

IOWA STATE UNIVERSITY

College of Engineering

Southwestern Community College (SWCC) Transfer Plan

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 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; SWCC MAT 120 or 121) and/or college trigonometry/prep for calculus (MATH 143; SWCC MAT 128).
- 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)				
Iowa State	Cr	Course Name	Southwestern	Cr
CHEM 177 or 167	4	General Chemistry for Engineers	CHM 166	5
ENGL 150	3	Critical Thinking and Communication	ENG 105	3
ENGL 250	3	WOVE Composition	ENG 106	3
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	MAT 210	4
MATH 166	4	Calculus II	MAT 216	4
PHYS 221	5	Classical Physics I	PHY 212	5

Additional courses required in specific engineering degree programs at ISU					
Iowa State	Engineering Major(s) Requiring Course (see abbreviation key)	Cr	Course Name	Southwestern	Cr
AGRON 181	AE(LW)	3	Principles of Agronomy	AGA 114	3
AGRON 182	AE(LW,PM)	3	Soil Science	AGA 154	3
AN S 114	AE(AP)	2	Survey of Animal Industry	AGS 113	3
BIOL 211+	AE, CE(Envr)	3	Principles of Biology I	BIO 112*	4
BIOL 212+	BSE	3	Principles of Biology II	BIO 113*	4
CHEM 178/178L	ChE,CE,MatE (& AE,BSE if 177 completed)	4	General Chemistry II & Lab	CHM 176	5
CHEM 331/331L	BSE(BR,Op), ChE	5	Organic Chemistry I	CHM 261	4
CHEM 332/332L	BSE(BR,Op), ChE	5	Organic Chemistry II	CHM 271	4
ECON 101 or ECON 102	ConE, ME, SE (also accepted as an elective by all other engineering majors)	3	Intro to Microeconomics (101) or Intro to Macroeconomics (102)	ECN 130 or ECN 120	3
MATH 265	Required (or accepted as math elective) in all majors except AE(LW), BSE	4	Calculus III	MAT 219	4
MATH 266	All	4	Differential Equations w/Laplace Trans	MAT 225	3
PHYS 222	All except AE, BSE, CE(Envr), CybE, SE	5	Classical Physics II	PHY 222	5
SP CM 212	CE,IE,SE (also accepted as an elective by AE, BSE, ChE, CprE, CybE, EE, MatE, ME)	3	Public Speaking	SPC 112 or SPC 101	3

*SWCC BIO 112 & BIO 113 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 <i>LW; AP; PM</i>	Agricultural Engineering Land&Water Resources option; Animal Production Systems option; Power&Machinery option	ConE <i>BE; EL; HH; MCH</i>	Construction Engineering Building Emphasis; Electrical Emphasis; Heavy Highway; Mechanical Emphasis
BSE <i>BE; FE; BR; Op</i>	Biological Systems Engineering Bioenvironmental option; Food Engineering option; Biorenewable Resources option; Open option	CybE	Cyber Security Engineering
ChE	Chemical Engineering	EE	Electrical Engineering
CE <i>Envr</i>	Civil Engineering Environmental Option	IE	Industrial Engineering
		MatE	Materials Engineering
		ME	Mechanical Engineering
		SE	Software Engineering

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

- Engineering degree programs require between 12 and 15 general education credits in social sciences and humanities (SS/H). The list below offers course options that are accepted by all 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 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 (SS/H) courses accepted in ISU engineering degree programs				
Iowa State	Cr	Course Name	Southwestern	Cr
ANTHRO 201 ²	3	Intro to Cultural Anthropology	ANT 105	3
ECON 101 or ECON 102	3	Principles of Microeconomics or Macroeconomics	ECN 130 or 120	3
ENGL 201	3	Introduction to Literature	LIT 101	3
HD FS 240 ¹	3	Literature for Children	LIT 105 or EDU 235	3
HIST 201 ²	3	Intro to Western Civilization I	HIS 110	3
HIST 202 ²	3	Intro to Western Civilization II	HIS 111	3
HIST 221	3	Survey of U.S. History I	HIS 151	3
HIST 222	3	Survey of U.S. History II	HIS 152	3
MUSIC 102 ²	3	Intro to Music Listening	MUS 100	3
PHIL 201	3	Intro to Philosophy	PHI 101	3
POL S 215	3	Intro to American Government	POL 111	3
PSYCH 101	3	Intro to Psychology	PSY 111	3
PSYCH 230	3	Developmental Psychology	PSY 121	3
PSYCH 280	3	Social Psychology	PSY 251	3
HD FS 276 ¹	3	Human Sexuality	PSY 261	3
RELIG 205 ²	3	Intro to World Religions	REL 101	3
SOC 134	3	Intro to Sociology	SOC 110	3
SOC 219	3	Sociology of Intimate Relationships	SOC 120	3
SOC 235 ¹	3	Social Problems and American Values	SOC 115	3
SOC 241 or CJ ST 241	3	Youth and Crime	CRJ 201	3

More information and resources

- Pre-engineering students are strongly encouraged to join Iowa State’s free Engineering Admissions Partnership Program (E-APP) to stay connected to resources and current information; email engrapp@iastate.edu and ask for the E-APP online application.
- 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.