

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; RCTC MATH 1115) and/or college trigonometry/prep for calculus (Math 143; RCTC MATH 1117).
- 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	RCTC Course	Cr
CHEM 177 or 167	4	General Chemistry for Engineers	CHEM 1127 4
ENGL 150	3	Critical Thinking and Communication	ENGL 1117 4
ENGL 250	3	WOVE Composition	ENGL 1118 4
ENGR 101	R	Engineering Orientation	n/a
ENGR 160	3	Engineering Problems	n/a
LIB 160	1	Information Literacy	n/a
MATH 165	4	Calculus I	MATH 1127 5
MATH 166	4	Calculus II	MATH 1128 5
PHYS 221	5	Classical Physics I	PHYS 1127 5

Additional courses required in *specific* engineering degree programs (majors) at ISU

(see abbreviation key below)

ISU Course	Engineering major requiring course	Cr	RCTC	Cr
BIOL 211+	AE, CE(Envr)	3	Principles of Biology I	BIOL 1220+ 4
BIOL 212+	BSE	3	Principles of Biology II	BIOL 1230+ 4
CHEM 178/178L	ChE,CE,MatE (& AE,BSE if 177 completed)	4	General Chemistry II & Lab II	CHEM 1128 4
CHEM 231	CE(Envr)	4	Survey of Organic Chemistry	CHEM 2100 4
CHEM 331/331L	BSE(BR,Pre), ChE	5	Organic Chemistry I	CHEM 2127 5
CHEM 332/332L	BSE(BR,Pre), ChE	5	Organic Chemistry II	CHEM 2128 5
ECON 101 or 102	ConE, ME, SE (also accepted as an elective by all engineering majors)	3	Intro to Microeconomics (101) or Intro to Macroeconomics (102)	ECON 2214 or 2215 4
EM 274	All <i>except</i> ChE, CprE, EE, SE	3	Engineering Statics	ENGR 2211 3
EM 345	AerE, AE(PM), CE, ME	3	Dynamics	ENGR 2212 3
MATH 265	All <i>except</i> AE, BSE, SE	4	Calculus III	MATH 2237 5
PHYS 222	All <i>except</i> AE, BSE, CE(Envr), SE	5	Classical Physics II	PHYS 1128 5
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 1114 3

*RCTC BIOL 1220 & BIOL 1230 must both be completed in order to transfer as credit for ISU BIOL 211 and BIOL 212

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	CybE	Cyber Security Engineering
BSE	Biological Systems Engineering	EE	Electrical Engineering
BE; FE	Bioenvironmental option; Food Engineering option;	IE	Industrial Engineering
BR; Op	Biorenewable Resources option; Open option	MatE	Materials Engineering
ChE	Chemical Engineering	ME	Mechanical Engineering
CE	Civil Engineering	SE	Software 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 ¹); and 3 credits of course work categorized as “International Perspective” (indicated below with ²). These can be included within the 12-15 credits of SS/H requirements.

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

ISU Course	Cr		RCTC Course	Cr
AM IN 210 ¹	3	Native American Studies	HUM 1190	3
ANTHR 201 ²	3	Introduction to Cultural Anthropology	ANTH 1612	3
ECON 101	3	Principles of Microeconomics	ECON 2214	4
ECON 102	3	Principles of Macroeconomics	ECON 2215	4
HD FS 240 ¹	3	Literature for Children	ENGL 2297	3
HD FS 276 ¹	3	Sex and Gender in Society	SOC 1612	3
HIST 201 ²	3	Introduction To Western Civilization I	HIST 1613 or 1617	3
HIST 202 ²	3	Introduction To Western Civilization II	HIST 1614 or 1618	3
HIST 221	3	Survey of U.S History I	HIST 1624	3
HIST 222	3	Survey of U.S History II	HIST 1625	3
MUSIC 102 ²	3	Introduction to Music Listening	MUSC 1101	3
PHIL 201	3	Introduction to Philosophy	PHIL 1114	3
POL S 215	3	Introduction to American Government	POLS 1615	3
POL S 251 ²	3	International Relations	POLS 1619	3
PSYCH 101	3	Introduction to Psychology	PSYC 2618	4
PSYCH 230	3	Developmental Psychology	PSYC 2626	3
PSYCH 280	3	Social Psychology	PSYC 2611	3
RELIG 205 ²	3	Introduction to World Religions	PHIL 1160	3
SOC 134	3	Introduction to Sociology	SOC 1614	3
SOC 219	3	Sociology of Intimate Relationships	SOC 2612	3
SOC 235 ¹	3	Social Problems	SOC 1616	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.
- Email questions to engrapp@iastate.edu.