

Iowa State University College of Engineering Requirements

- Courses must be completed with a grade of “C” or better in order to be considered for transfer credits into the College of Engineering.
- All engineering students must successfully complete **BASIC PROGRAM** courses (listed below) before progressing to upper level engineering program course work.
- Students not adequately prepared for success in Calculus I may need to take courses in addition to those listed in the Basic Program. 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 – an equivalent in college (typically two semesters).

**BASIC PROGRAM courses: required in all engineering degree programs at ISU**

ISU Course	Cr	ICC Course	Cr	
CHEM 177 or 167	4	General Chemistry for Engineers	CHEM 130	4
ENGL 150	3	Critical Thinking and Communication	ENGL 110	3
ENGL 250	3	WOVE Composition	ENGL 111	3
ENGR 101	R	Engineering Orientation		
ENGR 160	3	Engineering Problems		
LIB 160	1	Information Literacy		
MATH 165	4	Calculus I	MATH 222	5
MATH 166	4	Calculus II	MATH 223	4
PHYS 221	5	Classical Physics I	PHYS 211 & 212 <sup>^</sup>	5 <sup>^</sup>

**Additional courses required in *specific* engineering degree programs (majors) at ISU**  
(see abbreviation key below)

ISU Course	Engineering Major Requiring	Cr	ICC Course	Cr	
AGRON 182	AE(LW,PM)	3	Soil Science	AGRI 112 or 200	4
AN S 114	AE(AP)	2	Survey of Animal Industry	AGRI 110	3
BIOL 211 <sup>+</sup>	AE, CE(Envr)	3	Principles of Biology I	BIOL 160 <sup>+</sup>	4
BIOL 212 <sup>+</sup>	BSE	3	Principles of Biology II	BIOL 161 <sup>+</sup>	4
CHEM 178/178L	ChE,CE,MatE (& AE,BSE if 177 completed)	4	General Chemistry II & Lab II	CHEM 132	4
CHEM 331/333L	BSE(BR,Pre), ChE	5	Organic Chemistry I	CHEM 220	5
CHEM 332/334L	BSE(BR,Pre), ChE	5	Organic Chemistry II	CHEM 230	4
ECON 101 or 102	ConE, ME (also accepted as an elective by all engineering majors)	3	Intro to Microeconomics (101) or Intro to Macroeconomics (102)	ECON 111 or 110	3
EM 274	All <i>except</i> ChE, CprE, EE, SE	3	Engineering Statics	ENGR 251	3
EM 345	AerE, AE(PM), CE, ME	3	Dynamics	ENGR 252	3
MATH 265	All <i>except</i> AE, BSE, SE	4	Calculus III	MATH 224	4
MATH 267	ALL	4	Elem. Diff. Eq's & Laplace Trans.	MATH 250	3
PHYS 222	All <i>except</i> AE, BSE, CE(Envr), SE	5	Classical Physics II	PHY 212 & 213 <sup>^</sup>	5 <sup>^</sup>
SP CM 212	CE, IE, SE (also accepted as an elective by AE, BSE, ChE, CprE, EE, MatE, ME)	3	Fundamentals of Public Speaking	COMM 212	3

\*ICC BIO 160 & BIO 161 must both be completed in order to transfer as credit for ISU Biol 211 and Biol 212

<sup>^</sup>Completion of ICC PHYS 211, 212 and 213 transfers in as ISU PHYS 221 (5 cr) and PHYS 222 (5 cr)

**Abbreviation key:**

Abbreviation	Major	Abbreviation	Major
AerE	Aerospace Engineering	CprE	Computer Engineering
AE	Agricultural Engineering	ConE	Construction Engineering
LW; AP; PM	Land&Water Resources option; Animal Production Systems option; Power & Machinery option	EE	Electrical Engineering
BSE	Biological Systems Engineering	IE	Industrial Engineering
BE; FE	Bioenvironmental option; Food Engineering option;	MatE	Materials Engineering
BR; Op	Biorenewable Resources option; Open option	ME	Mechanical Engineering
ChE	Chemical Engineering	SE	Software Engineering
CE	Civil Engineering		
Envr	Environmental option		

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

- Engineering degree programs require between 12 and 15 credits in social sciences/humanities/general education (SS/H). The list below offers course options that are accepted by all ISU engineering departments; however, each program has unique requirements—please confirm choices on an individual basis if you know your intended engineering program.
- Iowa State University requires each student to complete three credits of course work categorized as “US Diversity” (indicated below with <sup>1</sup>); and 3 credits of course work categorized as “International Perspective” (indicated below with <sup>2</sup>). These can be included within the 12-15 credits of SS/H requirements.

### **Social science/humanities/general education (SS/H) courses accepted in all ISU engineering degree programs**

<b>ISU Course</b>	<b>Cr</b>		<b>ICC Course</b>	<b>Cr</b>
ANTHR 201 <sup>2</sup>	3	Introduction to Cultural Anthropology	SOC 213	3
SOC 241	3	Youth and Crime	CRJ 118	3
ECON 101	3	Principles of Microeconomics	ECON 111	3
ECON 102	3	Principles of Macroeconomics	ECON 110	3
ENGL 201	3	Introduction to Literature	LIT 110	3
HD FS 240 <sup>1</sup>	3	Literature for Children	CHILD 231	3
HIST 201 <sup>2</sup>	3	Introduction To Western Civilization I	HIST 117 (or 111)	3 (4)
HIST 202 <sup>2</sup>	3	Introduction To Western Civilization II	HIST 118 (or 112)	3 (4)
HIST 221	3	Survey of U.S History I	HIST 201	4
HIST 222	3	Survey of U.S History II	HIST 202	4
MUSIC 102 <sup>2</sup>	3	Introduction to Music Listening	MUS 150	3
PHIL 201	3	Introduction to Philosophy	PHIL 110	3
POL S 215	3	Introduction to American Government	POLSC 115	3
POL S 241 <sup>2</sup>	3	Comparative Governments and Politics	POLSC 124	3
POL S 251 <sup>2</sup>	3	Introduction to International Politics	POLSC 122	3
PSYCH 101	3	Introduction to Psychology	PSY 110	3
PSYCH 230	3	Developmental Psychology	PSY 202	3
PSYCH 280	3	Social Psychology	PSY 210 or SOC 218	3
HD FS 276 <sup>1</sup>	3	Human Sexuality	PSY 118	3
RELIG 205 <sup>2</sup>	3	Introduction to World Religions	PHIL 112	3
SOC 134	3	Introduction to Sociology	SOC 110	3
SOC 219	3	Sociology of Intimate Relationships	SOC 120	3
SOC 235 <sup>1</sup>	3	Social Problems and American Values	SOC 114	3

### More information and resources

- Please use this transfer plan as a guide as you confirm course choices with an academic adviser 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 [enrapp@iastate.edu](mailto:enrapp@iastate.edu).