Illinois State University College of Engineering Requirements

- Courses must be completed with a grade of "C" or better in order to be considered for transfer credit into the College of Engineering.
- Students not adequately prepared for success in Calculus I may need to take courses in addition to those listed below. Some students may first need to successfully complete college algebra (MATH 140; ICC MATH 115) and/or college trigonometry/prep for calculus (MATH 143; ICC MATH 120 or 165).
- The College of Engineering requires two years of a single foreign language in high school or the equivalent in college (typically two semesters).

### Courses required in all engineering degree programs at ISU

>> focus on these courses first <<

<table>
<thead>
<tr>
<th>Iowa State</th>
<th>Cr</th>
<th>Iowa State Course Name</th>
<th>ICC</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 177 (or 167)</td>
<td>4</td>
<td>General Chemistry I (for Engineers)</td>
<td>CHEM 130</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 150</td>
<td>3</td>
<td>Critical Thinking and Communication</td>
<td>ENGL 110</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 250</td>
<td>3</td>
<td>WOVE Composition</td>
<td>ENGL 111</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 101</td>
<td>R</td>
<td>Engineering Orientation</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>ENGR 160</td>
<td>3</td>
<td>Engineering Problems</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>LIB 160</td>
<td>1</td>
<td>Information Literacy</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>MATH 165</td>
<td>4</td>
<td>Calculus I</td>
<td>MATH 222</td>
<td>5</td>
</tr>
<tr>
<td>MATH 166</td>
<td>4</td>
<td>Calculus II</td>
<td>MATH 223</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 221 (or 231/231L)*</td>
<td>5</td>
<td>Classical Physics I and Lab</td>
<td>PHYS 211 &amp; 212 (5)*</td>
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</tbody>
</table>

### Additional courses required in specific engineering degree programs at ISU

<table>
<thead>
<tr>
<th>Iowa State</th>
<th>Engineering Major(s) Requiring Course (see abbreviation key below)</th>
<th>Cr</th>
<th>Iowa State Course Name</th>
<th>ICC</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRON 182</td>
<td>AE(LW,PM)</td>
<td>3</td>
<td>Intro to Soil Science</td>
<td>AGRI 112</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 211*</td>
<td>AE, CE(Envr)</td>
<td>3</td>
<td>Principles of Biology I</td>
<td>BIOL 160</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 212*</td>
<td>BSE</td>
<td>3</td>
<td>Principles of Biology II</td>
<td>BIOL 161</td>
<td>4</td>
</tr>
<tr>
<td>CE 274</td>
<td>All except ChE,CprE,CybE,EE,MatE,SE</td>
<td>3</td>
<td>Engineering Statics</td>
<td>ENGR 251</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 178/178L</td>
<td>ChE,CE,EnvE,MatE (possibly AE,BSE)</td>
<td>4</td>
<td>General Chemistry II and Lab</td>
<td>CHEM 132</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 331/333L</td>
<td>ChE (possibly BSE)</td>
<td>5</td>
<td>Organic Chemistry I and Lab</td>
<td>CHEM 220</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 332/334L</td>
<td>ChE (possibly BSE)</td>
<td>5</td>
<td>Organic Chemistry II and Lab</td>
<td>CHEM 230</td>
<td>4</td>
</tr>
<tr>
<td>ECON 101 or ECON 102</td>
<td>ME, SE (also accepted as an elective by all other engineering majors)</td>
<td>3</td>
<td>Principles of Microeconomics (101) or Principles of Macroeconomics (102)</td>
<td>ECON 111 or ECON 110</td>
<td>3</td>
</tr>
<tr>
<td>MATH 265</td>
<td>Required (or accepted as math elective) in all majors except AE(LW), BSE</td>
<td>4</td>
<td>Calculus III</td>
<td>MATH 224</td>
<td>4</td>
</tr>
<tr>
<td>MATH 267 or 266</td>
<td>All</td>
<td>4</td>
<td>Differential Equations</td>
<td>MATH 250</td>
<td>3</td>
</tr>
<tr>
<td>ME 345</td>
<td>AerE, AE(PM), CE, ME</td>
<td>3</td>
<td>Engineering Dynamics</td>
<td>ENGR 252</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 232/232L*</td>
<td>AerE,ChE,CprE,ConE,EE,IE,MatE,ME</td>
<td>5</td>
<td>Classical Physics II and Lab</td>
<td>PHYS 212&amp;213 (5)*</td>
<td></td>
</tr>
<tr>
<td>SP CM 212</td>
<td>CE,Envl,EE,IE,SE (also accepted as an elective by AE,BSE,ChE,CprE,CybE,EE,MatE,ME)</td>
<td>3</td>
<td>Fundamentals of Public Speaking</td>
<td>COMM 212</td>
<td>3</td>
</tr>
</tbody>
</table>

*When ICC PHYS 211, PHYS 212, and PHYS 213 are all taken the courses will transfer as ISU PHYS 231/231L (5) and PHYS 232/232L (5)

*ICC BIOL 160 and BIOL 161 must both be completed in order to transfer as credit for ISU BIOL 211 and BIOL 212
### Abbreviation key

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Major</th>
<th>Abbreviation</th>
<th>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>AerE</td>
<td>Aerospace Engineering</td>
<td>CprE</td>
<td>Computer Engineering</td>
</tr>
<tr>
<td>AE</td>
<td>Agricultural Engineering</td>
<td>ConE</td>
<td>Construction Engineering</td>
</tr>
<tr>
<td>LW/PM</td>
<td>Land&amp;Water Resources option; Animal Production Systems option; Power&amp;Machinery option</td>
<td>BE; EL; HH; MCH</td>
<td>Building Emphasis; Electrical Emphasis; Heavy/Highway; Mechanical Emphasis</td>
</tr>
<tr>
<td>BSE</td>
<td>Biological Systems Engineering</td>
<td>CybE</td>
<td>Cyber Security Engineering</td>
</tr>
<tr>
<td>BE; FE; BR; Op</td>
<td>Bioenvironmental option; Food Engineering option; Biorenewable Resource option; Open option</td>
<td>EE; EnE</td>
<td>Electrical Engineering; Environmental Engineering</td>
</tr>
<tr>
<td>ChE</td>
<td>Chemical Engineering</td>
<td>IE</td>
<td>Industrial Engineering</td>
</tr>
<tr>
<td>CE</td>
<td>Civil Engineering</td>
<td>MatE</td>
<td>Materials Engineering</td>
</tr>
<tr>
<td>Envr</td>
<td>Environmental Specialization</td>
<td>ME</td>
<td>Mechanical Engineering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SE</td>
<td>Software Engineering</td>
</tr>
</tbody>
</table>

### General Education: Social Science/Humanities (SS/H) Requirements

- Engineering degree programs require between 9 and 15 general education credits in social sciences and humanities (SS/H).
- The list below offers course options that are widely accepted by ISU engineering majors; however, each program has unique requirements—please confirm choices on an individual basis if you know your intended engineering major.
- Iowa State University requires each student to complete three credits of course work categorized as "US Diversity" (indicated below with 1); and three credits of course work categorized as "International Perspective" (indicated below with 2). These can be included within the SS/H requirements.

### Social science/humanities (SS/H) courses widely accepted in ISU engineering degree programs

<table>
<thead>
<tr>
<th>Iowa State</th>
<th>Cr</th>
<th>Iowa State Course Name</th>
<th>ICC</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTHRO 201</td>
<td>3</td>
<td>Intro to Cultural Anthropology</td>
<td>SOC 213</td>
<td>3</td>
</tr>
<tr>
<td>ECON 101 or ECON 102</td>
<td>3</td>
<td>Principles of Microeconomics or Macroeconomics</td>
<td>ECON 111 or 110</td>
<td>3</td>
</tr>
<tr>
<td>HD FS 241</td>
<td>3</td>
<td>Literature for Children</td>
<td>CHILD 231</td>
<td>3</td>
</tr>
<tr>
<td>HD FS 276</td>
<td>3</td>
<td>Human Sexuality</td>
<td>PSY 118</td>
<td>3</td>
</tr>
<tr>
<td>HIST 201</td>
<td>3</td>
<td>Intro to Western Civilization I</td>
<td>HIST 117</td>
<td>3</td>
</tr>
<tr>
<td>HIST 202</td>
<td>3</td>
<td>Intro to Western Civilization II</td>
<td>HIST 118</td>
<td>3</td>
</tr>
<tr>
<td>HIST 221</td>
<td>3</td>
<td>Survey of U.S. History I</td>
<td>HIST 201</td>
<td>3</td>
</tr>
<tr>
<td>HIST 222</td>
<td>3</td>
<td>Survey of U.S. History II</td>
<td>HIST 202</td>
<td>3</td>
</tr>
<tr>
<td>MUSIC 102</td>
<td>3</td>
<td>Intro to Music Listening</td>
<td>MUS 150</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 201</td>
<td>3</td>
<td>Intro to Philosophy</td>
<td>PHIL 110</td>
<td>3</td>
</tr>
<tr>
<td>POL S 215</td>
<td>3</td>
<td>Intro to American Government</td>
<td>POLSC 115</td>
<td>3</td>
</tr>
<tr>
<td>POL S 241</td>
<td>3</td>
<td>Democracy and Dictatorship: Intro to Comparative Politics</td>
<td>POLSC 124</td>
<td>3</td>
</tr>
<tr>
<td>POL S 251</td>
<td>3</td>
<td>Intro to International Politics</td>
<td>POLSC 122</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 101</td>
<td>3</td>
<td>Intro to Psychology</td>
<td>PSY 110</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 230</td>
<td>3</td>
<td>Developmental Psychology</td>
<td>PSY 202</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 280</td>
<td>3</td>
<td>Social Psychology</td>
<td>SOC 218 or PSY 210</td>
<td>3</td>
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<tr>
<td>RELIG 205</td>
<td>3</td>
<td>World Religions</td>
<td>PHIL 112</td>
<td>3</td>
</tr>
<tr>
<td>SOC 134</td>
<td>3</td>
<td>Intro to Sociology</td>
<td>SOC 110</td>
<td>3</td>
</tr>
<tr>
<td>SOC 219</td>
<td>3</td>
<td>Sociology of Intimate Relationships</td>
<td>SOC 120</td>
<td>3</td>
</tr>
<tr>
<td>SOC 235</td>
<td>3</td>
<td>Social Problems and American Values</td>
<td>SOC 114</td>
<td>3</td>
</tr>
<tr>
<td>SOC 241</td>
<td>3</td>
<td>Youth and Crime</td>
<td>CRJ 118</td>
<td>3</td>
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</tbody>
</table>

### More information and resources

- Please use this transfer plan as a guide as you confirm course choices with an academic advisor in your major of interest.
- Additional transfer student resources are available at [www.engineering.iastate.edu/transfer](http://www.engineering.iastate.edu/transfer).
- Email questions to engrapp@iastate.edu.

_Last updated on 6/21/21 based on course listings in the ISU 2020-21 catalog and the ICC 2020-21 catalog._
Sample Illinois Central College course plan – Year One
(Shown as an example only – please personalize when working with your academic advisor.)

SEMESTER 1

<table>
<thead>
<tr>
<th>ICC Course Number</th>
<th>Credits</th>
<th>Course Name/Topic</th>
<th>Equivalent course at Iowa State</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 110</td>
<td>3</td>
<td>English/Composition I</td>
<td>ENGL 150</td>
</tr>
<tr>
<td>MATH 222</td>
<td>5</td>
<td>Calculus I</td>
<td>MATH 165</td>
</tr>
<tr>
<td>PHYS 211</td>
<td>4</td>
<td>Classical Physics I</td>
<td>PHYS 221 (aka PHYS 231/231L)</td>
</tr>
<tr>
<td>PHYS 213</td>
<td>2</td>
<td></td>
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<td></td>
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</table>

SEMESTER 2

<table>
<thead>
<tr>
<th>ICC Course Number</th>
<th>Credits</th>
<th>Course Name/Topic</th>
<th>Equivalent course at Iowa State</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 111</td>
<td>3</td>
<td>English/Composition II</td>
<td>ENGL 250</td>
</tr>
<tr>
<td>MATH 223</td>
<td>4</td>
<td>Calculus II</td>
<td>MATH 166</td>
</tr>
<tr>
<td>PHYS 212</td>
<td>4</td>
<td>Classical Physics II</td>
<td>PHYS 232/232L</td>
</tr>
<tr>
<td>ECON 111</td>
<td>3</td>
<td>Microeconomics</td>
<td>ECON 101</td>
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<td>= 14 cr</td>
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SUMMER 1

<table>
<thead>
<tr>
<th>ICC Course Number</th>
<th>Credits</th>
<th>Course Name/Topic</th>
<th>Equivalent course at Iowa State</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 130</td>
<td>4</td>
<td>General Chemistry I</td>
<td>CHEM 177/177L</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>= 4 cr</td>
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