Civil Engineering Curriculum Flowchart[1,2]
TRANSPORTATION & INFRASTRUCTURE SYSTEMS ENGINEERING Emphasis

Beginning Fall 2021

SEM 1	MA 16500 4 cr Calculus I	CHM 11500 4 cr General Chemistry I	ENGL 10600[3] 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 SELECT[4] 3 cr (CHM 11600)	ENGR 13200 2 cr Ideas to Innovation II	COM 11400[3] 3 cr Oral Comm. Core	
SEM 3	MA 26100 4 cr Multivariate Calculus	PHYS 24100 3 cr Electricity and Optics	CE 29700 3 cr Basic Mechanics: Statics	CE 20300 4 cr Geomatics (MA 16500)	CGT 16400 2 cr Computer Graphics	CE 29202 Contemporary Issues in CE
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 Basic Mechanics: Dynamics		GEN ED #1 3 cr UCC Humanities
SEM 5	MA 26600 3 cr Differential Equations	CE 335/497 4 cr Materials in Civil Engineering	CE 36100 3 cr *Transportation Engineering* B & D; *TRA*	CE 34000 3 cr Hydraulics	CE 34300 1 cr Hydraulics Lab	GEN ED #2 3 cr UCC Behavioral/ Social Sciences
SEM 6	STAT 51100 3 cr Statistical Methods	CE 39800 3 cr Engineering System Design	TECH EL #2 3 cr *(Breadth)*	CE 38300 3 cr *Geotechnical Engineering* B; *GEO*	TECH EL #4 3 cr	CE 39201 2 cr Technical Comm in CE
SEM 7	BASIC SCI[5] 3 cr (BIOL, EAPS, FNR) also for STS (CE 39201)	CE 59400 3 cr *Transportation System Analysis* *TRA*	CE 46300 3 cr *Highway Transp. Characteristics* *TRA*	CE 46100 3 cr Roadway and Pavement Design	GEN ED #3 3 cr (Social Sciences)	GEN ED #4 3 cr (Humanities)
SEM 8	CE 49800[7] 3 cr Senior Design	TECH EL #8 3 cr	TECH EL #9 3 cr *(Breadth)*	TECH EL #10 3 cr *(Design)*		GEN ED #5 3 cr (Humanities or Social Science)

[5]*See Foundational Core STS Requirement*[5]

Legend:

Red	Blue	Yellow	Purple
Required by First Year Engineering	Civil Engineering Core Course	Technical Elective	General Education Course

→ Pre-requisite

⇢ Co-requisite

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

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

Purdue University Lyles School of Civil Engineering ***130* cr. hrs.***

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Beginning Fall 2021

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 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. Communication courses – For Written Communication (WC) ENGL 10600 or ENGL 10800 or SCLA 10100 or other from Written Communication Core list. For Oral Communication (OC) COM 11400 or SCLA 10200 or other from Oral Communication Core list 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.
   Also refer to http://www.purdue.edu/provost/students/s-initiatives/curriculum/courses.html
4. The Science Selective strongly recommended by the School of Civil Engineering is CHM 11600. Other choices for the Science Selective will be accepted for meeting graduation requirements, but students may find themselves at a disadvantage when choosing technical electives if they have not taken 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 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.

***Excerpt from Technical Elective Policy**

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

- CE 22200: Life Cycle Engineering and Management of Constructed Facilities (B; *CON*)
- CE 30300: Engineering Surveying (D; *GEM*)
- CE 32201: Project Control and Life Cycle Execution of Constructed Facilities (*CON*)
- CE 35000: Environmental Engineering (B; *ENV*)
- CE 37100: Structural Analysis I (B; *STR*)
- CE 44000: Urban Hydraulics (B & D; *HYD*)
- CE 46100: Roadway and Pavement Design (D; *TRA*)
- CE 47300: Reinforced Concrete Design (D; *STR*)
- CE 48300: Geotechnical Engineering II (D; *GEO*)
- CE 51200: The Comprehensive Urban Planning Process (*TRA*)
- CE 56000: Public Mass Transportation (*TRA*)
- CE 56100: Transportation Systems Evaluation (*TRA*)
- CE 56200: Geometric Design of Highways (D; *TRA*)
- CE 56300: Airport Design (D; *TRA*)
- CE 56500: Traffic Engineering (D; *TRA*)
- CE 56600: Transportation Planning (*TRA*)
- CE 56700: Highway Traffic and Safety Analysis (D; *TRA*)
- CE 56800: Highway Infrastructure Management Systems (*TRA*)