Civil Engineering Curriculum Flowchart[1,2]
STRUCTURAL Engineering Concentration (BSCE)

Beginning Fall 2026

SEM 1	MA 16100/ MA 16500 **4 cr.** Calculus I	CHM 11510 + CHM 11520 **4 cr.** General Chemistry	ENGL 10800[3] **3 cr.** UCC Written Comm.	ENGR 13100 **2 cr.** Ideas to Innovation I		
SEM 2	MA 162/166 **4 cr.** Calculus II	PHYS 17200 **4 cr.** Modern Mechanics	SCI Select[4] **3-4 cr** CHM11610+11620 or CS159	ENGR 13200 **2 cr.** Ideas to Innovation II	COM 11400[3] **3 cr.** UCC Oral Comm.	
SEM 3	MA 26100 **4 cr.** Multivariate Calculus	PHYS 24100 **3 cr.** Electricity & Optics♦	CCE 29700 **3 cr.** Basic Mech I Statics	CCE 20300 **4 cr.** Princ & Pract Geomatics♦	CM 16400 **2 cr.** Construction Graphics	CCE 29200 **2 cr.** Contemporary Issues in CE
SEM 4	MA 26500 **3 cr.** Linear Algebra (Pre-Req Calc II)	CCE 21100 **3 cr.** Thermal & Energy Sciences♦	CCE 27000 **4 cr.** Intro Structural Mechanics	CCE 29800 **3 cr.** Basic Mech II Dynamics		GEN ED #1 **3 cr.** UCC Humanities
SEM 5	MA 26600 **3 cr.** Differential Equations	CCE 33500 **4 cr.** CE Materials	CCE 37100 **3 cr.** Structural Analysis I *B; STR*	CCE 34000 **3 cr.** Hydraulics	CCE 34300 **1 cr.** Hydraulics Lab	GEN ED #2 **3 cr.** UCC Behavioral/ Social Science
SEM 6	STAT 51100 **3 cr.** Statistical Methods	CCE 39800 **3 cr.** Intro CE Systems Design*	CCE 47300 **4 cr.** Reinforced Concrete Design *D; STR*	CCE 38300 **3 cr.** Geotechnical Engineering I *B; GEO*	TECH EL #4 **3 cr.**	CCE 39200 **2 cr.** Technical Comm in CE*
SEM 7	Basic Sci[5] **3 cr.** (BIOL, EAPS, FNR) use for STS if needed	CCE 47000 **3 cr.** Structural Steel Design *D; STR*	TECH EL #6 **3 cr.** *(Breadth)*	CCE 48300 **3 cr.** Geotechnical Engineering II *D; GEO*	GEN ED #3 **3 cr.** Upper Level/ Non-Intro	GEN ED #4 **3 cr.** Upper Level/ Non-Intro
SEM 8	CCE 49800 **3 cr.** CE Design Project *Pre-reqs CCE39200 & CCE39800	CCE 47400 **3 cr.** Structural Analysis II *(Spring Only)* *STR*	TECH EL #9 **3 cr.** *(Breadth)*	TECH EL #10 **3 cr.**		GEN ED #5 **3 cr.**

See Foundational Core STS Requirements[5]

Legend:

Red	Blue	Yellow	Purple
Required by First Year Engineering	Civil Engineering Core Courses	Technical Electives	General Education Courses

Pre-requisite →

Co-requisite ⇢

See the other side of this document for Curriculum Notes & other information.

♦ CE 20300/PHYS 24100 & 21100 can be interchanged between semesters 3 & 4 of sophomore year; PHYS 24100 available in summer

Italics: suggested Technical Electives listed on next page; total of 30 cr. Required

130 credit hours required for BSCE degree

Purdue University Lyles School of Civil and Construction Engineering

Bachelor of Science in Civil Engineering

Revised 5/2026

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STRUCTURAL Engineering Concentration (BSCE)

Beginning Fall 2026

Curriculum Notes:

1. This flowchart shows the standard BSCE course requirements and the typical sequencing of such courses, with area-specific guidance. **Some deviations, both in courses and sequencing, can occur; students should speak to their advisors in the CCE Undergraduate Office for further information.**
2. Students should consult the following LSCCE website for guidance on the requirements for Technical Electives and General Education Elective courses, respectively and the limitations on transfer credits: https://engineering.purdue.edu/CCE/Academics/Undergraduate/Policies. **The student is ultimately responsible for knowing and completing all BSCE degree requirements.**
3. **Communication Courses** - Written Communication (WCC) and Oral Communication (OCC) required for First Year Engineering are BSCE degree requirements that are separate from BSCE general education elective requirements.
4. The **Science Selective** strongly recommended by Civil Engr faculty is **CHM 11610 plus lab**. **Either CHM 11610 and 11620/30 or CS 15900 is accepted.** However, we prefer **CHM 11610 and 11620/30**, especially if you are interested in the environmental or water resources side of civil engineering, because CCE 35000 Intro to Environmental & Ecological Engr., a technical elective, requires CHM 11610 and lab as a pre-requisite. Students using another Science Selective such as BIOL 11000 to meet FYE requirements will still be required to take CHM 11610 and 11620/30 or CS 15900 to graduate in BSCE, but can use BIOL 11000 for the Basic Science Elective.
5. The **Basic Science Requirement** courses are chosen from an approved list. Examples include: BIOL 11000 or EAPS 10000*, 10400*, 11100, 12000*, 12500* & 22100. See advisor for current approved list. Choose starred * courses to meet the Foundational Core STS (Science, Technology, & Society) if not satisfied by other general education courses. https://www.purdue.edu/provost/students/s-initiatives/curriculum/courses.html
6. The Civil Engr faculty recommend ECON 25100 as a Foundational Behavioral/Social Science (BSS) general education course.
7. **CCE 49800 CE Design Project** must be taken in a student's final semester before graduation. The only exception to this rule are students who plan to graduate during a summer session may take CCE 49800 during the prior spring semester.
8. To graduate, all students are required to complete thirty (30) technical credits, including four (4) breadth and three (3) design, a minimum of twenty-one (21) credits in Civil Engineering, and at least a minimum of two (2) technical elective sequences.
9. **Sequence Requirement:** A sequence is defined as a minimum of two (2) technical elective courses from a given BSCE emphasis area. Each student must complete at least two (2) such sequences of technical electives. Note that completing four (4) courses from a single BSCE area of emphasis does not meet this requirement; the emphasis areas must be distinct. Certain non-BSCE designated courses may be used in satisfying this requirement.

Required for the Concentration: (19 cr.)

CCE 37100: Structural Analysis I *(B; STR)*
CCE 38300: Geotechnical Engineering I *(B; GEO)*
CCE 47000: Structural Steel Design *(D; STR)*
CCE 47300: Reinforced Concrete Design *(D; STR)*
CCE 47400: Structural Analysis II *(STR)*
CCE 48300: Geotechnical Engineering II *(D; GEO)*

Suggestions for Technical Electives: *(B = Breadth Courses; D = Design Courses)*

CCE 22200: Life Cycle Engineering And Management Of Constructed Facilities *(B; CON)*
CCE 31100: Architectural Engineering *(B; ARC)*
CCE 32200: Project Control And Life Cycle Execution Of Constructed Facilities *(CON)*
CCE/EEE 35000: Introduction To Environmental And Ecological Engineering *(B; ENV)*
CCE 36100: Transportation Engineering *(B & D; TRA)*
CCE 44000: Urban Hydraulics *(B & D; HYD)*
CCE 47900: Design of Building Components and Systems *(D; STR)*
CCE 57000: Advanced Structural Mechanics *(STR)*
CCE 57100: Eathquake Engineering *(STR)*
CCE 57200: Prestressed Concrete Design *(STR)*
CCE 57300: Structural Dynamics *(STR)*
CCE 57500: Experimental Methods In Structural Engineering *(STR)*
CCE 57600: Advanced Reinforced Concrete Design *(STR)*
CCE 57700: Advanced Structural Steel Design *(STR)*
CCE 57900: Structural Stability *(STR)*
CCE 59500: Finite Elements In Elasticity *(STR)*