2015-2016 ISU Civil Engineering Flow Chart (General)—129 CR

**Semester 1**  
16 CR

- ENGR 101 Engineering Orientation  
  F.S – R CR
- C E 160 Engineering Problems  
  F.S – 3 CR
- MATH 165 Calculus I  
  F.S.SS – 4 CR
- CHEM 177 General Chemistry I  
  F.S.SS – 4 CR
- CHEM 177L Laboratory in Gen. Chemistry I  
  F.S.SS – 1 CR
- ENGL 150 Critical Thinking & Communication  
  F.S.SS – 3 CR

**Semester 2**  
18 CR

- C E 105 Intro to Civil Engr. Profession  
  F.S – 1 CR
- C E 170 Graphics for Civil Engineering  
  F.S – 2 CR
- MATH 166 Calculus II  
  F.S.SS – 4 CR
- PHYS 221 Introduction to Classical Physics I  
  F.S.SS – 5 CR
- C E 111 Fundamentals of Surveying I  
  F.S – 3 CR
- Social Science & Humanities Elective  
  + 3 CR
- ENGR 101 Engineering Orientation  
  F.S – R CR
- C E 170 Graphics for Civil Engineering  
  F.S – 2 CR
- MATH 166 Calculus II  
  F.S.SS – 4 CR
- CHEM 177L Laboratory in Gen. Chemistry I  
  F.S.SS – 1 CR
- ENGL 150 Critical Thinking & Communication  
  F.S.SS – 3 CR

**Semester 3**  
17-18 CR

- GEOL 201 Geology for Engineers  
  F.S – 3 CR
- MATH 265 Calculus III  
  F.S.SS – 4 CR
- E M 275 Statics of Engineering  
  F.S.SS – 3 CR
- CHEM 178/178L General Chemistry II/Chem II Lab  
  F.S.SS – 4 CR
- PHYS 222 Introduction to Classical Physics II  
  F.S.SS – 5 CR
- ENGL 250 Written, Oral, Vis. & Elect. Comp.  
  F.S.SS – 3 CR

**Semester 4**  
18 CR

- MATH 266 Elem. Differential Equations  
  F.S.SS – 3 CR
- E M 345 Dynamics  
  F.S.SS – 3 CR
- E M 324 Mechanics of Materials  
  F.S.SS – 3 CR
- PHYS 370 Mechanics of Fluids  
  F.S.SS – 3 CR
- C E 206 Econ. Analysis & Prof. Issues in CE  
  F.S – 3 CR
- Social Science & Humanities Elective  
  + 3 CR

**Semester 5**  
16 CR

- C E 332 Structural Analysis I  
  F.S – 3 CR
- MATH 327 Mechanics of Materials Lab  
  F.S.SS – 1 CR
- C E 360 Geotechnical Engineering  
  F.S – 3 CR
- C E 306 Project Management  
  F.S – 3 CR
- Technical Communication Elective  
  3 CR
- Social Science & Humanities Elective  
  + 3 CR
- LIB 160 Library Instruction  
  F.S.SS – 1 CR

**Semester 6**  
18 CR

- C E 333 Structural Steel Design I  
  F.S – 3 CR
- C E 372 Hydrology & Hydraulics  
  F.S – 3 CR
- C E 382 Design of Concretes  
  F.S – 3 CR
- C E 326 Environmental Engineering  
  F.S – 3 CR
- C E 355 Transportation Engineering  
  F.S – 3 CR
- SP CM 212 Fundamentals of Public Speaking  
  F.S.SS – 3 CR

**Semester 7**  
14 CR

- C E 460 Foundation Engineering  
  F.S – 3 CR
- Engineering Topics Elective  
  2 CR
- Engineering Topics Elective  
  3 CR
- Engineering Topics Elective  
  3 CR
- Engineering Topics Elective  
  3 CR
- US Diversity Elective  
  + 3 CR

**Semester 8**  
12 CR

- C E 403 Program Assessment  
  F.S – R CR
- Engineering Topics Elective  
  3 CR
- Engineering Topics Elective  
  3 CR
- Design Elective  
  3 CR
- International Perspective Elective  
  3 CR
- Engineering Topics Elective  
  3 CR
- Design Elective  
  3 CR
- Critical Path
- Civil Core
- Basic Program
- Corequisites

**Notes:**
1. Although this flowchart is provided for your guidance, the University Catalog contains the definitive list of requirements.
2. Only co-requisites are shown. They may be taken at the same time, but are directional indicated by the arrow.
3. Courses that MAY be taken earlier as long as prerequisites are followed.
   * Choose courses from Civil Engineering approved list.
   + Must choose 2 of the following courses.

**Prerequisites are listed on the back.** Prerequisites will be met if taken in the example order suggested on this sheet. See http://catalog.iastate.edu/azcourses/ for full list of classes.
Prerequisite list for selected courses in the C E General Option 2015-16

<table>
<thead>
<tr>
<th>Course</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>C E 105</td>
<td>None</td>
</tr>
<tr>
<td>C E 111</td>
<td>C E 160, credit or enrollment in ENGR 170 or C E 170, MATH 165, credit or enrollment in C E 105 for C E majors</td>
</tr>
<tr>
<td>C E 160</td>
<td>Satisfactory scores on mathematics placement assessments; credit or enrollment in MATH 165</td>
</tr>
<tr>
<td>C E 170</td>
<td>MATH 165, credit or enrollment in C E 105</td>
</tr>
<tr>
<td>C E 206</td>
<td>MATH 166, ENGL 250; C E 105; ECON 101 recommended</td>
</tr>
<tr>
<td>C E 306</td>
<td>C E 206, Credit or enrollment in a technical communication elective from approved department list</td>
</tr>
<tr>
<td>C E 326</td>
<td>CHEM 177 or CHEM 178, MATH 166, credit or enrollment in E M 378</td>
</tr>
<tr>
<td>C E 332</td>
<td>E M 324</td>
</tr>
<tr>
<td>C E 333</td>
<td>C E 332, E M 327</td>
</tr>
<tr>
<td>C E 334</td>
<td>C E 332, E M 327</td>
</tr>
<tr>
<td>C E 355</td>
<td>C E 111, C E 206, PHYS 221, a course in statistics from the approved departmental list</td>
</tr>
<tr>
<td>C E 360</td>
<td>E M 324, credit or enrollment in GEOL 201</td>
</tr>
<tr>
<td>C E 372</td>
<td>E M 378, a course in statistics from the approved departmental list</td>
</tr>
<tr>
<td>C E 382</td>
<td>Credit or enrollment in C E 360</td>
</tr>
<tr>
<td>C E 403</td>
<td>Verification of undergraduate application for graduation by the end of the first week of class.</td>
</tr>
<tr>
<td>C E 460</td>
<td>C E 360</td>
</tr>
<tr>
<td>C E 485</td>
<td>C E 306, C E 326, C E 333 or C E 334, C E 355, C E 360, C E 372, C E 382, SP CM 212. Course enrollment limited to final graduating semester.</td>
</tr>
<tr>
<td>CHEM 177</td>
<td>MATH 140 or high school equivalent, and CHEM 50 or 1 year high school chemistry, and credit or enrollment in CHEM 177L</td>
</tr>
<tr>
<td>CHEM 177L</td>
<td>Credit or enrollment for credit in CHEM 177</td>
</tr>
<tr>
<td>CHEM 178</td>
<td>CHEM 177, CHEM 177L</td>
</tr>
</tbody>
</table>

Prerequisites vary for the following electives. Please consult the various lists corresponding to the desired elective.

- Design Elective
- Engineering Topics Electives
- International Perspectives and US Diversity Electives
- Social Science and Humanities Electives
- Statistics Elective
- Technical Communication Elective

Revised 4/16/15 JLP