Civil Engineering Curriculum Flowchart

STRUCTURAL Engineering Concentration

Beginning
Fall 2021

SEM 1
MA 16500 4 cr.
Calculus I

CHM 11500 4 cr.
General Chemistry I

ENGL 10603 4 cr.
Written Comm.
Core

ENGR 13100 2 cr.
Ideas to
Innovation I

SEM 2
MA 16600 4 cr.
Calculus II

PHYS 17200 4 cr.
Modern
Mechanics

SCI Select6 3 cr.
(CHM 11600)

ENGR 13200 2 cr.
Ideas to
Innovation II

COM 114003 3 cr.

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

CGT 16400 2 cr.

SEM 4
MA 26500 3 cr.
Linear Algebra

CE 21101 3 cr.
Thermal Energy
& Sciences in CE

CE 27000 4 cr.
Structural
Mechanics

CE 29800 3 cr.

SEM 5
MA 26600 3 cr.
Differential
Equations

CE 33500 4 cr.
Materials in Civil
Engineering

CE 37100 3 cr.
Structural
Analysis I

CE 34000 3 cr.
Hydraulics

CE 34300 1 cr.

SEM 6
STAT 51100 3 cr.
Statistical
Methods

CE 39800 3 cr.
Engineering
System Design

CE 47300 4 cr.
Reinforced
Concrete Design

CE 38300 3 cr.
Geotechnical
Engineering I

TECH EL #4 3 cr.

SEM 7
BASIC SCI5 3 cr.
(BIOL, EAPS, FNR)
also for STS

CE 47000 3 cr.
Structural Steel
Design

CE 48300 3 cr.
Geotechnical
Engineering II

GEN ED #4 3 cr.

SEM 8
CE 498007 3 cr.
Senior Design
Pre-reqs CE 39201 & CE 39800

CE 47400 3 cr.
Structural
Analysis II

CE 47 EL #9 3 cr.
(Breadth)

TECH EL #10 3 cr.

STR

Legend:

Red
Required by First
Year Engineering

Blue
Civil Engineering
Core Courses

Yellow
Technical Electives

Purple
General Education
Courses

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 Engineering

Revised 5/2022
Curriculum Notes:

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

2. Students should consult the following CE 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/CE/Academics/Undergraduate/Policies

   Students may also contact their faculty advisor or the CE Undergraduate Office for further information. The student is ultimately responsible for knowing and completing all degree requirements.

3. Communication Courses - Written Communication (WCC) and Oral Communication (OCC) required for First Year engineering are Civil Engineering degree requirements that are separate from Civil Engineering general elective requirements.

4. The Science Selective strongly recommended by the School of Civil Engineering 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 Civil Engineering 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, 12100*, 14600, 23000, & 28600 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. Also refer to: https://www.purdue.edu/provost/students/s-initiatives/curriculum/courses.html

6. The Lyles School of Civil Engineering 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 is that students who plan to graduate during a summer session may take CE 49800 during the prior spring semester.

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

- CE 22200: Life Cyc Engr & Mngt Const Fac (B; CON)
- CE 32201: Prjt Cntrl Life Cyc Exc Const Fac (CON)
- CE 31100: Architectural Engineering (B; ARC)
- CE 35000: Environmental Engineering (B; ENV)
- CE 36100: Transportation Engineering (B & D; TRA)
- CE 44000: Urban Hydraulics (B & D; HYD)
- CE 47900: Dsgn of Bldg Components and Sys (D; STR)
- CE 57000: Advanced Structural Mechanics (STR)

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.