



ENGINEERING MAJOR

Transfer Requirements

The following requirements for the major are subject to change without notice. To assure that this information is current; you should consult with an Engineering counselor, or review articulation agreements via the Internet at www.assist.org

NOTE: Transfer Requirements: (IGETC is NOT Recommended)

Minimum grades of “C” or better are required in lower division requirements. Students should complete all lower division requirements prior to transfer to be competitive for admission. Additionally, to be minimally eligible to transfer to a UC campus, students must meet minimum eligibility: 2 semesters of English composition (English 1A and English 1B or 1C), 1 transferable math, and 4 courses from at least two of the following areas: Arts/Humanities, Social and Behavioral Sciences, and Physical and Biological Sciences.

CALIFORNIA STATE UNIVERSITY, FULLERTON (CSUF) (2015-2016)

BS Engineering: Math 190, 191, 220, 270; Physics 1A, 1B, 1C

Options: **BS Computer:** add Computer Science 1, 2; Math 210; Physics 1D

BS Electrical: add Physics 1D; Computer Science 1

BS Civil: add Engineering 9, Biology 10 or Geology 1

BS Mechanical: add Chemistry 1A; Engineering 9

CALIFORNIA STATE UNIVERSITY, LONG BEACH (CSULB) (2015-2016)

NOTE: Engineering students may be able to waive 3 units on the CSU general education pattern from Life Science, Area B1 or Area E (except Biomedical and Clinical Engineering, Chemical, Civil, Computer Science). Critical thinking Area A3 may be waived. Math 190, 191, Physics 1A, 1B must be completed within one calendar year of transfer.

BS Aerospace: Engineering 1, 9; Chemistry 1A; CADD 43; Math 190, 191, 220; Physics 1A, 1B, 1C

BS Chemical: Chemistry 1A, 1B; Math 190, 191, 220; Physics 1A, 1B, 1C; Engineering 1, 9; Biology 8 and 11, or 10 or 101 or Anatomy 30

BS Civil: Chemistry 1A; Math 190, 191, 220; Physics 1A, 1B, 1C; Biology 10 or Microbiology 33; Engineering 1 and 9; CADD 43

BS Computer: Math 190, 191; Physics 1A, 1B, 1C; Computer Science 2, 3; Engineering 1; Biology 10 or Chemistry 1A or Physics 1D, ECHT 110

BS Construction Engineering Management: Physics 2A and 2B or 3A and 3B or 1A and 1C; Business 1A; Math 190 and 150; Architecture 150A; Law 5; Engineering 1

BS Electrical: Math 190, 191, 220; Physics 1A, 1B, 1C, 1D; Engineering 1

BS Engineering Biomedical and Clinical: Physiology 31 or Anatomy Physiology 34A and 34B; Chemistry 1A; Engineering 1; Math 190, 191, 220; Physics 1A, 1B, 1C, 1D;

BS Mechanical: Chemistry 1A; Math 190, 191, 220; Physics 1A, 1B, 1C; Engineering 1 and 9; ETEC 16; CADD 43

NOTE: Major specific admissions requirements, please visit:

<http://web.csulb.edu/depts/enrollment/admissions/transfer-major-criteria/index.html>

CALIFORNIA STATE UNIVERSITY, LOS ANGELES (CSULA) (2015-2016)

BS Engineering: English 1C; Engineering 1; Chemistry 1A; Math 190, 191, 220, 270; Physics 1A, 1B, 1C, 1D

Options: **BS Civil:** add CADD 5; Engineering 9

BS Electrical: add Computer Science 1

BS Engineering: add Engineering 9

BS Mechanical: add Engineering 9

CALIFORNIA STATE UNIVERSITY, NORTHRIDGE (CSUN) (2015-2016)

BS Civil: Biology 101 or Geology 1; Chemistry 1A; Engineering 9; Math 190, 191, 220, 270; Physics 1A, 1C

BS Electrical: Chemistry 1A, Engineering 1, 9, Math 190, 191, 220, 270; Physics 1A, 1C; Computer Science 30

BS Manufacturing Systems; BS Mechanical; BS Engineering Management: Chemistry 1A; Engineering 1, 9; Math 190, 191, 220, 270; Physics 1A, 1C

BS Computer: Computer Science 1, 2; Math 190, 191, 220, 270; Physics 1A, 1C; 6 units from: Biology 101, 102, Chemistry 1A, 1B, Physics 1D

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA (CPP) (2015-2016)

BS Aerospace Engineering: Math 190, 191, 220, 270; Physics 1A, 1B, 1C; Engineering 9; Chemistry 1A

BS Chemical Engineering: Chemistry 1A, 1B; Math 190, 191, 220, 270; Engineering 9

BS Civil Engineering: Chemistry 1A, 1B; Physics 1A, 1B, 1C; Engineering 9; CADD 7; Math 190, 191, 220, 270

Options: **BS Environmental:** add Engineering 1

BS Geospatial: does not require Chemistry 1B

BS Computer: Chemistry 1A; Math 190, 191, 220, 270; Physics 1A, 1B, 1C

BS Electrical Engineering: Chemistry 1A; Math 190, 191, 220, 270; Physics 1A, 1B, 1C

BS Industrial: Chemistry 1A, 1B; Physics 1A, 1B, 1C; Engineering 9; Economics 1 or 2 or 5; Math 190, 191, 220, 270; CADD 5 or ETEC 12

BS Manufacturing: Chemistry 1A, 1B; Engineering 9; Economics 1 or 2 or 5; Math 190, 191, 220, 270; CADD 5 or ETEC 12; ETEC 16; Physics 1A, 1B, 1C

BS Mechanical: Chemistry 1A; Economics 1 or 2 or 5; ETEC 12 or CADD 5; Engineering 9; Math 190, 191, 220, 270; Physics 1A, 1B, 1C

CALIFORNIA POLYTECHNIC UNIVERSITY, SAN LUIS OBISPO (SLO) (2015-2016)

BS Aerospace Engineering: support courses: Chemistry 1A; Math 190, 191, 220, 270; Engineering 9; Physics 1A, 1B, 1C, 1D;

BS Biomedical Engineering: Chemistry 1A, 1B, 7A, 7B; Microbiology 33; support courses: Biology 102; Math 190, 191, 220, 270; Engineering 9; Physics 1A, 1B, 1C, 1D

BS Civil Engineering: support courses: Chemistry 1A, 1B; Geology 1; Math 190, 191, 220, 270; Engineering 9; Physics 1A, 1B, 1C, 1D

BS Computer Engineering: Computer Science 1 or 3 and 30; support courses: Chemistry 1A; Math 190, 191, 220, 270; Physics 1A, 1B, 1C, 1D; electives: Engineering 9; or Chemistry 1B

BS Electrical Engineering: support courses: Chemistry 1A; Computer Science 1 or 3; Math 190, 191, 220, 270; Physics 1A, 1B, 1C, 1D; electives: Biology 10; Chemistry 1B; Chemistry 21A, 21B; Computer Science 30; Engineering 9

BS Environmental Engineering: support courses: Chemistry 1A, 1B; Chemistry 21A, 21B; Math 190, 191, 220, 270; Microbiology 33; Engineering 9; Physics 1A, 1B, 1C, 1D

BS General Engineering: Computer Science 1 or 3; Computer Science 30; Engineering 9; support courses: Chemistry 1A, 1B; Math 190, 191, 220, 270; Physics 1A, 1B, 1C, 1D; electives: Geology 1, 3;

BS Industrial Engineering: Chemistry 1A; Math 190, 191, 220, 270; Engineering 9; Physics 1A, 1B, 1C, 1D; Psychology 5

BS Manufacturing Engineering: support courses: Chemistry 1A, 1B; Math 190, 191, 220, 270; Engineering 9; Physics 1A, 1B, 1C, 1D

BS Materials Engineering: electives: Law 5; Chemistry 1A, 1B, 7A, 7B; Economics 2; support courses: Math 190, 191, 220, 270; Engineering 9; Physics 1A, 1B, 1C, 1D

BS Mechanical Engineering: Engineering 9; support courses: Chemistry 1A, 1B; Math 190, 191, 220, 270; Physics 1A, 1B, 1C, 1D

BS Software Engineering: Computer Science 1 or 3; Computer Science 30; electives: Chemistry 7A, 7B; Math 270; Engineering 9; support courses: Biology 10 or 102 or 8 or Microbiology 33; Math 190, 191, 220, 270; Psychology 5; one series: Chemistry 1A and 1B or Physics 1A, 1B, 1C and 1D

BS BioResource and Agricultural Engineering: CADD 5, 7; Microbiology 33; Economics 1 or 5; Chemistry 1A, 1B; Engineering 9; Math 190, 191, 220, 270; Physics 1A, 1B, 1C, 1D

UNIVERSITY OF CALIFORNIA, BERKELEY (UCB) (2015-2016)

Core Courses required of all majors: English 1A and 1B; Math 190, 191, 220, 270; Physics 1A, 1B, 1C; Chemistry 1A

BS Bioengineering: add Biology 101, 102, 103; Chemistry 1B, 7A; recommended Chemistry 7B; select two CS 2 and 30 or Math 210

BS Chemical: add Biology 101, 102, 103; Physics 1D, Chemistry 1B, 7A, 7B; accept English 1B or 1C

BS Chemical/Materials Science and Engineering: add Chemistry 1B, 7A, 7B; Biology 101, 102, 103; Physics 1D; does not require English 1B or 1C

BS Chemical/Nuclear: add Chemistry 1B; Physics 1D; does not require English 1B

BS Civil: add Chemistry 1B or Physics 1D; Biology 101, 102, 103

BS Electrical Engineering: recommended Computer Science 2, 30; one course or course sequence from list: Biology 101, 102, 103; Chemistry 1A, 1B, 7A, 7B; Physiology 31; Physics 1D

Energy Engineering: elective Chemistry 1B or Physics 1D; recommended Computer Science 2, 30

Engineering Physics: add Chemistry 1B or 1A; Physics 1D; recommended Computer Science 2, 30; electives Chemistry 7A; Biology 101, 102, 103

Environmental: add three science electives from Chemistry 1B, 7A, 7B; Biology 101, 102, 103; Geology 1 and 3 or 2 and 4; Physics 1D

Industrial Engineering and Operations Research: add Computer Science 30

Materials Science and Engineering: add Chemistry 1B; Physics 1D; Chemistry 7A, 7B, Biology 101 and 102 and 103 or Physiology 31

Mechanical: add Biology 101, 102 and 103 or Chemistry 7A, or Physiology 31, Physics 1D (one of the following is required)

Mechanical/Nuclear: add Physics 1D

Nuclear: add Physics 1D; Chemistry 1B, 7A, Physiology 31, Biology 101, 102, 103

NOTE: Major specific admissions requirements, please visit:

<http://engineering.berkeley.edu/academics/undergraduate-guide>

UNIVERSITY OF CALIFORNIA, IRVINE (UCI) (2015-2016)

General Engineering: Math 190, 191, 220, 270; Physics 1A, 1C; Computer Science 1 or 30; Chemistry 1A, 1B

Aerospace: Math 190, 191, 220, 270; Physics 1A, 1B, 1C, 1D; Chemistry 1A; Computer Science 1 or 30; Engineering 9; one course from: Anatomy Physiology 34A, 34B, Anatomy 30, 32, Biology 8, 10, 11, 15, 16, 101, 102, 103, Chemistry 1B, 20, 21A, 7A, 7B, Microbiology 33, Ocean 10, Physical Science 25, Physiology 31, Psychology 7, Physics 2A, 3A, or Physics 11 and 12, Anthropology 1 and 5, Astronomy 20 or 25 and 12, Biology 17 and 18, Geography 1 and 6, Geology 1 and 3, 32, 34 or 36, Geology 2 and 4, 15

Biomedical: Math 190, 191, 220, 270; Physics 1A, 1B, 1C, 1D; Chemistry 1A, 1B; Math 150, Psychology 9A or Sociology 109

Biomedical, Premedical: Math 190, 191, 220, 270; Physics 1A, 1B, 1C, 1D; Chemistry 1A, 1B, 7A, 7B, 21B; Biology 103

Chemical: Math 190, 191, 220, 270; Chemistry 1A, 1B, 7A, 7B, 21B; Physics 1A, 1C; Computer Science 1 or 30; Biology 103

Civil: Math 190, 191, 220, 270; Physics 1A, 1C; Chemistry 1A, 1B; Engineering 9; Economics 1, 2; select one course from:

Biology 101 and 102; Oceanography 10; Geology 1

Computer: Math 190, 191, 220, 270, 210; Physics 1A, 1B, 1C, 1D; Computer Science 2, 3, 30

Computer Science and Engineering: Math 190, 191, 220, 270, 210; Physics 1A, 1C; Computer Science 2, 3, 30

Electrical: Math 190, 191, 220, 270, 210; Physics 1A, 1B, 1C, 1D; Computer Science 1 or 30; Chemistry 1A

Environmental: Math 190, 191, 220, 270; Physics 1A, 1C; Chemistry 1A, 1B, 7A; Engineering 9; Economics 1, 2; electives Biology 101, 102

Materials Science: Math 190, 191, 220, 270, 210; Physics 1A, 1B, 1C, 1D; Computer Science 1 or 30; Chemistry 1A, 1B; Engineering 9

Mechanical: Math 190, 191, 220, 270; Physics 1A, 1B, 1C, 1D; Chemistry 1A; Computer Science 1 or 30; Engineering 9; one course from: Anatomy Physiology 34A, Anatomy 32, Biology 8, 10, 11, 15, 16, 101, 102, 103, Chemistry 1B, 20, 21A, Microbiology 33, Ocean 10, Physical Science 25, Physiology 31, Psychology 7, Physics 2A, 3A, or Physics 11 and 12, Anthropology 1 and 5, Astronomy 20 or 25 and 12, Biology 17 and 18, Geography 1 and 6, Geology 1 and 3, 32, 34 or 36, Geology 2 and 4

UNIVERSITY OF CALIFORNIA, RIVERSIDE (UCR) (2015-2016)

NOTE: Check ASSIST.org for specific GE courses

Bioengineering: Math 190, 191; Chemistry 1A, 1B; Biology 102; complete two: Biology 101 or Biology 8 and 11; Physics 1A, 1B, 1C or 1D; recommended Biology 101 or Biology 8 and 11; Chemistry 7A, 7B; Computer Science 1; Math 220, 270; Physics 1A, 1B, 1C

Chemical: Chemistry 1A, 1B; Math 190, 191; Physics 1A; complete two: Biology 102; Physics 1B, 1C; Chemistry 7A and 7B; recommended Biology 102; Chemistry 7A, 7B; Computer Science 1; Math 220, 270; Physics 1B, 1C

Option: **BS Biochemical; BS Nanotechnology:** no additional requirements

Computer: Math 190, 191, 210; Computer Science 1, 30; Physics 1A, 1B, 1C; recommended Computer Science 2; Math 220, 270; Biology 10 or 102

BS Electrical: Computer Science 1; Math 190, 191; Physics 1A; complete three: Computer Science 30; Math 220, 270; Physics 1B, 1C; recommended Chemistry 1A; Math 220, 270; Computer Science 30; Physics 1B, 1C; Biology 10 or 102

BS Materials Science: Chemistry 1A, 1B; Math 190, 191; select three: Physics 1A, 1B, 1C; Math 220, 270; Chemistry 7A; recommended Biology 10 or 102; Physics 1A, 1B, 1C; Math 220, 270; Computer Science 1; Engineering 9; Chemistry 7A

BS Mechanical Engineering: Chemistry 1A, 1B; Math 190, 191; Physics 1A; select three: Biology 102; CADD 7 or 5; Engineering 9; Physics 1B, 1C; recommended Biology 102; Math 220, 270; CADD 7 or 5; Engineering 9; Physics 1B, 1C

BS Environmental: Chemistry 1A, 1B; Math 190, 191; Physics 1A; complete two: Biology 102; Chemistry 7A and 7B; Physics 1B, 1C; recommended Biology 102; Chemistry 7A, 7B; Math 220, 270; Computer Science 1; Engineering 9; Physics 1B, 1C

Option: **BS Air Pollution Control Technology; BS Water Pollution Control Technology:** no additional requirements

UNIVERSITY OF CALIFORNIA, SAN DIEGO (UCSD) (2015-2016)

NOTE: Major specific admissions requirements, please visit:

<http://admissions.ucsd.edu/MajorPrep>

Core Courses required of all majors: Math 190, 191, 220, 270; Physics 1A, 1B, 1C; Chemistry 1A

Aerospace: no additional coursework

Bioengineering: add Chemistry 1B; Biology 101, 102;

Option: **Biotechnology:** add Chemistry 1B, 7A, 7B

Bioinformatics: add Chemistry 1B, 7A, 7B; Computer Science 2, 3;

BioSystems: does not require Biology 101, 102

Chemical: add Chemistry 1B

Computer: add Computer Science 2, 3, Math 210

Electrical Engineering and Society: add Physics 1D

Electrical: add Physics 1D

Engineering Physics: add Physics 1D

Environmental: add Chemistry 1B

Mechanical: add Chemistry 1B

Nano: add Physics 1D; Chemistry 1B; Biology 101, 102

Structural: no additional requirements

Structural Engineering Sciences: no additional requirements

UNIVERSITY OF CALIFORNIA, SANTA BARBARA (UCSB) (2015-2016)

Core Courses required of all majors: Math 190, 191, 220, 270; Physics 1A, 1B, 1C, 1D; Chemistry 1A

Chemical: add Chemistry 1B, 7A, 7B

Computer: add Computer Science 1, 2, 30; Math 210

Electrical: add Computer Science 1, 2

Mechanical: add Chemistry 1B; Engineering 9

UNIVERSITY OF CALIFORNIA, LOS ANGELES (UCLA)

See transfer planning guide for **UCLA Henry Samueli School of Engineering and Applied Science**

LOYOLA MARYMOUNT UNIVERSITY (LMU) (2015-2016)

Core Courses required of all majors: Chemistry 1A; Math 190, 191, 220, 270; Physics 1A, 1C; Engineering 9

BS Civil: Engineering 9

BS Electrical: Engineering 9

Option: **BS Computer Science:** add Computer Science 2, 3 or 4

BS Engineering Physics: no additional coursework

BS Mechanical: Engineering 9

UNIVERSITY OF SOUTHERN CALIFORNIA (USC)

See transfer planning guide for **USC Viterbi School of Engineering**