Guidelines by Major Effective during the 18-19 Academic Year

To: UC Berkeley  
From: Laney College

18-19 General Catalog  18-19 General Catalog
Semester  Semester

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====Energy Engineering, Lower Division B.S.====

COLLEGE OF ENGINEERING JUNIOR TRANSFER ADMISSION REQUIREMENTS:

Admission to the UC Berkeley College of Engineering is highly competitive.

Applicants to the Energy Engineering major must complete all required core UCB preparation courses in order to be eligible for admission. Only applicants who have completed 100% of these required courses will be considered for admission. Required courses for admission to the major must be completed by the end of the spring semester prior to fall enrollment. A summer 2019 course is not considered to be "work in progress" for the fall 2019 selection process.

If a series of courses at a community college is required (e.g., English 1A + 1B + 103 = English R1A and R1B), all the courses in the series must be completed, and must (unless otherwise indicated) be completed at the same community college. Partial completion (e.g., 2 of the 3 required courses) will result in zero credit toward the requirement(s), and the applicant will NOT be considered for admission.

Lower division UC Berkeley courses required for graduation (but not admission) are also listed in the major agreements and are strongly recommended to be taken to strengthen one's application. The more of these courses completed, the stronger the application will be.

Required core courses for admission: (all these courses must be completed to be considered for admission)

- UCB Chem 1A/L
- UCB Math 1A, 1B
- UCB Math 53, 54
- UCB Physics 7A, 7B
- UCB English 1A and 1B
- One course from: Chem 1B, 3A/3AL or Physics 7C

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

- UCB Compsci 61A or Engin 7
- UCB Mec Eng 40 or Engin 40
- UCB Math 55
- One course from: Compsci 61B, E1 Engin 16A, E1 Engin 16B, Mat Sci Engin 45/45L, Civ Eng 11 or Civ Eng 70, Mec Eng C85/Civ Eng C30

Consult the Energy Engineering website for which course above would best match the sample track you wish to pursue.
Energy Engineering, Lower Division B.S. (continued)
Admission is primarily based on the completeness of the applicant's lower division preparation and the level of academic achievement reflected in the student's grade point average. The UC applicant essay also plays an important role in the selection process at UC Berkeley. The College reviews the essay for evidence of interest in the student's chosen field and a thoughtful match between the academic program and the student's academic and career objectives.

The College of Engineering requires six humanities/social science courses, two of which must be reading and composition. The only non-technical admission requirement for the College of Engineering is the coursework equivalent to UC Berkeley's English R1A and R1B (reading and composition), which must be taken for a letter grade. The College of Engineering does not recognize the Intersegmental General Education Transfer Curriculum (IGETC) and strongly discourages students from following this option due to the number of major-specific technical courses required for engineering transfer admission.

NOTE: The English R1A and R1B requirements cannot be satisfied by IGETC; applicants must complete the specific courses indicated as English R1A and R1B equivalents to be considered for admission. Failure to complete the exact courses listed will mean the applicant will NOT be considered for admission.

The remaining four humanities/social science requirement courses are not considered for admission purposes but are required for graduation. See http://engineering.berkeley.edu/hssreq for the College of Engineering humanities/social science breadth requirements and courses. Courses which are three semester units or more that appear in the following categories on the "General Education/Breadth" section of assist.org may be used to satisfy two of the remaining four humanities/social science course requirements for the College of Engineering. ARTS AND LITERATURE; HISTORICAL STUDIES; INTERNATIONAL STUDIES; PHILOSOPHY AND VALUES; SOCIAL AND BEHAVIORAL SCIENCES.

SAT/ACT/A-level test scores and letters of recommendation are NOT considered for admission.

NOTE: ALL REQUIRED COURSES AND ALL STRONGLY RECOMMENDED COURSES FOR THE MAJOR MUST BE TAKEN FOR A LETTER GRADE. FOR MORE INFORMATION, PLEASE CHECK THE COLLEGE'S WEB SITE FOR THE COLLEGE OF ENGINEERING UNDERGRADUATE GUIDE.

For more information:
http://engineering.berkeley.edu/admissions/undergraduate-admissions

College of Engineering Undergraduate Guide:
http://engineering.berkeley.edu/academics/undergraduate-guide

For more information on Energy Engineering:
http://engineeringscience.berkeley.edu

For more information on admission to UC Berkeley:
http://admissions.berkeley.edu

For more information on majors at UC Berkeley:
Energy Engineering, Lower Division B.S. (continued)

Berkeley Academic Guide: http://guide.berkeley.edu

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AP TEST CREDIT

For students who have taken Advanced Placement Exams in high school, the College will clear requirements as follows:

Biology AP: a score of 4 or 5 satisfies UCB Biology 1A/AL and 1B.
Chemistry AP: a score of 3 or better satisfies UCB Chemistry 1A/1AL.
English AP (Literature and Composition): a score of 4 or 5 satisfies UCB English R1A.
English AP (Language and Composition): a score of 4 or 5 satisfies UCB English R1A.
Mathematics AP (AB Exam): a score of 3 or better satisfies UCB Math 1A.
Mathematics AP (BC Exam): a score of 3 satisfies UCB Math 1A.
Mathematics AP (BC Exam): a score of 4 or 5 satisfies UCB Math 1A and 1B.
Physics AP (Mechanics C Exam): a score of 5 satisfies UCB Physics 7A.

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Required Courses for Admission:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1A</td>
<td>General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1AL</td>
<td>General Chemistry, Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>MATH 1A</td>
<td>Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1B</td>
<td>Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 53</td>
<td>Multivariable Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 54</td>
<td>Linear Algebra and Differential Equations</td>
<td>4</td>
</tr>
<tr>
<td>PHYSICS 7A</td>
<td>Physics for Scientists and Engineers</td>
<td>4</td>
</tr>
<tr>
<td>PHYSICS 7B</td>
<td>Physics for Scientists and Engineers</td>
<td>4</td>
</tr>
<tr>
<td>ENGLISH R1A</td>
<td>Reading and Composition</td>
<td>4</td>
</tr>
<tr>
<td>ENGLISH R1B</td>
<td>Reading and Composition</td>
<td>4</td>
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</tbody>
</table>

One Technical Elective Course from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>CHEM 1B</td>
<td>General Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 3A</td>
<td>Chemical Structure and Reactivity</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 3AL</td>
<td>Organic Chemistry, Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 3B</td>
<td>Chemical Structure and Reactivity</td>
<td>3</td>
</tr>
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</table>
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### Energy Engineering, Lower Division B.S. (continued)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 3BL</td>
<td>Organic Chemistry</td>
<td>2</td>
<td>PHYS 7C</td>
<td>Physics for Scientists</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Laboratory</td>
<td></td>
<td>PHYS 4C</td>
<td>General Physics with Calculus</td>
<td>5</td>
</tr>
</tbody>
</table>

### Strongly Recommended Courses

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

- If no articulation, students are strongly encouraged to take an introductory course in electronics or circuits, a course in Statics AND courses in Computer Programming.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPSCI 61A</td>
<td>The Structure and Interpretation of Computer Programs</td>
<td>4</td>
</tr>
<tr>
<td>ENGIN 7</td>
<td>Introduction to Computer Programming for Scientists and Engineers (MATLAB)</td>
<td>4</td>
</tr>
</tbody>
</table>

### Additional Courses

- Engineering Thermodynamics (4) NO COURSE ARTICULATED
- Thermodynamics (3) NO COURSE ARTICULATED
- Discrete Mathematics (4) MATH 11 Discrete Mathematics (4)

#### One Technical Elective Course from the following:

- Designing Information Devices and Systems I (4)
- Designing Information Devices and Systems II (4)
- Properties of Materials (3)
- Properties of Materials Laboratory (1)
- Introduction to Solid Mechanics (3) Same as: CIV ENG C30
- Data Structures (4)
- Object Oriented Programming Using C++ (4)
- Data Structures and Algorithms (4)

#### One Technical Elective Course from the following:

- CIV ENG C30 Introduction to Solid Mechanics
- CIS 25 Object Oriented Programming Using C++
To: UC Berkeley, From: Laney College, 18-19

Energy Engineering, Lower Division B.S. (continued)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIV ENG 11</td>
<td>Engineered Systems and Sustainability</td>
<td>3</td>
<td>NO COURSE ARTICULATED</td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIV ENG 70</td>
<td>Engineering Geology</td>
<td>3</td>
<td>NO COURSE ARTICULATED</td>
</tr>
</tbody>
</table>

END OF MAJOR