



Curriculum for B.S. Degree in Civil Engineering

122 units (Effective Fall 2026 Semester Term)

This Civil Engineering curriculum can be found on the [Cal State LA Catalog](#).

Students on this Civil Engineering curriculum will follow the 2025 General Education Program and also includes the major courses which cover [GE Requirements](#).

General Education

Lower Division General Education Requirements

Area 1 English Communication				
1A English Composition	ENGL 1010	Must attain C- or higher		3
1B Critical Thinking	<i>Met in major by multiple courses</i>	Must attain C- or higher		
1C Oral Communication	COMM 1100	Must attain C- or higher		3
Area 2 Mathematical Concepts and Quantitative Reasoning				
	<i>Met in major (Math 2110)</i>			
Area 3 Arts and Humanities				
3A Arts	Refer to GE catalog for course choice			3
3B Humanities	<i>Met in major (ENGR 3010)</i>			
Area 4 Social and Behavioral Sciences				
Social & Behavioral Sciences	<i>Met in major (CE 3000)</i>			
Area 5 Physical and Biological Sciences				
5A Physical Sciences	<i>Met in major (PHYS 2100)</i>			
5B Biological Sciences	<i>Met in major (CE 3840)</i>			
5C Laboratory	<i>Met in major (CHEM 1040)</i>			
Area 6 Ethnic Studies				
	Refer to GE catalog for course choice			3

Upper Division General Education Requirements (9 units, all met in major)

Area 2 or 5 Mathematical Concepts & Quantitative Reasoning or Physical & Biological Sciences	<i>Met in major (CE 3740)</i>
Area 3 Arts and Humanities	<i>Met in major (CE 3060 and CE 4970)</i>
Area 4 Social Sciences	<i>Met in major (CE 3060 and CE 4970)</i>

University Requirements

American Institutions (6 units)				
US History	Refer to GE catalog for course choice			3
U.S. Constitutional and State/Local Government	Refer to GE catalog for course choice			3
Diversity (6 units)	<i>Complete GEs with a (d) or (re) tag. At least one course must have an (re) tag.</i>			
Civic Learning/ Community Engagement (3 units)	<i>Met in major (CE 3060 and CE 4970)</i>			
Writing Intensive (6 units)	<i>Met in major (CE 3060 and CE 4970)</i>			
Introduction to Higher Education	ENGR 1500			2

Major Requirements (102 units)*

**Lower, Upper, and Elective Requirements*

Lower Division Major Requirements (44 units)

CE 1010	Introductory Mathematics and Mechanics for Engineering Applications	<i>Co or Prerequisites: Math 1040 or 1083 or 2110; or scored satisfactorily on a math placement exam.</i>	4
CE 1900	Introduction to Computer Aided Design for Civil Engineers	<i>Prerequisites: None</i>	1
CHEM 1040	General Chemistry for Engineers	<i>Prerequisites: Engineering major; completion of GE B4 or on Math Placement Category I or II</i>	4
MATH 2110	Calculus I	<i>Prerequisites: Graded C or better in either MATH 1040 or (MATH 1081 and MATH 1083) or (MATH 1082 and MATH 1083) or (ESM 1082 and MATH 1083); or scored satisfactorily on a math placement examination.</i>	4

MATH 2120	Calculus II	<i>Prerequisites: Graded C or higher in MATH 2110; Corequisite(s): MATH 2121 if MATH 2110 is graded less than B-.</i>	4
MATH 2130	Calculus III	<i>Prerequisite: MATH 2120 with a minimum C grade; Corequisite: Students with a grade of less than B- in MATH 2120 must enroll concurrently in MATH 2131</i>	3
MATH 2190	Differential Equations and Linear Algebra	<i>Prerequisite: MATH 2120 with C or better</i>	3
PHYS 2100	General Physics I: Mechanics	<i>Prerequisites: MATH 2110 or CE 1010 or ME 1070 or EE 1070, with a grade of C or better. Corequisite(s): PHYS 2101 if (MATH 2110 or CE 1010 or ME 1070 or EE 1070) grade is less than B-.</i>	4
CE/ME 2010	Statics	<i>Prerequisites: MATH 2120, PHYS 2100 both with a grade of C or better.</i>	3
CE 2020	Plane Surveying	<i>Prerequisites: MATH 1040; or (MATH 1081 and MATH 1083); or (MATH 1082 and MATH 1083).</i>	2
CE/ME 2050	Strength of Materials I	<i>Prerequisites: CE/ME 2010 with a grade of C or better.</i>	3
CE/ME 2800	Numerical Methods for Engineers I	<i>Prerequisite: MATH 2110 with grade C or better</i>	1
CE 2840	Environmental Engineering I	<i>Prerequisites: CHEM 1040</i>	1
CE 2900	Fundamentals of Civil Engineering Design	<i>Prerequisites: CE 1900 and CE 2020</i>	1
ENGL 2030	Introduction to Technical Writing	<i>Prerequisites: ENGL 1010</i>	3

Natural Science Special Requirement for Civil Engineering (3 units)

One Course (3 units) from the following list

BIOL 1010	General Biology	<i>Prerequisites: None</i>	3
MICR 1010	Introduction to Microbiology	<i>Prerequisites: None</i>	3
GEOL 1500	Earth Revealed	<i>Prerequisites: None</i>	3
GEOL 1550	Oceanography	<i>Prerequisites: None</i>	3
GEOL 1580	Natural Disasters	<i>Prerequisites: None</i>	3

Upper Division Major Requirements (48 units)

CE/ME/EE 3000	Economics for Engineers	<i>Prerequisite: Junior or senior standing in civil engineering.</i>	3
ENGR 3010	Ethics and Professionalism in Engineering	<i>Prerequisite: Junior or senior standing in civil engineering.</i>	3
CE/ME 3030	Fluid Mechanics I	<i>Prerequisites: CE/ME 2010 with a grade of C or better.</i>	3
CE 3060	Communication for Civil Engineers	<i>Prerequisites: ENGL 2030 and ENGR 3010; Must attain C or higher to meet the GEAR; wi, cl</i>	2
CE/ME 3120	Strength of Materials Laboratory I	<i>Prerequisite: CE/ME 2050</i>	1
CE 3140	Hydraulics Laboratory I	<i>Prerequisites: CE/ME 3030</i>	1
CE 3200	Dynamics for Civil Engineers	<i>Prerequisites: CE/ME 2010 and PHYS 2100 all graded with C or better</i>	3
CE 3600	Structural Mechanics I	<i>Prerequisites: CE/ME 2050 with a grade of C or better.</i>	3
CE 3610	Introduction to Structural Design	<i>Prerequisites: CE 2900, CE 3200, CE 3600.</i>	3
CE 3650	Fundamentals of Construction Management	<i>Prerequisite: Junior or senior standing in civil engineering.</i>	3
CE 3660	Geotechnical Engineering I	<i>Prerequisites: CE/ME 2050 with a grade of C or better; pre- or co-requisite: CE/ME 3030.</i>	3
CE 3680	Geotechnical Engineering Laboratory	<i>Prerequisites: CE 3660, CE/ME 3120.</i>	1
CE 3700	Transportation Engineering	<i>Prerequisites: CE 2020</i>	3
CE 3740	Civil Engineering Materials	<i>Prerequisites: CHEM 1040, CE 3120, and CE 3660.</i>	3
CE/ME 3800	Numerical Methods for Engineers II	<i>Prerequisites: CE/ME 2800 with a grade of C or better, MATH 2190</i>	2
CE 3840	Environmental Engineering II	<i>Prerequisites: CE 2840, MATH 2110</i>	3
CE 3860	Water Resources Engineering	<i>Prerequisites: CE/ME 3030</i>	3
CE 4220	Statistics and Data Analysis for Engineers	<i>Prerequisites: CE 2800 and senior standing in civil engineering</i>	3

Senior Design Requirements (2 units)

CE 4970	Civil Engineering Design Project	<i>Prerequisites: ENGR 3010, CE 3000, 3060, 3610, 3650, 3660, 3700, 3800, 3840, 3860. wi, cl</i>	2
---------	----------------------------------	--	---

Upper Division Technical Electives (10 Units)

Complete 10 units, with at least one course (3 units) from Design Electives (DE) and one course from Laboratory Electives.

Design Electives (3-9 units)

CE 4610	Design of Steel Structures	<i>Prerequisites: CE 3610</i>	3
CE 4620	Reinforced Concrete Design I	<i>Prerequisites: CE 3610</i>	3
CE 4630	Timber and Masonry Design	<i>Prerequisites: CE 3610</i>	3
CE 4650	Seismic Design	<i>Prerequisites: CE 3610</i>	3
CE 4670	Geotechnical Engineering Design I	<i>Prerequisites: CE 3660</i>	3
CE 4710	Highway Engineering	<i>Prerequisites: CE 2020, CE 3700</i>	3
CE 4720	Highway and Airport Pavement Design	<i>Prerequisites: CE 3680, CE 3700</i>	3
CE 4840	Environmental Engineering Design	<i>Prerequisite: CE 3840</i>	3

Lecture Electives (0-6 units)

CE 4020	Strength of Materials II	<i>Prerequisites: CE/ME 2050, MATH 2150</i>	3
CE 4540	Special Topics in Civil Engineering	<i>Prerequisites: Senior standing in civil engineering; approval of instructor</i>	1-3
CE 4560	Construction Project Planning, Scheduling, and Control**	<i>Prerequisites: CE 3650</i>	3
CE 4570	Construction Cost Estimation & Financial Management**	<i>Prerequisites: CE 3650</i>	3
CE 4600	Structural Mechanics II	<i>Prerequisites: CE 3600</i>	3
CE 4740	Traffic Engineering	<i>Prerequisites: CE 3700</i>	3
CE 4750	Advanced Geomatics	<i>Prerequisites: CE 2020, CE 3700</i>	3
CE 4790	Groundwater Contamination and Remediation	<i>Prerequisites: CE 3840.</i>	3
CE 4800	Environmental Modeling	<i>Prerequisites: CE 3840.</i>	3
CE 4810	Environmental Sustainability and Renewable Energy	<i>Prerequisites: Junior or Senior Standing and MATH 2110</i>	3
CE 4830	Hydrology I	<i>Prerequisites: CE/ME 3030</i>	3
CE 4870	Hydraulics I	<i>Prerequisites: CE/ME 3030</i>	3

**Note - Only one of these courses can be chosen.

Laboratory Electives (1 unit)

CE 3720	Asphaltic Materials Laboratory	<i>Prerequisites: CE/ME 3120</i>	1
CE 3810	Computer Aided Design Laboratory	<i>Prerequisites: CE/ME 3030, CE 3610, CE 3700</i>	1
CE 3820	Computer Aided Struct. Analysis, Design and Experimentation	<i>Prerequisites: CE/ME 3120, CE 3610</i>	1
CE 3900	Civil Engineering Design Through Competition	<i>Pre- or co-requisites: CE/ME2050</i>	3
CE 4140	Hydraulics Laboratory II	<i>Prerequisites: CE/ME 3140; prerequisite or co-requisite: CE 3860</i>	1
CE 4540L	Special Topics in Civil Engineering	<i>Prerequisites: Senior standing in civil engineering; enrollment subject to approval of instructor in charge.</i>	1
CE 4730	Pavement Design Laboratory	<i>Prerequisites: CE/ME 3120</i>	1
CE 4990	Undergraduate Directed Study	<i>Prerequisites: Senior standing in civil engineering.</i>	1-3