IOWA STATE UNIVERSITY
College of Engineering

Elgin Community College 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 and/or college trigonometry/prep for calculus.
- The College of Engineering requires two years of a single foreign language in high school or the equivalent in college.
- Beginning Fall 2023, ISU is offering a new degree program, Biomedical Engineering. This program requires a separate application and certain first-year course requirements. If you have interest in this degree, please consult with engineering@iastate.edu

Courses required in all engineering degree programs at ISU >> *focus on these courses first* <<				
Iowa State	**Cr**	**Iowa State Course Name**	**ECC**	**Cr**
CHEM 177 (or 167)	4	General Chemistry I (for Engineers)	CHM 142	5
ENGL 150	3	Critical Thinking and Communication	ENG 101	3
ENGL 250	3	WOVE Composition	ENG 102	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	MTH 190	4
MATH 166	4	Calculus II	MTH 210	5
PHYS 231/231L	5	Classical Physics I and Lab	PHY 211 & 213	10

Additional courses required in specific engineering degree programs at ISU					
Iowa State	**Engineering Major(s) Requiring Course** (see abbreviation key below)	**Cr**	**Iowa State Course Name**	**ECC**	**Cr**
BIOL 211[+]	AE	3	Principles of Biology I	BIO 113	4
BIOL 212[+]	BSE	3	Principles of Biology II	BIO 114	4
CE 274	**All** except ChE,CprE,CybE,EE,MatE,SE	3	Engineering Statics	EGR 152	3
CHEM 178/178L	ChE,CE,EnvE,MatE (possibly AE,BSE)	4	General Chemistry II and Lab	CHM 143	5
CHEM 231/231L	BSE, CE(*Envr*), EnvE	4	Elementary Organic Chemistry and Lab	CHM 170	5
CHEM 331/333L	ChE (possibly BSE)	5	Organic Chemistry I and Lab	CHM 234	5
CHEM 332/334L	ChE (possibly BSE)	5	Organic Chemistry II and Lab	CHM 235	5
ECON 101 or ECON 102	ME, SE (also accepted as an elective by all other engineering majors)	3	Principles of Microeconomics (101) or Principles of Macroeconomics (102)	ECN 201 Or ECN 202	3
MATH 207	EE, CprE	3	Matrices and Linear Algebra	MTH 240	3
MATH 265	Required (or accepted as math elective) in all majors except AE*(LW)*, BSE	4	Calculus III	MTH 230	5
MATH 267 or 266	**All**	4	Differential Equations	MTH 250	4
ME 231	AerE,AE,BSE,ConE(*MCH*),EnvE,IE,ME	3	Engineering Thermodynamics I	EGR 192	3
ME 345	AerE, AE(*PM*), CE, ME	3	Engineering Dynamics	EGR 252	3
PHYS 232/232L	AerE,ChE,ConE,EE,IE,MatE,ME	5	Classical Physics II and Lab	PHY 212	5
SP CM 212	AE,BSE,CE,EnvE,IE,ME,SE (also accepted as an elective by ChE,CprE,CybE,EE,MatE)	3	Fundamentals of Public Speaking	CMS 101 or CMS 102	3

[+]ECC BIO 113 & BIO 114 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 *LW;AP;* *PM*	Agricultural Engineering Land&Water Resources option; Animal Production Systems option; Power&Machinery option	ConE *BE; EL;* *HH; MCH*	Construction Engineering Building Emphasis; Electrical Emphasis; Heavy/Highway; Mechanical Emphasis
BSE *EC; FB;* *OP*	Biological Systems Engineering Ecological option; Food & Bioprocess option; Open option	CybE	Cyber Security Engineering
		EE	Electrical Engineering
		EnvE	Environmental Engineering
ChE	Chemical Engineering	IE	Industrial Engineering
CE	Civil Engineering	MatE	Materials Engineering
Envr	Environmental Specialization	ME	Mechanical Engineering
		SE	Software Engineering

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				
Iowa State	**Cr**	**Iowa State Course Name**	**ECC**	**Cr**
ANTHRO 201[2]	3	Intro to Cultural Anthropology	ATR 220	3
ECON 101 or ECON 102	3	Principles of Microeconomics or Macroeconomics	ECN 201 or 202	3
HD FS 240[1]	3	Literature for Children	LIT 225	3
HD FS 276[1]	3	Human Sexuality	SOC 225 or PSY 225	3
HIST 201[2]	3	Intro to Western Civilization I	HIS 101	3
HIST 202[2]	3	Intro to Western Civilization II	HIS 102	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 105	3
PHIL 201	3	Intro to Philosophy	HUM 110	3
POL S 111	3	Intro to American Government	POS 150	3
POL S 125[2]	3	Democracy and Dictatorship: Intro to Comparative Politics	POS 250	3
POL S 121[2]	3	Intro to International Politics	POS 251	3
PSYCH 101	3	Intro to Psychology	PSY 100	3
PSYCH 230	3	Developmental Psychology	PSY 218	3
PSYCH 280	3	Social Psychology	SOC 215 or PSY 215	3
RELIG 205[2]	3	World Religions	HUM 203	3
SOC 134	3	Intro to Sociology	SOC 100	3
SOC 219	3	Sociology of Intimate Relationships	SOC 210	3
SOC 235[1]	3	Social Problems and American Values	SOC 201	3

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-students.
- Email questions to engineering@iastate.edu.

Last updated on 7/24/23 based on course listings in the ISU 2022-23 catalog and the ECC 2022-23 catalog.

Sample Elgin Community College course plan – Year One
(Shown as an example only – please personalize when working with your academic advisor.)

SEMESTER 1

ECC Course Number	Credits	Course Name/Topic	Equivalent course at Iowa State
ENG 101	3	English/Composition I	ENGL 150
MTH 190	4	Calculus I	MATH 165
PHY 211**	5	Classical Physics I	PHYS 231/231L
CHM 142	5	General Chemistry I	CHEM 177 (or CHEM 167)
	= 17 cr		

SEMESTER 2

ECC Course Number	Credits	Course Name/Topic	Equivalent course at Iowa State
ENG 102	3	English/Composition II	ENGL 250
MTH 210	5	Calculus II	MATH 166
PHY 212	5	Classical Physics I	PHYS 232/232L
ECN 201	3	Microeconomics	ECON 101
	= 16 cr		

SUMMER 1

ECC Course Number	Credits	Course Name/Topic	Equivalent course at Iowa State
PHY 213**	5	Classical Physics I	PHYS 231/231L
	= 5 cr		

**Both PHY 211 and PHY 213 are required in order to transfer as the equivalent to ISU's PHYS 231/231L