



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; Biology 10

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

BS Electrical: add Physics 1D; Computer Science 1

BS Civil: add Chemistry 4; Engineering 9

BS Mechanical: add Chemistry 1A; Engineering 9

BS Architectural: add Chemistry 1A; Engineering 9

BS Manufacturing: 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, 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, 220 or 270; Physics 1A, 1B, 1C; Computer Science 2, 3; Engineering 1; Biology 10 or Chemistry 1A or Physics 1D

BS Construction Engineering Management: Physics 2A and 2B or 3A and 3B or 1A and 1C; CEM 201 or Accounting 201 at CSULB or Business 1A at ECC; 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 with 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, Computer Science 10

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, 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; Physics 1A, 1B, 1C

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

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, and 2 or 5; CADD 5 or ETEC 12

BS Manufacturing: Chemistry 1A, 1B; Engineering 9; Economics 1 and 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 and 2 or 5; ETEC 12 or CADD; 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;

Options: **BS Aeronautics:** no additional coursework

BS Astronautics: no additional coursework

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

Option: **BS Bioinstrumentation:** no additional coursework

BS Mechanical Design: no additional coursework

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

Option: **BS Heating, Ventilating, A/C & Refrigeration; BS Manufacturing; BS Mechatronics:** no additional coursework

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

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: add Physics 1D; recommended Computer Science 2, 30;

Option: **BS Computer Science:** add Chemistry 1B, 7A, 7B; Physiology 31

BS Computer Science/Materials Science & Engineering: no additional requirements

BS Computer Science/Nuclear: no additional requirements

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

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

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

BS Industrial Engineering and Operations Research: add Computer Science 30

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

BS Materials Science and Engineering/Mechanical: no additional requirements

BS Materials Science and Engineering/Nuclear: add Physics 1D

BS Mechanical: add Physics 1D; Biology 101, 102 and 103 or Chemistry 1B or Chemistry 7A, or Physiology 31

BS Mechanical /Nuclear: add Physics 1D

BS 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)

BS Aerospace: Math 190, 191, 220, 270; Physics 1A, 1B, 1C, 1D; Chemistry 1A; Computer Science 1 or 30; Engineering 9; one elective 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

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

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

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

BS Civil: Math 190, 191, 220, 270; Physics 1A, 1C; Chemistry 1A, 1B; Engineering 9; Economics 1, 2; select from: Biology 101 and 102; Oceanography 10; Geology 1

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

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

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

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

BS Mechanical: Math 190, 191, 220, 270; Physics 1A, 1B, 1C, 1D; Chemistry 1A; Computer Science 1 or 30; Engineering 9; one elective 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

BS 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

BS 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

BS 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

BS Aerospace: no additional coursework

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

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

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

BS BioSystems: does not require Biology 101, 102

BS Chemical: add Chemistry 1B

BS Computer: add Computer Science 2, 3

Option: **BS Computer Science:** add Math 210

BS Electrical Computer: no additional coursework

BA Electrical Engineering and Society: add Physics 1D; check Assist.org for additional coursework for areas of studies

BS Electrical: add Physics 1D

BS Engineering Physics: add Physics 1D

BS Environmental: add Physics 1D

BS Mechanical: add Chemistry 1B

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

BS Structural: 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

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

BS Computer: add Computer Science 1, 2, 30, 40; Math 210

BS Electrical: add Computer Science 1, 2, 40

BS 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: no additional courses

BS Electrical: no additional courses

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

BS Engineering Physics: add Physics 1D

BS Mechanical: no additional courses

UNIVERSITY OF SOUTHERN CALIFORNIA (USC)

See transfer planning guide for USC Viterbi School of Engineering