





Bachelor of Science in Civil Engineering

Student Planning Guide: First-Year Students Starting 2024-25 with MATH 9

	Fall	Winter	Spring
	MATH 9/9L PreCalculus	MATH 11 Calculus I	MATH 12 Calculus II
	University Core***	CHEM 11/11L (5)	PHYS 31/31L Physics for Engineers I (5)
	ENGR 1 and/or 1L Intro to Eng. (1 unit)*	ENGR 1 and/or 1L Intro to Eng. (1 unit)*	ENGR 1 and/or 1L Intro to Eng. (1 unit)*
	Critical Thinking and Writing I	Critical Thinking and Writing II	CENG 10/10L Surveying (3/1)
	CENG 7/7L Graphical Comm (3/1)	Cultures and Ideas I	Cultures and Ideas II
	Fall	Winter	Spring
	MATH 13 Calculus III	MATH 14 Calculus IV	CENG 44B Strength of Matls II (2)
	PHYS 32/32L Physics for Engineers II (5)	CENG 15/15L Comp. Appl. in CE (3/1)	CENG 115/115L Materials (4/1) OR CENG 143/143L Environ Engr (3/1)**
	CENG 20/20L Geology (3/1)	CENG 44A/44AL Strength of Matls (3/1)	CENG 132 Structural Analysis
	CENG 41 Statics	PHYS 33/33L Physics for Engineers III (5)	University Core****
	Fall	Winter	Spring
	AMTH 106 Differential Equations	AMTH 112 Risk in Civil Engr (or AMTH 108)	CENG 128 Engr. Econ & Business (3)
	CENG 141/141L Fluids/Hydraulics (4/1)	CENG 121 Geotech Engr (4/1)	CENG 140/140L Water Resources (4/1)
	CENG 145 Transport Engr Des	CENG 125/125L Municipal Engr (3/1)	CENG 115/115L Materials (4/1) OR CENG 143/143L Environ Engr (3/1)**
	CENG 148/148L Structural Syst (4/1)	CENG Tech Elective	CENG 192A Civil Engr Prof Practice (2)
			CENG Tech Elective
	Fall	Winter	Spring
	CENG 192B Civil Engr Prof Practice (2)	CENG 193 Civil Engr Project Design	CENG 194 Civil Design Commun. (1)
	CENG 192C Civil Engr Prof Devel (1)	CENG Tech Elective	CENG Tech Elective
	CENG Tech Elective	University Core	University Core
	ELEN 49 Fundamentals of Elec CE	University Core	University Core
	ENGL 181 Eng. Comm.		

 Humanities & Social Science	 Math & Science	 Major	 Technical Electives
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*ENGR 1 and 1L may be taken in any order and in any quarter in the first year. ENGR 1L is recommended Fall or Winter quarter if taking Math 9/9L. If taken in later years, ENGR 110 is substituted for ENGR 1/1L.

**The required CENG 115/115L and 143/143L may be taken either 2nd or 3rd year per student's area of interest.

***Students may consider the ENGR 16 (RTC-1) core class here.

**** Students may consider the ENGR 19 (Ethics) core class here.

Civil, Environmental, and Sustainable Engineering Technical Electives 2024-2025

Courses sharing a box are typically offered in alternating years

Fall	Winter	Spring
118 (A) Constr Engr	119 (A) Des Sustain Constr*	124 (A) Water Law Policy
134 (D) Str Steel Des I	122 (A/D) Air Pollution 123 (A) Pollut Fate Transp	137 (A/D) Earthquake Engr
144 (D) Water Waste Trtmt	139 (A) Groundwater Hydr 161 (A) Sustain Water Res	138 (D) Geotech Engr Des
147 (D) Pavement Design	133 (D) Wood Des 146 (D) Cold Form Steel Des	151 (A) Spec Topics Transp
149 (A) Civil Systems Engr	135 (D) Reinf Concr Des	142 (D) Water Res Des 162 (A) Comput Water Res
184 (A) Construct Proj Deliv 187 (A) Heavy Construction	150 (D) Traffic Engr Des	185 (A) Cost Estimation
	160 (A) GIS Water Res	182 (A) Build Info Model
	186 (A) Constr Plan Control	

	Structures
	Water & Environ.
	Transp.
	Construct.
	Geotech.
	DIMA

Five required technical electives must include: One digital information management and analysis (DIMA); Two design (D); One analysis (A); One either design (D) or analysis (A). **Not all electives are offered every year.** 137 and 122 can be applied as a design or an analysis elective. *Students entering in 2020-2021 or earlier can count CENG 119 as a design elective.

CORE Curriculum Requirements for CENG Majors

There are normally ten required humanities courses in the CORE Curriculum that all SCU students must complete. Engineering students can complete one course that satisfies two of these requirements (“double-dip”) as long as the course has been approved (visit <https://www.scu.edu/apps/courseavail> and click “advanced”) for both CORE categories.

Ten Required CORE Humanities Courses				
Critical Thinking and Writing I and II	Cultures and Ideas I, II, and III	Religion, Theology, and Culture	Ethics	Diversity
CTW-1 and CTW-2	C&I-I, II, and III	RTC-I, II, and III	Various	Various

Students also must complete coursework that satisfies five additional learning outcomes listed below.

Pre-approved Course Options for Specific, Supplemental Required CORE Curriculum Learning Outcomes				
Science, Technology And Society	Civic Engagement	Social Science	Arts	Experiential Learning
ENGL 181 & CENG 193	ENGR 1 & CENG 193	Various	ENGL 181 & CENG 193	Various

Engineering students complete an approved three-course (**12-unit**) Pathway or cluster of thematically linked courses as part of the SCU Core. Students must declare their Pathway by the end of their sophomore year. At least one Pathway course (minimum of four units) must be from outside their major department and any non-major Pathway course(s) should, where possible, satisfy other (base) CORE Curriculum requirements.

Pre-approved Pathway Course Options/Recommendations for Civil Engineering Students				
	Digital Age	Sustainability	Values in Science & Technology	Design Thinking
Course #1	8 units from CENG 7, 15, 160, 182	8 units from CENG 20, 115, 119, 140, 143, 144, 161	8 units from CENG 115, 119, 140, 143, 144, 161	8 units from CENG 119, 128, 148, 192A, 193
Course #2				
Course #3 ^a	PHIL 22 or ENGR 19	PHIL 29 or RSOC 64	PHIL 29 or CHEM 11	PHIL 22 or ENGR 19

^a **Departments occasionally change course numbers. Students should verify course numbers. Many other classes also work for course #3.**