### BASIC Civil Engineering Curriculum Flowchart1,2

#### Beginning Fall 2021

### SEM 1
- **MA 16500** 4 cr
  - Calculus I
- **CHM 11500** 4 cr
  - General Chemistry I
- **ENGL 10600** 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** 3 cr
  - (CHM 11600)
- **ENGR 13200** 2 cr
  - Oral Comm. Core

### SEM 3
- **MA 26100** 4 cr
  - Multivariate Calculus
- **PHYS 24100** 4 cr
  - Electricity and Optics
- **CE 29700** 3 cr
  - Basic Mechanics: Statics

### 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 335/497** 4 cr
  - Materials in Civil Engineering
- **CE 29800** 3 cr
  - Basic Mechanics: Dynamics

### SEM 6
- **STAT 51100** 3 cr
  - Statistical Methods
- **CE 39800** 3 cr
  - Engineering System Design
- **TECH EL #1** 3 cr
  - (Breadth)

### SEM 7
- **BASIC SCI** 3 cr
  - (BIOL, EAPS, FNR)
  - (also for STS)
  - CE 39021 2 cr
  - UCC Behavioral/Social Sciences
- **CE 49800** 3 cr
  - Senior Design
- **TECH EL #5** 3 cr
  - (Breadth)

### SEM 8
- **TECH EL #6** 3 cr
  - (Breadth)
- **TECH EL #7** 3 cr
  - (Design)
- **GEN ED #3** 3 cr
  - (Social Sciences)
- **GEN ED #5** 3 cr
  - (Humanities or Social Science)

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### Legend:
- **Red**: Required by First Year Engineering
- **Blue**: Civil Engineering Core Course
- **Yellow**: Technical Elective
- **Purple**: General Education Course

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

**Purdue University Lyles School of Civil Engineering**

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5See Foundational Core STS Requirement5

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

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130* cr. hrs.
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

**Breadth requirement:** At least four (4) courses must be completed from the following list, guaranteeing sufficient breadth of study in at least four of the emphasis areas:

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<thead>
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<th>ARC</th>
<th>CON</th>
<th>ENV</th>
<th>GEM</th>
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<tbody>
<tr>
<td>CE 31100 - Architectural Engineering (prereq CE 21101)</td>
<td>CE 22200 - Life Cycle Engr &amp; Mgmt of Constructed Facilities</td>
<td>CE 35000 - Intro to Environmental and Ecological Engr. (prereq CHM 118)</td>
<td>CE 408/597 - Geographic Information Systems in Engr. (prereq CE 208)</td>
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<tr>
<td>GEO</td>
<td>HYD</td>
<td>STR</td>
<td>TRA</td>
</tr>
<tr>
<td>CE 38300 - Geotechnical Engr I (co-req CE 340)</td>
<td>CE 44000 - Urban Hydraulics (prereq CE 340)</td>
<td>CE 37100 - Structural Analysis I (prereq CE 270)</td>
<td>CE 36100 - Transportation Engineering</td>
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</table>

**Design content requirement:** At least three (3) courses must be completed from the following list, guaranteeing sufficient design content:

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<tbody>
<tr>
<td>CE 41300, 41400</td>
<td>CE 52200, 52300, 52700</td>
<td>CE 45600, 45700</td>
<td>CE 30300, 30600</td>
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<tr>
<td>GEO</td>
<td>HYD</td>
<td>MAT</td>
<td>STR</td>
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<tr>
<td>CE 48300, 58300, 58400, 58500</td>
<td>CE 44000, 54300, 54600, 54900</td>
<td>CE 53000, 53500</td>
<td>CE 47000, 47300, 47900</td>
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<tr>
<td>CE 36100, 46100, 56200, 56300, 56500, 56700</td>
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