

Civil Engineering

LOWER-DIVISION TRANSFER PATTERN California State University (CSU) Statewide Pattern

The Lower-Division Transfer Pattern (LDTP) consists of the CSU statewide pattern of coursework outlined below, plus campus-specific coursework, bringing the total pattern to at least 60 but no more than 70 transferable semester units for students to complete at a California Community College (CCC).

The CSU statewide pattern of coursework for CCC students who plan to major in Civil Engineering at any CSU campus offering the major includes:

- Partial completion of lower-division general education requirements, following the CSU General Education Breadth pattern;
- Completion of the CSU graduation requirements in United States History, Constitution and American Ideals; and
- Completion additional semester units as specified below in (3) to (10).

Please note that the information here is an academic and curricular advising tool: a roadmap that enables transfer students to efficiently and effectively progress towards the CSU baccalaureate degree in a specified discipline. California Community College students should work closely with their advisers when planning their academic program in preparation for transfer to the CSU.

This information does not represent any guarantee with regard to admission nor does it include or replace CSU campus admissions impactation criteria (see <http://www.calstate.edu/AR/impactioninfo.shtml>). These curricular guidelines are subject to change.

CSU Statewide Pattern	Semester Unit Requirement
<p>(1) Complete the following lower-division general education requirements areas:</p> <ul style="list-style-type: none"> • A course that articulates with CSU GE Breadth AREA A1, Oral Communication. <u>And</u> • A course that articulates with CSU GE Breadth AREA A2, Written Communication. <u>And</u> • A course that articulates with CSU GE Breadth AREA B2, Life Science. <u>And</u> • A course that articulates with CSU GE Breadth AREA C, Arts, Literature, Philosophy, and Foreign Languages. <p><i>A minimum grade of C is required in courses used to meet CSU GE Breadth AREA A.</i></p>	<p>12 units for CSU GE Breadth</p>
<p>(2) Complete the graduation requirements in United States History, Constitution, and American Ideals.</p> <p>These are typically completed with one course each in American government and American history, or a sequence of courses that integrate the history and government topics.</p>	<p>6 units</p>
<p>(3) Complete the Single Variable Calculus Sequence.</p> <p><i>One of these courses is used to complete the CSU GE Breadth AREA B4 requirement.</i></p>	<p>8 units</p>
<p>(4) Complete at least <u>one</u> of the following:</p> <ul style="list-style-type: none"> • A course that articulates with Differential Equations and Linear Algebra [CAN MATH 24 and CAN MATH 26]. <u>Or</u> • Complete <u>all</u> of the following: <ul style="list-style-type: none"> ○ A course that articulates with Introduction to Linear Algebra [CAN MATH 26]. <u>And</u> ○ A course that articulates with Ordinary Differential Equations [CAN MATH 24]. 	<p>4-6 units</p>
<p>(5) Complete General Chemistry for Science Majors I, with Lab.</p>	

<i>This course is used to complete the CSU GE Breadth AREAS B1 and B3.</i>	
(6) Complete Physics – Calculus Based I [CAN PHYS 8].	3 units
(7) Complete Physics – Calculus Based II [CAN PHYS 12].	3 units
(8) Complete Vector Statics [CAN ENGR 8].	2 units
(9) Complete Surveying, with Lab [CAN ENGR 10].	3 units
(10) Complete Graphics with CAD.	1 unit
Total Semester Units Required for Statewide LDTP Pattern	42-45 units

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
CSU Bakersfield Campus-Specific Pattern**

This campus does not have a major, concentration, or option in Civil Engineering.

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
CSU Channel Islands Campus-Specific Pattern**

This campus does not have a major, concentration, or option in Civil Engineering.

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
CSU Chico Campus-Specific Pattern**

In addition to the statewide pattern, the following is the CSU Chico campus-specific pattern:

Campus-Specific Pattern	Semester Unit Requirement
(1) If not taken as part of the statewide pattern complete the following: <ul style="list-style-type: none"> • A course that articulates with CSU GE Breadth AREA D, Social, Political and Economics Institutions and Behavior Historical Background. <u>And</u> • A course that articulates with [CSUC NSCI 102], Biological Science. <i>This course will be used to satisfy CSU GE Breadth AREA B2.</i> 	0-3 units 0-3 units
(2) The following additional units are allowed for: <ul style="list-style-type: none"> • <u>One</u> additional unit in a course that articulates with [CSUC PHYS 204A], Physics (Calculus Base I). <u>And</u> • <u>One</u> additional unit in a course that articulates with [CSUC PHYS 204B], Physics (Calculus Based II). <u>And</u> • <u>One</u> additional unit in a course that articulates with [CSUC CIVL 211], Vector Statics. <u>And</u> • <u>One</u> additional unit in a course that articulates with [CSUC CIVL 110], Graphics with CAD. 	0-1 units 0-1 units 0-1 units 0-1 units
(2) If not taken as part of the statewide pattern complete at least <u>one</u> of the following: <ul style="list-style-type: none"> • A course that articulates with [CSUC MECH 210], Engineering Materials. <u>Or</u> • A course that articulates with [CSUC EECE 211], Circuits w/out Lab. 	0-3 units
(3) If not taken as part of the statewide pattern complete at least <u>one</u> of the following: <ul style="list-style-type: none"> • A course that articulates with [CSUC MATH 220], Calculus, 3rd Semester. <u>Or</u> • A course that articulates with [CSUC MATH 105], Introduction to Statistics. <u>Or</u> • A course that articulates with [CSUC MATH 235], Introduction to Linear Algebra. 	0-3 units
(4) If not taken as part of the statewide pattern complete at least <u>one</u> of the following: <ul style="list-style-type: none"> • A course that articulates with [CSUC CHEM 112], General Chemistry with Lab for Science Majors, 2nd Semester. <u>Or</u> • A course that articulates with [CSUC BIOL 211], Principles of Microbiology w/ Lab. <u>Or</u> • A course that articulates with [CSUC PHYS 204C], Physics. <u>Or</u> • A course that articulates with [CSUC GEOS 102], Physical Geology w/Lab 	0-3 units
(5) If necessary, complete additional coursework to bring total to 60 transferable semester units.	

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
CSU Dominguez Hills Campus-Specific Pattern**

This campus does not have a major, concentration, or option in Civil Engineering.

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
CSU East Bay Campus-Specific Pattern**

This campus does not have a major, concentration, or option in Civil Engineering.

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
CSU Fresno Campus-Specific Pattern**

In addition to the statewide pattern, the following is the CSU Fresno campus-specific pattern for the B.S. in Civil Engineering:

Campus-Specific Pattern	Semester Unit Requirement
<p>(1) If not taken as part of the statewide pattern complete <u>all</u> of the following:</p> <ul style="list-style-type: none"> • A course that articulates with CSU GE-Breadth AREA D3, Social Sciences. <u>And</u> • A course that articulates with [CSUF MATH 77], Calculus III. <u>And</u> • A course that articulates with [CSUF PHYS 4AL], Laboratory in Mechanics and Wave Motion. <u>And</u> • A course that articulates with [CSUF ECE 70], Engineering Computations using C and FORTRAN - A course that uses FORTRAN and C computer languages in engineering analysis and design and covers a systematic development in program structure, specification, testing, and debugging. <u>And</u> • A course that articulates with [CSUF EES 1], Natural Disasters and Earth Resources - A course that studies the processes and materials that produce the different geologic resources and hazards (earthquakes, volcanoes, floods, landslides). <u>And</u> • If a CSU GE Breadth Area C1 requirement was not completed as part of the statewide pattern complete a course that articulates with CSU GE-Breadth AREA C1, Art (Art, Dance, Music, Theater). 	<p>0-3 units</p> <p>0-4 units</p> <p>0-1 units</p> <p>0-3 units</p> <p>0-4 units</p> <p>0-3 units</p>
<p>(2) If not taken as part of the statewide pattern complete <u>one</u> of the following:</p> <ul style="list-style-type: none"> • A course that articulates with [CSUF PHIL 1], Introduction to Philosophy. <u>Or</u> • A course that articulates with [CSUF PHIL 10], Self, Religion, and Society- Conceptions of human nature; nature and varieties of religion; personal and social implications and values of religion. 	<p>0-3 units</p>
<p>(3) If not taken as a part of the statewide pattern, complete the following additional units:</p> <ul style="list-style-type: none"> • A course that articulates with <u>one</u> additional unit of [CSUF CE 20], Engineering Mechanics: Statics. <u>And</u> • A course that articulates with <u>two</u> additional units in Graphics with CAD [CSUF GME 66], Computer-Aided Mapping - Preparing transportation alignment, topographic, property boundary, environmental, cross section, structural, and GIS maps and plans. Civil and geomatics engineering and construction applications. 	<p>0-1 units</p> <p>0-2 units</p>
<p>(4) If necessary, complete additional coursework to bring total to 60 transferable semester units.</p>	

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
CSU Fullerton Campus-Specific Pattern**

In addition to the statewide pattern, the following is the CSU Fullerton campus-specific pattern:

Campus-Specific Pattern	Semester Unit Requirement
(1) If not taken as part of the statewide pattern complete <u>all</u> of the following: <ul style="list-style-type: none"> • A course that articulates with CSU GE Breadth AREA A3, Critical Thinking. <u>And</u> • A course that articulates with CSU GE Breadth AREA C1, Arts. <u>And</u> • A course that articulates with CSU GE Breadth AREA C2, Humanities. <u>And</u> • A course that articulates with [CSUF MATH 250A], Third Semester Calculus. <u>And</u> • A course that articulates with [CSUF HIST 110A or 110B], World Civilization. 	0-3 units 0-3 units 0-3 units 0-3 units 0-3 units
(2) If necessary, complete additional coursework to bring total to 60 transferable semester units.	

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
Humboldt State University Campus-Specific Pattern**

This campus does not have a major, concentration, or option in Civil Engineering.

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
CSU Long Beach Campus-Specific Pattern**

In addition to the statewide pattern, the following is the CSU Long Beach campus-specific pattern for the B.S. in Civil Engineering:

Campus-Specific Pattern	Semester Unit Requirement
(1) If not taken as part of the statewide pattern, complete <u>all</u> of the following: <ul style="list-style-type: none"> • A course that articulates with [CSULB MATH 224], Calculus III. <u>And</u> • A course that articulates with [CSULB CE 206], Computer Programming. <u>And</u> • A course that articulates with Critical Thinking. <i>This requirement should be used to complete CSU GE Breadth AREA A3. A minimum grade of C is necessary to meet this requirement.</i> 	0-5 units 0-2 units 0-3 units
(2) If not taken as part of the statewide pattern, complete at least <u>one</u> the following: <ul style="list-style-type: none"> • A course that articulates with a course in CSU GE Breadth AREA C - Arts and Humanities. <u>Or</u> • A course that articulates with a course in CSU GE Breadth AREA D - Social and Behavioral Science. 	0-3 units
(3) The following additional units are allowed for: <ul style="list-style-type: none"> • <u>One</u> additional unit for [CSULB CHEM 111A], General Chemistry. <u>And</u> • <u>Two</u> additional units for [CSULB BIOL 200], General Biology. <u>And</u> • <u>One</u> additional unit for [CSULB PHYS 151], Mechanics and Heat. <u>And</u> • <u>One</u> additional unit for [CSULB PHYS 152], Electricity and Magnetism. <u>And</u> • <u>One</u> additional unit for [CSULB C E 205], Analytical Mechanics I (Statics). <u>And</u> • <u>Two</u> additional units for [CSULB MAE 172], Graphics with CAD, Engineering Design Graphics. 	

(4) If necessary, complete additional coursework to bring total to 60 transferable semester units.

Students may be required to complete additional lower division courses after transfer. For a complete list of lower division requirements, please refer to ASSIST "Agreements with Other Campuses - By Major."

Recommended Courses:

- A combination of [CSULB ECON 100], Macroeconomics and [CSULB ECON 101], Microeconomics may be used to substitute for CSULB ECON 300 (GE-Breadth Area D2).

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
CSU Los Angeles Campus-Specific Pattern**

In addition to the statewide pattern, the following is the CSU Los Angeles campus-specific pattern:

Campus-Specific Pattern	Semester Unit Requirement
(1) If not taken as part of the statewide pattern complete <u>all</u> of the following: <ul style="list-style-type: none"> • A course that articulates with, one year of expository writing that emphasizes exposition, research, and critical thinking, typically called "Writing and Critical Thinking" (as opposed to "Literature and Composition"). <u>And</u> • A course that articulates with [CAN PHYS 14], Physics (Calculus Based). <u>And</u> • Courses that articulate with [CAN Math 22], Calculus 3rd Semester. 	<p>0-3 units</p> <p>0-3 units</p> <p>0-3 units</p>
(2) The following additional units are allowed for: <ul style="list-style-type: none"> • One additional unit for a course that articulates with Statics. 	0-1 units
(3) If necessary, complete additional coursework to bring total to 60 transferable semester units.	

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
California Maritime Academy Campus-Specific Pattern**

This campus does not have a major, concentration, or option in Civil Engineering.

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
CSU Monterey Bay Campus-Specific Pattern**

This campus does not have a major, concentration, or option in Civil Engineering.

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
CSU Northridge Campus-Specific Pattern**

In addition to the statewide pattern, the following is the CSU Northridge campus-specific pattern:

Campus-Specific Pattern	Semester Unit Requirement
(1) If not taken as part of the statewide pattern complete <u>all</u> of the following: <ul style="list-style-type: none"> • A course that articulates with [CSUN MSE 101/L], Introduction to Engineering and Lab - An introduction to the engineering profession; development of study, communication, problem solving, design, analytical, and computing skills; introduction to internet, word processing, spread sheet, computer-aided design, and presentation software. <i>A minimum grade of C is necessary in coursework used to meet this</i> 	0-2 units

<ul style="list-style-type: none"> • <i>requirement. And</i> • A course that articulates with CSU GE Breadth AREA A3, Critical Thinking. And • A course that articulates with CSU GE Breadth AREA C, Arts, Literature, Philosophy, and Foreign Language. And • A course that articulates with CSU GE Breadth AREA D, Social, Political and Economics Institutions and Behavior, Historical Background. 	<p>0-3 units 0-3 units 0-3 units</p>
<p>(2) The following additional units are allowed for:</p> <ul style="list-style-type: none"> • A course that articulates with <u>one</u> extra unit in [CSUN CE 240], Engineering Statics. And • A course that articulates with <u>one</u> extra unit in [CSUN CHEM 101/101L], General Chemistry I & Lab. And • A course that articulates with <u>one</u> extra unit in [CSUN PHYS 220A/220AL], Mechanics and Lab. • A course that articulates with <u>one</u> extra unit in [CSUN PHYS 220B/220BL], Electricity and Magnetism and Lab. <p><i>A minimum grade of C is necessary in all coursework used to meet these requirements.</i></p>	<p>0-1 unit 0-1 unit 0-1 unit 0-1 unit</p>
<p>(3) If necessary, complete additional coursework to bring total to 60 transferable semester units.</p>	

Civil Engineering LOWER-DIVISION TRANSFER PATTERN Cal Poly Pomona Campus-Specific Pattern

In addition to the statewide pattern, the following is the Cal Poly Pomona campus-specific pattern for the B.S. in Civil Engineering:

Campus-Specific Pattern	Semester Unit Requirement
<p>(1) If not taken as part of the statewide pattern complete <u>all</u> of the following:</p> <ul style="list-style-type: none"> • A course that articulates with CSU GE Breadth Area A3, Critical Thinking. And • Two courses that articulates with Arts and Humanities, CSU GE Breadth AREA C to complete the CSU General Education Requirement. And • A course that articulates with CSU GE Breadth AREA E, Lifelong learning and Self-Development. And • A course that articulates with [CPP MAT 214], Calculus of Several Variables I. 	<p>0-3 units 0-6 units 0-3 units 0-3 units</p>
<p>(2) If necessary, complete additional coursework to bring total to 60 transferable semester units.</p>	

Civil Engineering LOWER-DIVISION TRANSFER PATTERN CSU Sacramento Campus-Specific Pattern

In addition to the statewide pattern, the following is the CSU Sacramento campus-specific pattern:

Campus-Specific Pattern	Semester Unit Requirement
<p>(1) If not taken as part of the statewide pattern complete <u>all</u> of the following:</p> <ul style="list-style-type: none"> • A course that articulates with [CSUS MATH 32], Calculus III. And • A course that articulates with [CSUS ENGL 20], Second Semester College Composition - A course that prepares for challenging thinking, reading, and writing required in academic discourse with concentration on prewriting, drafting, and rewriting processes that address a variety of rhetorical and academic tasks. 	<p>0-4 units 0-3 units</p>
<p>(2) The following additional units are allowed for:</p> <ul style="list-style-type: none"> • <u>One</u> extra unit in a course that articulates with [CSUS PHYS 11A], General Physics: Mechanics. And 	<p>0-1 units</p>

<ul style="list-style-type: none"> • One extra unit in a course that articulates with [CSUS PHYS 11C], General Physics: Electricity and Magnetism, Modern Physics. <u>And</u> • Two extra units in a course that articulates with [CSUS ENGR 030], Statics. <u>And</u> • One extra unit in a course that articulates with Graphics and CAD. 	0-1 units 0-1 units 0-2 units 0-1 units
(3) If necessary, complete additional coursework to bring total to 60 transferable semester units.	

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
CSU San Bernardino Campus-Specific Pattern**

This campus does not have a major, concentration, or option in Civil Engineering.

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
San Diego State University Campus-Specific Pattern**

In addition to the statewide pattern, the following is the San Diego State University campus-specific pattern:

Campus-Specific Pattern	Semester Unit Requirement
(1) If not taken as part of the statewide pattern, complete <u>all</u> of the following: <ul style="list-style-type: none"> • A course that articulates with CSU GE Breadth AREA A3, Critical Thinking. <u>And</u> • Coursework that articulates with <u>two</u> CSU GE Breadth AREA C - Art, Literature, Philosophy, Foreign Language. <u>And</u> • A course that articulates with [SDSU CIV E 100], Introduction to Civil Engineering - Introduction to diverse field of civil and environmental engineering to include structural, geotechnical, water resources, transportation, construction engineering and management, and environmental engineering. Legal, ethical, and international dimensions of the profession. <u>And</u> • A course that articulates with [SDSU CIV E 120], Computer Applications in Civil/Environmental Engineering and Construction - Computing tools for civil engineering. Use of spreadsheets, programming, mathematical analysis programs, presentation, and graphics programs. <u>And</u> • A course that articulates with [SDSU CIV E 160], Statistical Methods for the Built Environment - Application of statistical methods to civil and environmental engineering problems in construction, hydrology, water quality, air pollution, and other related areas. <u>And</u> • A course that articulates with [SDSU CIV E 220], Civil and Environmental Engineering Computer Applications III - Graphical information systems (GIS), specialized civil engineering software, and advanced problem solving. <u>And</u> • A course that articulates with [SDSU MATH 252], Calculus III - Functions of several variables. Vectors. Partial derivatives and multiple integrals. Line integrals and Green's Theorem. <u>And</u> • A course that articulates with [SDSU E M 220], Dynamics - Kinetics of a particle; central force motion; systems of particles, work and energy; impulse and momentum; moments and products of inertia; Euler's equations of motion; vibration and time response, engineering applications. <u>And</u> • A course that articulates with [SDSU CON E 101], Construction and Culture - Cultural context of construction, emphasizing its centrality in evolution and expansion of built environments as expression of ethical and historical value systems. Relationship between culture, geography, construction materials, and built expressions of cultural legacy. Interdependence of built environment and society. 	0-3 units 0-6 units 0-1 units 0-3 units 0-3 units 0-3 units 0-4 units 0-3 units 0-3 units
(2) Students must complete 60 (but not more than 70) transferable semester units. Coursework not taken at the community college must be completed at SDSU.	

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
San Francisco State University Campus-Specific Pattern**

In addition to the statewide pattern, the following is the San Francisco State University campus-specific pattern:

Campus-Specific Pattern	Semester Unit Requirement
<p>(1) If not taken as part of the statewide pattern, complete <u>all</u> of the following:</p> <ul style="list-style-type: none"> • A course that articulates with [SFSU ENGR 100], Introduction to Engineering – A course that describes the major engineering fields and their subfields; day to day activities of engineers; engineering professionalism, ethics, communication skills, lifelong learning and career planning. <u>And</u> • A course that articulates with [SFSU ENGR 106], Introduction to Engineering Lab – A project based laboratory that covers basic measuring tools; MatLab, spreadsheet, and word processing software; recording, importing, and plotting various data to incorporate into engineering reports; and developing hands-on experience with basic software tools. <u>And</u> • A course that articulates with [SFSU ENGR 201], Dynamics. <u>And</u> • A course that articulates with [SFSU ENGR 103], Introduction to Computers. <u>And</u> • A course that articulates with [SFSU ENGR 200], Materials of Engineering. <u>And</u> • A course that articulates with [SFSU MATH 228], Calculus, 3rd Semester. <u>And</u> • Coursework that articulates with [SFSU PHYS 240 and 242], General Physics with Calculus III with laboratory. <u>And</u> • A course that articulate with [SFSU ENGR 205], Electric Circuits. <u>And</u> • An additional unit allowed for [SFSU ENGR 102], Statics. 	<p>0-1 units</p> <p>0-1 units</p> <p>0-3 units</p> <p>0-1 units</p> <p>0-3 units</p> <p>0-4 units</p> <p>0-4 units</p> <p>0-3 units</p> <p>0-1 units</p>
<p>(2) When possible, satisfy CSU GE Breadth or IGETC Areas by completing:</p> <ul style="list-style-type: none"> • A course that articulates with [SFSU ENG 114], College Composition, 1st semester – Training in expository- argumentative composition, emphasizing work on clear and effective sentences and the organization and development of paragraph and essay. <u>And</u> • A course that articulates with [SFSU ENG 214], College Composition and Literature, 2nd semester – Expository- argumentative composition and critical reading skills through the study of literature; special attention to logic, style, and rhetoric. 	
<p>(3) If necessary, complete additional coursework to bring total to 60 transferable semester units.</p>	

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
San José State University Campus-Specific Pattern**

In addition to the statewide pattern, the following is the San José State University campus-specific pattern for the B.S. in Civil and Environmental Engineering:

Campus-Specific Pattern	Semester Unit Requirement
<p>(1) If not taken as part of the statewide pattern, complete courses from the following to bring total up to 60, and not more than 70 transferable semester units:</p> <ul style="list-style-type: none"> • A course that articulates with [SJSU ENGL 001B], Composition 2, or an equivalent 2nd Semester English Composition course approved for IGETC Area 1B. <i>A minimum grade of C or higher is required in courses used to meet this requirement.</i> <u>And</u> • Physical Activity. <i>Two units taken in at least two different activities.</i> <u>And</u> 	<p>0-3 units</p> <p>0-2 units</p>

<ul style="list-style-type: none"> • A course that articulates with [SJSU ENGR 010], Introduction to Engineering. <u>And</u> • A course that articulates with [SJSU MATH 032], Calculus III. <u>And</u> • A course that articulates with [SJSU PHYS 052], General Physics/Heat and Light. <u>And</u> • A course that articulates with [SJSU MATE 025], Introduction to Materials. <u>And</u> • A course approved for CSU GE Breadth AREA E, Lifelong Understanding and Self-Development. 	<p>0-3 units</p> <p>0-3 units</p> <p>0-3 units</p> <p>0-3 units</p> <p>3 units</p>
(2) If necessary, complete additional coursework to bring total to 60 transferable semester units.	

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
Cal Poly San Luis Obispo Campus-Specific Pattern**

In addition to the statewide pattern, the following is the Cal Poly San Luis Obispo campus-specific pattern:

Campus-Specific Pattern	Semester Unit Requirement
<p>(1) If not taken as part of the statewide pattern complete <u>all</u> of the following:</p> <ul style="list-style-type: none"> • A course that articulates with [SLO MATH 141], Calculus I. <u>And</u> • A course that articulates with [SLO MATH 142], Calculus II. <u>And</u> • A course that articulates with [SLO MATH 143], Calculus III. <u>And</u> • A course that articulates with [SLO MATH 241], Calculus IV. <u>And</u> • A course that articulates with [SLO ENGL 149], Technical Writing for Engineers. <u>And</u> • A course that articulates with [SLO GEOL 201], Physical Geology. 	<p>0-3 units</p> <p>0-3 units</p> <p>0-3 units</p> <p>0-3 units</p> <p>0-3 units</p> <p>0-3 units</p>
<p>(2) If not taken as part of the statewide pattern complete <u>one</u> of the following:</p> <ul style="list-style-type: none"> • A course that articulates with [SLO CE 201], Mechanics of Materials. <u>Or</u> • Complete <u>all</u> of the following: <ul style="list-style-type: none"> ○ A course that articulates with [SLO CE 204], Mechanics of Materials I. <u>And</u> ○ A course that articulates with [SLO CE 207], Mechanics of Materials II. 	<p>0-4 units</p> <p>0-2 units</p> <p>0-2 units</p>
<p>(3) If not taken as part of the statewide pattern complete <u>one</u> of the following:</p> <ul style="list-style-type: none"> • A course that articulates with [SLO PHIL 230], Philosophical Classics: Metaphysics and Epistemology. <u>Or</u> • A course that articulates with [SLO PHIL 231], Philosophical Classics: Social and Political Philosophy. 	<p>0-3 units</p> <p>0-3 units</p>
(4) If necessary, complete additional coursework to bring total to 60 transferable semester units.	

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
CSU San Marcos Campus-Specific Pattern**

This campus does not have a major, concentration, or option in Civil Engineering.

**Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
Sonoma State University Campus-Specific Pattern**

This campus does not have a major, concentration, or option in Civil Engineering.

Civil Engineering
LOWER-DIVISION TRANSFER PATTERN
CSU Stanislaus Campus-Specific Pattern

This campus does not have a major, concentration, or option in Civil Engineering.