Civil Engineering Curriculum Flowchart

CONSTRUCTION ENGINEERING Concentration

Beginning
Fall 2021

1,2

SEM 1
MA 16500 3 cr
Calculus I

CHM 11500 4 cr
General Chemistry I

ENGL 10600 3 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 SELECT 3 cr
(CHM 11600)

ENGR 13200 2 cr
Ideas to Innovation II

SEM 3
MA 26100 4 cr
Multivariate Calculus

PHYS 24100 3 cr
Electricity and Optics

ENGR 13200 2 cr
Core Ideas to Innovation I

SEM 4
MA 26500 3 cr
Linear Algebra

CE 21101 3 cr
Thermal Energy & Sciences in CE

ENG 3100 2 cr
Written Com.
Core

SEM 5
MA 26600 3 cr
Differential Equations

CE 27000 4 cr
Basic Mechanics: Statics

ENG 3100 2 cr
Core Ideas to Innovation II

SEM 6
STAT 51100 3 cr
Statistical Methods

CE 29700 3 cr
CE 20300 4 cr
Basic Mechanics: Dynamics

GEN ED #1 3 cr
Geomatics

SEM 7
BASIC SCI 3 cr
(BIOL, EAPS, FNR)
(Biology, Earth, Aerospace, Physics, Farm)
also for STS

CE 29800 3 cr
CE 34000 3 cr
Structural Mechanics

GEN ED #2 3 cr
Hydraulics

SEM 8
CE 49800 7 cr
Senior Design

Tech EL #1 3 cr
Reinforced Concrete Design

GEN ED #4 3 cr
Introductory Accounting

Legend:

Red
Required by First Year Engineering

Blue
Civil Engineering Core Course

Yellow
Technical Elective

Purple
General Education Course

Pre-requisite

Co-requisite

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

See the other side of this document for Curriculum Notes and other information

Purdue University Lyles School of Civil Engineering

130* cr. hrs.

5See Foundational Core STS Requirement
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 and/or consult myPurduePlan 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 limitation on transfer credit:

   https://engineering.purdue.edu/CE/Academics/Undergraduate/Current

   Click on the "Technical Elective Policy", the "General Education Electives" or the “Transfer Credit Policy” on the right-side bar to see the pdf documents. Students may also contact their faculty advisor or the CE Undergraduate Office for further information. In particular, it should be understood that the sequence shown for Technical Electives and General Education courses is a suggestion and can be modified as needed. Suggested Technical Electives are listed below. **The student is ultimately responsible for knowing and completing all degree requirements.**

3. COM 11400 satisfies the First Year Engineering general education requirement as well as the Oral Communication Foundational Outcome. The Lyles School of Civil Engineering, however, requires this course for graduation (subject to core policy rules) and does not consider it to be a general education course.

4. The Science Selective strongly recommended by the School of Civil Engineering is CHM 11600. CS 15900 will be accepted for meeting graduation requirements, but students may find themselves at a disadvantage when choosing technical electives without CHM 11600.

5. The Basic Science Requirement courses are chosen from an approved list. Examples include: BIOL 11000, 12100* & 28600, 14600, 23000 or EAPS 10000* 10400*, 11100, 12000*, 22100. See a 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 http://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 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.

**Required for the Concentration (B = Breadth courses; D = Design courses):**

- CE 22200: Life Cycle Engineering and Management of Constructed Facilities (B; CON)
- CE 37100: Structural Analysis I (B; STR)
- CE 38300: Geotechnical Engineering I (B; GEO)
- Select one of the following courses:
  - CE 47000: Structural Steel Design (D; STR)
  - CE 47300: Reinforced Concrete Design (D; STR)
  - CE 48300: Geotechnical Engineering II (D; GEO)
- Select one of the following courses:
  - CE 32201: Project Control & Life Cycle Execution of Constructed Facilities (CON)
  - CE 52100: Construction Business Management (CON)
  - CEM 48500 Legal Aspects in Construction Engineering (CON)
- Select one of the following courses:
  - MGMT 20000: Introductory Financial Accounting
  - MGMT 212000: Business Accounting

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

- CE 35000: Environmental Engineering (B; ENV)
- CE 36100: Transportation Engineering (B & D; TRA)
- CE 44000: Urban Hydraulics (B & D; HYD)
- CE 47000: Structural Steel Design (D; STR)
- CE 47900: Design of Building Components and Systems (D; STR)
- CE 52100: Construction Business Management (CON)
- CE 52200: Computer Applications in Construction (D; CON)
- CE 52300: Selection and Utilization of Construction Equipment (D; CON)
- CE 52700: Analytic Methods for the Design of Construction Operations (D; CON)
- CEM 32400: Human Resource Management in Construction
- CEM 48500: Legal Aspects in Construction Engineering (CON)
- MGMT 30400: Intro to Financial Management

*Purdue University Lyles School of Civil Engineering*  
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