

**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; CLC MTH 122) and/or college trigonometry/prep for calculus (MATH 143; CLC MTH 123 or 144).
- 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		CLC Course	Cr
CHEM 177 or 167	4	General Chemistry for Engineers	CHM 121	5
ENGL 150	3	Critical Thinking and Communication	ENG 121	3
ENGL 250	3	WOVE Composition	ENG 122	3
ENGR 101	R	Engineering Orientation		
ENGR 160	3	Engineering Problems		
LIB 160	1	Information Literacy	LSC 121	1
MATH 165	4	Calculus I	MTH 145	5
MATH 166	4	Calculus II	MTH 146	4
PHYS 221	5	Classical Physics I	PHY 123 and 124 <sup>^</sup>	6 <sup>^</sup>

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

ISU Course	Engineering Major Requiring	Cr		CLC Course	Cr
BIOL 211 <sup>+</sup>	AE, CE(Envr)	3	Principles of Biology I	BIO 161 <sup>+</sup>	4
BIOL 212 <sup>+</sup>	BSE	3	Principles of Biology II	BIO 162 <sup>+</sup>	4
MICRO 201/201L	AE(LW)	4	Microbiology	BIO 246	4
CHEM 178/178L	ChE, CE, MatE (& AE, BSE if 177 completed)	4	General Chemistry II & Lab	CHM 123	5
CHEM 231/231L	CE(Envr)	4	Elementary Organic Chemistry	CHM 125	5
CHEM 331/333L	BSE(BR,Pre), ChE	5	Organic Chemistry I	CHM 222	5
CHEM 332/334L	BSE(BR,Pre), ChE	5	Organic Chemistry II	CHM 223	5
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)	ECO 222 or 221	3
EM 274	All <i>except</i> ChE, CprE, EE, SE	3	Engineering Statics	EGR 125	3
EM 324	AerE, AE, BSE, CE, ConE, MatE, ME	3	Mechanics of Materials	EGR 222	3
EM 345	AerE, AE(PM), CE, ME	3	Dynamics	EGR 225	3
MATH 265	All <i>except</i> AE, BSE, SE	4	Calculus III	MTH 246	4
MATH 267	ALL	4	Elem. Differential Equations	MTH 227	3
PHYS 222	All <i>except</i> AE, BSE, CE(Envr), SE	5	Classical Physics II	PHY 124 and 221 <sup>^</sup>	6 <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	CMM 121	3

<sup>+</sup>CLC BIO 161 & BIO 162 must both be completed in order to transfer as credit for ISU BIOL 211 and BIOL 212  
<sup>^</sup>The combination of CLC PHY 123, 124 and 221 will transfer as credit for ISU PHYS 221 (6 cr), 222 (6 cr) and PHYS 2TXX (2 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**

ISU Course	Cr		CLC Course	Cr
ANTHR 201 <sup>2</sup>	3	Introduction to Cultural Anthropology	ANT 221	3
ECON 101	3	Principles of Microeconomics	ECO 222	3
ECON 102	3	Principles of Macroeconomics	ECO 221	3
HD FS 240 <sup>1</sup>	3	Children’s Literature	ENG 249	3
HD FS 276 <sup>1</sup>	3	Human Sexuality	PSY 228 or SWK 228	3
HIST 201 <sup>2</sup>	3	Introduction To Western Civilization I	HST 121	3
HIST 202 <sup>2</sup>	3	Introduction To Western Civilization II	HST 122	3
HIST 221	3	Survey of U.S History I	HST 221	3
HIST 222	3	Survey of U.S History II	HST 222	3
MUSIC 102 <sup>2</sup>	3	Introduction to Music Listening	MUS 124	3
PHIL 201	3	Introduction to Philosophy	PHI 121	3
RELIG 205 <sup>2</sup>	3	Introduction to World Religions	PHI 126	3
POL S 215	3	Introduction to American Government	PSC 121	3
POL S 241 <sup>2</sup>	3	Comparative Politics	PSC 221	3
POL S 251 <sup>2</sup>	3	International Politics	PSC 222	3
PSYCH 101	3	Introduction to Psychology	PSY 121	3
PSYCH 230	3	Developmental Psychology	PSY 220 or 222	3
PSYCH 280	3	Social Psychology	PSY 225	3
SOC 134	3	Introduction to Sociology	SOC 121	3
SOC 235 <sup>1</sup>	3	Social Problems and American Values	SOC 222	3
SOC 241	3	Youth and Crime	CRJ 229	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 [engrapp@iastate.edu](mailto:engrapp@iastate.edu).