&D
- Hardware

### Managerial
- Data Science/ML
- Engineering Lead
- Product Management

## Careers

### Big Tech
- Microsoft
- Apple
- Intel
- Amazon
- LinkedIn
- Google
- Lyft
- Uber

### Academia
- MIT
- UCLA
- Stanford Medicine

### Startup
- TEMPUS
- Cloudleaf
- Skydio
- PEANUT Robotics

### Advisory, Audit, Finance
- BCG
- J.P. Morgan
- Goldman Sachs
- EY
- McKinsey & Company
- Bloomberg

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[Berkeley MEng Logo]
Career Destination Survey Results

70% of MEng students stay and work in the United States

MEng median salary = $110k
Average signing bonus = $19k

In 2020 80% of students reported their post graduation plans 6 months of graduation.

In 2020, 40% of graduates stayed in California
Berkeley MEng
CLASS OF 2022
Class Profile

3.65
Average GPA

GRE
Verbal  69%
Quant  81%
AWA  63%

45 countries & regions represented

667
Class Size

AVERAGE AGE
18  23  38

76% international by passport

GENDER
Female, 34%
Male, 63%
Other, 3%
45 Countries & Regions Represented

Most predominant in the Class of 2022 are:

- China
- United States
- India
- France
- Taiwan
- Spain
MEng Departments

Applications Received: 4,253
Class Size: 667

- EECS: 26%
- Mechanical Engineering: 25%
- Industrial Engineering & Operations Research: 23%
- Electrical Engineering & Computer Sciences: 23%
- Materials Science & Engineering: 4%
- Civil & Environmental Engineering: 8%
- Bioengineering: 5%
- Nuclear Engineering: 2%
- NE: 2%
- CEE: 6%
- BIOE: 11%
- IEOR: 33%
## MEng vs. MS

<table>
<thead>
<tr>
<th></th>
<th>Units</th>
<th>Time to complete</th>
<th>Type of Degree</th>
<th>Key Requirement</th>
<th>Ideal for</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEng</td>
<td>25 units</td>
<td>1 year</td>
<td>Professional</td>
<td>Capstone project</td>
<td>Working in industry</td>
</tr>
<tr>
<td>MS</td>
<td>25-50 units</td>
<td>~2 years</td>
<td>Academic</td>
<td>Thesis paper</td>
<td>Leads to PhD; careers in research or academia</td>
</tr>
</tbody>
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[Logo: BerkeleyMEng]
# MEng vs. Other Professional Degrees

| Program                  | Length of Program | 2020-21 Tuition (per year)* | Key Program Features                                                                 | Format         |
|--------------------------|-------------------|-----------------------------|-------------------------------------------------------------------------------------|----------------|-----------------|-----------------|--------------------------|--------------------------|
| MEng (Est. 2011)         | 2 semesters       | CA: $53,821.50              | Two 2-week boot camps (Aug/Jan) Interdisciplinary capstone project                  | In-person, Part-time option |
| MBA/MEng (Est. 2020)     | 4 semesters       | non-CA: $62,066.50          | Capstone project Design@Large summer internship or project                          | In-person      |
| MDes (Est. 2019)         | 3 semesters       | CA: $54,129                 | Cross-enrollment at UCSF Capstone project                                           | In-person      |
| MTM (Est. 2011)          | 2 semesters       | non-CA: $66,374             | Summer internship Self-designed concentration option                                | In-person      |
| MDevEng (Est. 2014)      | 3 semesters       | $75,000                     | 50-hour Python boot camp 10-week internship                                        | In-person      |
| MAnalytics (Est. 2021)   | 2 semesters       | $65,000                     | 2-week boot camp Online classes Capstone project                                    | In-person, Part-time option |
| MSSE (Est. 2020)         | 4 semesters       | $76,380                     | Research project with thesis Technical and breadth courses                          | In-person      |
| 5th Year M.S.            | 2 semesters       | CA: $20,247.50              |                                                                                     |                |

* Tuition varies by residency.
Online Application

grad.berkeley.edu

Apply to one department:
BIOE, CEE, EECS, IEOR, MSE, ME, or NE

GRE scores not required/optional*

Deadline: Thursday, January 6, 2022

Scholarships
Fung Excellence Scholarship
MEng Opportunity Grant

Street Nature Score Project
Application Requirements

- Resume
- Transcripts
- GRE Score (Not required/optional)
- 3 Letters of Recommendation
- Statement of Purpose
- Personal Statement
- TOEFL (international students only)

Berkeley MEng
Next Steps

1. **CHOOSE** a department/concentration
2. **MEET** virtually with an advisor or current student
3. **FOLLOW** us on social media: @FungInstitute #BerkeleyMEng
4. **APPLY** by Thursday, January 6, 2022 via [grad.berkeley.edu](http://grad.berkeley.edu)
Current Student Perspective