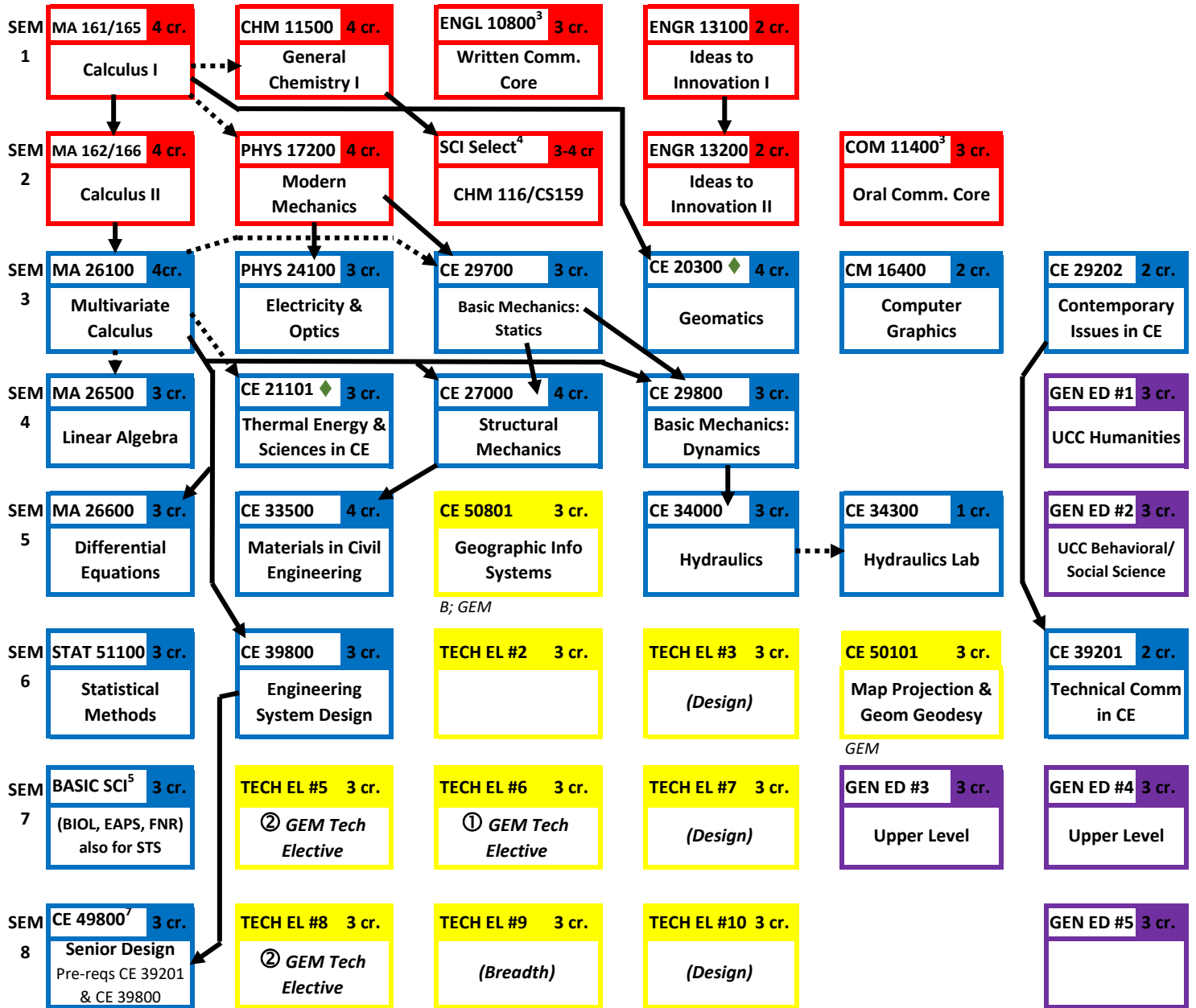


# Civil Engineering Curriculum Flowchart<sup>1,2</sup>

## GEOMATICS Engineering Concentration

Beginning  
Fall 2024



See Foundational Core STS Requirements<sup>5</sup>

### Legend:

<b>Red</b>	<b>Blue</b>	<b>Yellow</b>	<b>Purple</b>
Required by First Year Engineering	Civil Engineering Core Courses	Technical Electives	General Education Courses

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

### 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 requirements.
- 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 semester.
- 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 sequences.
- 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.

### Required for the Concentration: (6 cr.)

CE 50101: Map Projection & Geometric Geodesy (*GEM*)

CE 50801: Geographic Information Systems (*GEM*)

### ① **GEM Tech Elective Choose One (3 cr.):**

CE 32201: Proj Cntrl Life Cyc Const Fac (*CON*)

CE 35500/EEE 35500: Engr Envir Sustain (*ENV*)

CE 36100: Transportation Engineering (*B&D;TRA*)

CE 38300: Geotechnical Engineering (*B;GEO*)

CE 44000: Urban Hydraulics (*B&D;HYD*)

### ② **GEM Tech Elective Choose Two (6 cr.):**

CE 50301 Digital Photogrammetric Syst (*GEM*)

CE 50401 Laser Scanning (*GEM*)

CE 50601 Adj Geospatial Observations (*GEM*)

CE 50701 Geospatial Data Analytics (*GEM*)

CE 59700: Image-Based Sensing (*GEM*)

### Other Suggested Technical Electives: (*B = Breadth Courses; D = Design Courses*)

CE 30300: Engineering Surveying (*D;GEM*)

CE 32201: Proj Cntrl Life Cyc Const Fac (*CON*)

CE 35500/EEE 35500: Engr Envir Sustain (*ENV*)

CE 36100: Transportation Engineering (*B&D;TRA*)

CE 38300: Geotechnical Engineering (*B;GEO*)

CE 40800: Geo Info Sys in Engr (*B;GEM*)

CE 44000: Urban Hydraulics (*B&D;HYD*)

CE 50301 Digital Photogrammetric Syst (*GEM*)

CE 50401 Laser Scanning (*GEM*)

CE 50601 Adj Geospatial Observations (*GEM*)

CE 50701 Geospatial Data Analytics (*GEM*)

CE 59700: Image-Based Sensing (*GEM*)