Civil Engineering Curriculum Flowchart
GENERAL

Beginning Fall 2023

SEM 1
MA 161/165 4 cr. Calculus I
CHM 11500 4 cr. General Chemistry I
ENGL 10800 3 cr. Written Comm. Core
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 3-4 cr.
ENGR 13200 2 cr. Oral Comm. Core
SEM 3
MA 26100 4 cr. Multivariate Calculus
PHYS 24100 3 cr. Electricity & Optics
CE 29700 3 cr. Basic Mechanics: Statics
CE 20300 4 cr. Geomatics
SEM 4
MA 26500 3 cr. Linear Algebra
CE 21101 3 cr. Thermal Energy & Sciences in CE
CE 27000 4 cr. Structural Mechanics
SEM 5
MA 26600 3 cr. Differential Equations
CE 33500 4 cr. Materials in Civil Engineering
CE 37100 3 cr. Structural Analysis I
CE 29800 3 cr. Basic Mechanics: Dynamics
SEM 6
STAT 51100 3 cr. Statistical Methods
CE 39800 3 cr. Engineering System Design
CE 34000 3 cr. Hydraulics
CE 34300 1 cr. Hydraulics Lab
SEM 7
BASIC SCI 3 cr.
(CBIL, EAPS, FNR) also for STS
CEM 48500 3 cr. Legal Aspects in Construction Engr
CE 36100 3 cr. Transportation Engineering
CE 48300 3 cr. Geotechnical Engineering II
SEM 8
CE 49800 3 cr. Senior Design Pre-reqs CE 39201 & CE 39800
TECH EL #8 3 cr. Life Cycle Engr & Mgmt
CE 35000 3 cr. Environmental Engineering prereq CHM 116
GEN ED #3 3 cr.
GEN ED #4 3 cr.
GEN ED #5 3 cr.

Legend:
- Red: Required by First Year Engineering
- Blue: Civil Engineering Core Courses
- Yellow: Technical Electives
- Purple: General Education Courses
- Green: Pre-requisite
- Black: Co-requisite

See Foundational Core, STS Requirements
See the other side of this document for Curriculum Notes & other information.

◆ CE 20300 & 21101 can be interchanged between semesters 3 & 4 of sophomore year

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 6/2024
Curriculum Notes:

1. This flowchart shows the standard BSCE course requirements and the typical sequencing of such courses. Some deviations, both in courses and sequencing, can occur; students should speak to their advisors in the CE 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.

4. The Science Selective strongly recommended by Civil Engr faculty is CHM 11600. Either CHM 11600 or CS 15900 is accepted. However, we prefer CHM 11600, especially if you are interested in the environmental or water resources side of civil engineering, because CE 35000 Intro to Environmental & Ecological Engr., a technical elective, requires CHM 11600 as a pre-requisite. Students using another Science Selective such as BIOL 11000 to meet FYE requirements will still be required to take CHM 11600 or CS 15900 to graduate in CE 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. CE 49800 Senior Design 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 CE 49800 during the prior spring.

8. To graduate all students are required to complete 30 technical credits, including four (4) breadth and three (3) design, a minimum of 21 credits in Civil Engineering, and at least a minimum of two (2) technical elective.

9. Sequence Requirement: A sequence is defined as a minimum of two (2) technical elective courses from a given CE emphasis area. Each student must complete at least two (2) such sequences of technical electives. Note that completing four courses from a single CE area of emphasis does not meet this requirement; the emphasis areas must be distinct. Certain non-CE designated courses may be used in satisfying this requirement.

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

CE 22200: Life Cyc Engr & Mngt Const Fac (B; CON)  CE 44000: Introductory Hydrology (HYD)
CE 32201: Proj Cntrl Life Cyc Const Fac (CON)  CE 45600: Wastewater Treatment Process (D; ENV)
CE 35000: Environmental Engineering (B; ENV)  CE 46100: Roadway and Pavement Design (D; TRA)
CE 35500: Environmental Sustainability (ENV)  CE 46300: Highway Transportation Characteristics (TRA)
CE 36100: Transportation Engineering (B & D; TRA)  CE 47000: Structural Steel Design (D; STR)
CE 37100: Structural Analysis I (B; STR)  CE 47300: Reinforced Concrete Design (D; STR)
CE 38300: Geotechnical Engineering I (B; GEO)  CE 48300: Geotechnical Engineering II (D; GEO)
CE 50801: Geographic Information Systems (B; GEM)  CE 51200: The Comprehensive Urban Planning Process (TRA)
CE 44000: Urban Hydraulics (B & D; HYD)  CEM 48500: Legal Aspects in Construction Engineering (CON)

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