CERRITOS COLLEGE
ENGINEERING
TRANSFER PREPARATION

IMPORTANT NOTICE: The requirements listed for the major are subject to change without notice. It is the student's responsibility to check for the most recent information with a Cerritos College counselor or by consulting ASSIST at www.assist.org. Note: Courses listed may require prerequisite coursework.

COMMON LOWER DIVISION PREPARATION FOR MOST COLLEGES OF ENGINEERING (CORE)		**UNITS**
CHEM 111	General Chemistry	5
MATH 170	Analytic Geometry and Calculus I	4
MATH 190	Analytic Geometry and Calculus II	4
MATH 225	Calculus III	5
PHYS 201	Engineering Physics	4
PHYS 202	Engineering Physics	4

Schools of engineering have similar basic science requirements but differ widely in the preparation for the various engineering options available. Provided below are the additional major requirements for the following engineering options: Civil Engineering, Electrical Engineering and Mechanical Engineering. Other Engineering options are available. Contact a Cerritos engineering counselor for the specific requirements of the school and option you have selected in order to optimize preparation.

ADDITIONAL REQUIREMENTS
California State University - Long Beach
For admissions to CSULB with one of the below engineering options students will be required to have a minimum GPA of 2.5 and the following lower division major preparation: MATH 170, MATH 190 and PHYS 201. These requirements must be completed by the end of spring for fall admissions and summer for spring admissions. Please note Electrical Engineering does not require CHEM 111.

CIVIL ENGINEERING		
ENGR 110	Introduction to Engineering	1
ENGR 112	Engineering Graphics	3
ENGR 235	Statics	3
BIOL 120	Introduction to Biological Science	4
or MICR 200	Principles and Applications of Microbiology	(5)

ELECTRICAL ENGINEERING		
ENGR 110	Introduction to Engineering	1
ENGR 215	Engineering Electric Circuits	3
ENGR 215L	Circuits Laboratory	1
PHYS 203	Engineering Physics	4

*Chemistry 111 is not required for this major.

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California State University - Long Beach (cont.)

MECHANICAL ENGINEERING

ENGR 110	Introduction to Engineering	1
ENGR 235	Statics	3

(CSULB) Offers nine B.S. degrees: Aerospace, Chemical, Civil, Computer, Computer Science, Construction Engineering Management, Electrical, Mechanical, and General Engineer with options in: Audio, Biomedical and Clinical, Industrial Management, Materials, and Theme Park.

California State University – Fullerton

Offers four options: Electrical, Civil, Computer and Mechanical.

CIVIL ENGINEERING

ENGR 235	Statics	3
MATH 250	Linear Algebra and Differential Equations	5

ELECTRICAL ENGINEERING

CIS 180	Programming in C/C++	3
CIS 280X	Object-Oriented Programming in C++	3.5
CIS 292	Data Structures	3
ENGR 215	Engineering Electric Circuits	3
ENGR 215L	Circuits Laboratory	1
MATH 250	Linear Algebra and Differential Equations	5
PHYS 203	Engineering Physics	4

*Chemistry 111 is not required for this major.

MECHANICAL ENGINEERING

ENGR 112	Engineering Graphics	3
ENGR 215	Engineering Electric Circuits	3
ENGR 215L	Circuits Laboratory	1
ENGR 235	Statics	3
ENGT 131	Design Fundamentals Including Solid Modeling	3
MATH 250	Linear Algebra and Differential Equations	5

California State University – Pomona

For admissions to Cal Poly Pomona with one of the above Engineering options students will be required to have at minimum MATH 170 and MATH 190 completed by the end of spring before fall transfer.

CIVIL ENGINEERING

ENGT 138	AutoCAD	3

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California State University – Pomona (cont.)

ENGR 235	Statics	3
ENGR 245	Strength of Material	3
MATH 250	Linear Algebra and Differential Equations	5

ELECTRICAL ENGINEERING

BIOL 120	Introduction to Biological Science	4
ENGR 215	Engineering Electric Circuits	3
ENGR 215L	Circuits Laboratory	1
MATH 250	Linear Algebra and Differential Equations	5

MECHANICAL ENGINEERING

ECON 201	Principles of Macroeconomics	3
or ECON 201M	Principles of Macroeconomics	(3)
or ECON 202	Principles of Microeconomics	(3)
or ECON 202M	Principles of Microeconomics	(3)
ENGR 235	Statics	3
ENGR 240	Dynamics	3
ENGR 245	Strength of Material	3
MATH 250	Linear Algebra and Differential Equations	5

(CSUP) Engineering school departments: Aerospace, Chemical, Civil, Computer, Construction Engineering and Management, Electrical, Electromechanical Systems Engineering Tech, Electronic Systems Engineering Tech, Industrial, Manufacturing, Mechanical.

UC Transfer Pathways

If you're starting out at a California community college and know which major you want to study but haven't decided which UC campuses to apply to, you can follow the UC Transfer Pathways to keep your options open as you prepare for your major. These Pathways provide a single set of courses you can take to prepare for your major on any of the nine UC undergraduate campuses. The pathways guide students who want to make themselves competitive across the UC system; some UC campuses may want fewer courses for admission, but none will expect more. Here is the link: **http://pathwaysguide.universityofcalifornia.edu/college-pathways/0/0.**

University of California - Berkeley

NOTE: Only applicants who have completed 100% of these required courses (common courses and those listed below) by spring for fall admissions will be considered for admission to any of the Engineering programs at UC Berkeley. IGETC (plan C) is not recognized by the College of Engineering.

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University of California – Berkeley (cont.)

CIVIL ENGINEERING

BIOL 200	Principles of Biology	5
or CHEM 112	General Chemistry	5
ENGL 100	Freshman Composition	5
ENGL 102	Freshman Composition and Literature	5
MATH 250	Linear Algebra and Differential Equations	4
ENGR 245	Strength of Materials (strongly recommended)	3

ELECTRICAL ENGINEERING & COMPUTER SCIENCE

ENGL 100	Freshman Composition	5
ENGL 102	Freshman Composition and Literature	5
MATH 250	Linear Algebra and Differential Equations	4

One course or course series required for admissions. Choose from list below.

A&P 201	Human Physiology	5
BIOL 200	Principles of Biology	(5)
BIOL 201	Principles of Biology	(5)
CHEM 111*	General Chemistry	(5)
CHEM 112	General Chemistry	(5)
CHEM 211	Organic Chemistry	(5)
and CHEM 112	General Chemistry	(5)
PHYS 203	Engineering Physics	(4)

*CHEM 111 is not a required course for this major but can be used to meet the natural science requirement for transfer as well as a common course for the AA degree requirements.

MECHANICAL ENGINEERING

ENGL 100	Freshman Composition	5
ENGL 102	Freshman Composition and Literature	5
MATH 250	Linear Algebra and Differential Equations	4

One course or course series required for admissions. Choose from list below.

A&P 201	Human Physiology	5
BIOL 200	Principles of Biology	(5)
BIOL 201	Principles of Biology	(5)
CHEM 112	General Chemistry	(5)
CHEM 211	Organic Chemistry	(5)
and CHEM 212	Organic Chemistry	(5)
PHYS 203	Engineering Physics	(4)

CERRITOS COLLEGE
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University of California – Berkeley (cont.)

Strongly recommended courses (not required for admissions)		
ENGR 112	Engineering Graphics	3
ENGR 245	Strengths of Materials	3

(CAL) Offers Bachelor's degree in the following: Bioengineering, Chemical, Civil, Electrical & Computer Science, Energy, Engineering Math & Statistic, Engineering Physics, Environmental, Industrial Engineering & Operations Research, Material Science and Engineering, Mechanical, and Nuclear.

University of California – Los Angeles

PLEASE NOTE: Engineering at UCLA is highly competitive. The most important selection criteria are major preparation and academic performance. A minimum transfer GPA of 3.4 and completion of all major preparation listed under the common preparation and the courses below by spring term prior to fall enrollment is required for admissions consideration. All major courses must be taken for a letter grade and UCLA specifies that the entire Physics sequences should be completed at one community college.

CIVIL ENGINEERING

CHEM 112	General Chemistry	5
CIS 180	Programming in C/C++	3
or CIS 280X	Object-Programming in C/C++	(3.5)
ENGL 100	Freshman Composition	4
and ENGL 102	Freshman Composition and Literature	3
or ENGL 103	Critical and Argumentative Writing	(3)
or PHIL 103	Philosophical Reasoning: Critical Thinking in Philosophy	(3)
or PSYC 103	Critical Thinking in Psychology	(3)
or COMM 103	Argumentation, Persuasion and Critical Thinking	(3)
MATH 250	Linear Algebra and Differential Equations	5
PHYS 203	Engineering Physics	4
Strongly recommended (civil and Mechanical engineering option only)		
ENGR 235	Statics	3
ENGR 245	Strength of Materials	3

MECHANICAL ENGINEERING

Same as common requirements and the requirements for Civil Engineering. Mechanical Engineering also strongly recommends completion of ENGR 215 and 112.

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University of California – Los Angeles (cont.)
ELECTRICAL ENGINEERING
Same as common requirements and the requirements for Civil and Mechanical Engineering minus CHEM 112. Electrical Engineering strongly recommends completion of CIS 292.
(UCLA) Offers Bachelor's degree in the following: Aerospace, Bioengineering, Chemical, Civil, Computer, Computer Science and Engineering, Electrical, Materials, and Mechanical.

University of California – Irvine
(UCI) Offers Bachelor's Degree in Engineering with the following options: Aerospace, Biomedical, Chemical, Civil, Computer, Computer Science and Engineering, Electrical, Environmental, Materials Science, Mechanical, and Software.

University of California – Riverside
(UCR) Offers Bachelor's Degree in Engineering with the following options: Bioengineering, Chemical, Computer, Electrical, Environmental, Material Science, and Mechanical.

Loyola Marymount University
(LMU) Offers B.S. Degrees in: Civil Engineering, Civil with an Environmental Engineering emphasis, Electrical Engineering, Electrical with a Computer Engineering emphasis, Mechanical.
For Articulation Agreements go to:
http://www3.lmu.edu/resources/articulation/list/cerritos.htm.

University Of Southern California
(USC) Offers B.S. Degrees in: Aerospace Engineering, Applied Mechanics, Biomedical Engineering, Chemical Engineering, Civil Engineering, Computer Engineering and Computer Science, Computer Science, Electrical Engineering, Environmental Engineering, Industrial and Systems Engineering, Mechanical Engineering.
For Articulation Agreements go to: https://www.usc.edu/articulation

CAREER OPPORTUNITIES:
Career opportunities in engineering vary widely depending upon the area of specialization. The Cerritos Career Center provides current and comprehensive career information concerning each engineering discipline. Because engineering is a high unit professional major, the schools of engineering may require special general education classes. Contact a Cerritos engineering counselor for specific information.

See State University General Education List.

ASSIST

How to use **ASSIST** to find your major preparation for CSU/UC:

1. **Log on:** www.assist.org
2. **Select an Institution:** select “Cerritos College” or other community college from pull-down menu
3. **Select:** “Type of Transfer Institution” such as “UC Los Angeles”
4. ***Select a major from pull-down menu***
   Report will show the university courses on the left and comparable community college classes on the right.
5. **PRINT:** -print by clicking on gold “PRINT THIS REPORT” button on top. Then use the ASSIST screen menu on the top toolbar or click on the printer icon that will appear at the bottom of the page.

How to use ASSIST to figure out whether courses from the community college are transferable to the CSU/UC.

- Select the community college of interest (Cerritos College)
- Select either CSU transferable courses or UC Transferable courses
- Select a department for the courses in question

*USC Articulation available at:
www.usc.edu/articulation and **Select:** “Transfer Planning Guide”.

IMPORTANT:
Students are advised to contact a Cerritos College counselor for more information & for details regarding other transfer agreements & options not available on ASSIST.