Technical Elective Requirements for CE Students

1. **Total credit requirement:** CE students must complete thirty (30) credits of technical electives. The technical elective plan of study must be consistent with career objectives. For instance, one can elect to emphasize a particular area of civil engineering by taking several courses in that area, or one can choose a general program in civil engineering by taking courses in several emphasis areas.

2. **Minimum CE credit requirement and associated rules:** A minimum of twenty-one (21) credits of technical electives must come from CE-designated courses. The remaining nine (9) credit hours required may come from a combination of courses that are not CE-designated but have been approved for technical elective credit and from additional CE-designated courses. See below for details regarding approved technical electives that are not CE-designated courses. All technical electives must be selected in support of the career objectives of the student and be approved by the advisor.

3. **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:

   - ARCH: CE 31100
   - CON: CE 22200
   - ENV: CE 35000
   - GEM: CE 40800
   - GEO: CE 38300
   - HYD: CE 44000
   - STR: CE 37100
   - TRA: CE 36100

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

   - ARCH: CE 41300, 41400
   - CON: CE 52200, 52300, 52700
   - ENV: CE 35300, 45600, 45700
   - GEM: CE 30300, 30600
   - GEO: CE 48300, 58300, 58400, 58500
   - HYD: CE 44000, 54100, 54300, 54600, 54900
   - MAT: CE 53000
   - STR: CE 47000, 47300, 47900
   - TRA: CE 36100, 46100, 56200, 56300, 56500, 56700

5. **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; see details below in section titled, “Technical Elective Policies for non-Civil Engineering Courses”, item 6.

6. **All technical elective courses must be taken for a grade.**

### Technical Elective Policies for non-Civil Engineering Courses

Students in the School of Civil Engineering are encouraged to choose technical electives that are consistent with their career objectives. In many cases, this can involve courses that are offered outside of the School. The purpose of the policies below is to provide general criteria for appropriate technical elective courses offered by other departments.

1. The following categories of courses offered outside of Civil Engineering are generally approved as technical electives, subject to certain restrictions described later:

   - 300-, 400-, or 500-level courses offered by any school, department, or division in the College of Engineering or the College of Science at Purdue University.
   - All Engineering Projects in Community Service (EPCS) courses, including those at the 100- and 200-level, up to a maximum of three (3) credits.
• All 300- and 400-level Aerospace Studies (AFT), Naval Science (NS), and Military Science and Leadership (MSL) courses, up to a maximum of six (6) credits, applicable only to students who have completed four semesters in a Purdue ROTC program.
• Management (MGMT) courses at a level equal to or higher than MGMT 20000.
• Entrepreneurship (ENTR) courses at a level equal to or higher than ENTR 20000.
• The following 200-level courses: CEM 20100, ECE 20100, CHM 25500, CHM 25600, CHM 25700, CHM 26100, CHM 26105, CHM 26200, CHM 26205, CHM 26505, CHM 26605.

2. The following courses are considered to be substantially equivalent to courses required for the BSCE degree and thus are not eligible to be considered as technical electives:

- **Aeronautical & Astronautical Engineering**: AAE 33300 - Fluid Mechanics, AAE 33301 - Fluid Mechanics Laboratory.
- **Electrical & Computer Engineering**: ECE 30200 - Probabilistic Methods In Electrical And Computer Engineering
- **Industrial Engineering**: IE 33000 - Probability and Statistics In Engineering II.
- **Management**: MGMT 30500 - Business Statistics.
- **Mathematics**: MA 30300 - Differential Equations and Partial Differential Equations for Engineering and the Sciences, MA 35100 - Elementary Linear Algebra
- **Mechanical Engineering**: ME 30900 - Fluid Mechanics, ME 32300 - Mechanics Of Materials
- **Nuclear Engineering**: NUCL 32000 - Introduction To Materials For Nuclear Applications
- **Physics**: PHYS 31000 - Intermediate Mechanics, PHYS 50300 - Fundamental Concepts Of Physics, PHYS 50400 - Principles Of Physics I, PHYS 50500 - Principles Of Physics II.
- **Statistics**: STAT 30100 - Elementary Statistical Methods, STAT 35000 - Introduction To Statistics, STAT 50100 - Experimental Statistics I, STAT 50200 - Experimental Statistics II, STAT 50300 - Statistical Methods For Biology

3. All courses outside of Civil Engineering having the Coop or Internship course attribute or associated with cooperative education, internships, industrial practice, etc. are not eligible to be considered as technical electives.

4. The following variable title or individual study courses do not have general approval to be considered as technical electives; however, a student may send a written request to the CE Undergraduate Office to initiate the process to have a specific course from this list considered for technical elective credit:

- **Aeronautical & Astronautical Engineering**: AAE 49000, AAE 59000
- **Agricultural & Biological Engineering**: ABE 49500, ABE 49800, ABE 49900, ABE 59000, ABE 59100, ABE 59200
- **Biomedical Engineering**: BME 39500, BME 49500, BME 49800, BME 59500, BME 59600
- **Biological Sciences**: BIOL 39500, BIOL 39800, BIOL 49400, BIOL 49500, BIOL 49600, BIOL 49700, BIOL 49800, BIOL 49900, BIOL 50000, BIOL 54200, BIOL 59500
- **Chemistry**: CHM 49000, CHM 49900, CHM 50200, CHM 59900
- **Chemical Engineering**: CHE 41100, CHE 41200, CHE 49700, CHE 49800, CHE 49900, CHE 59700
- **Computer Science**: CS 39000, CS 49000, CS 49700, CS 59000, CS 59100
- **Construction Engineering & Management**: CEM 49700
- **Earth & Atmospheric Science**: EAS 39100, EAS 49400, EAS 49700, EAS 55000, EAS 59100
- **Electrical & Computer Engineering**: ECE 49500, ECE 49600, ECE 59500
- **Engineering Education**: ENE 49800, ENE 59000, ENE 59500
- **Entrepreneurship**: ENTR 39000, ENTR 49000
- **Environmental & Ecological Engineering**: EEE 49500
- **Global Engineering Program**: GEP 30000, GEP 40000
- **Industrial Engineering**: IE 49000, IE 49900, IE 59000, IE 59500
• **Interdisciplinary Engineering**: IDE 49500
• **Management**: MGMT 29000, MGMT 39000, MGMT 49000, MGMT 59000
• **Materials Engineering**: MSE 49000, MSE 49700, MSE 49900, MSE 59500, MSE 59700
• **Mathematics**: MA 39000, MA 49000, MA 59800
• **Mechanical Engineering**: ME 49700, ME 49800, ME 49900, ME 59500, ME 59700
• **Nuclear Engineering**: NUCL 49700, NUCL 49800, NUCL 59700
• **Physics**: PHYS 47000, PHYS 49000, PHYS 50700, PHYS 57000, PHYS 59000, PHYS 59300, PHYS 59500
• **Science**: SCI 49000
• **Statistics**: STAT 39000, STAT 49000, STAT 51500, STAT 59700, STAT 59800

5. Any course not included in the categories described in item #1 above does not have general approval to be considered as a technical elective; however, a student may send a written request to the CE Undergraduate Office to initiate the process to have a specific course considered for technical elective credit.

6. CEM, LS and EEE courses may be used to satisfy the sequence requirement for technical electives in the areas of Construction Engineering, Geomatics Engineering, and Environmental Engineering, respectively. No other non-CE courses may be used to satisfy the sequence requirement.