

IOWA STATE UNIVERSITY

College of Engineering

Inver Hills 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				
<i>>> focus on these courses first <<</i>				
Iowa State	Cr	Iowa State Course Name	Inver Hills	Cr
CHEM 177 (or 167)	4	General Chemistry I (for Engineers)	CHEM 1061	5
ENGL 150	3	Critical Thinking and Communication	ENG 1108	4
ENGL 250	3	WOVE Composition	ENG 1114	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	MATH 1133	5
MATH 166	4	Calculus II	MATH 1134	5
PHYS 231/231L	5	Classical Physics I and Lab	PHYS 1081	5

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	Inver Hills	Cr
BIOL 211 ⁺	AE	3	Principles of Biology I	BIOL 1154	4
BIOL 212 ⁺	BSE	3	Principles of Biology II	BIOL 1155	5
CE 274	All except ChE, CprE, CybE, EE, MatE, SE	3	Engineering Statics	ENGR 2020	3
CHEM 178/178L	ChE, CE, EnvE, MatE (possibly AE, BSE)	4	General Chemistry II and Lab	CHEM 1062	5
CHEM 331/333L	ChE (possibly BSE)	5	Organic Chemistry I and Lab	CHEM 2061	5
CHEM 332/334L	ChE (possibly BSE)	5	Organic Chemistry II and Lab	CHEM 2062	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)	ECON 1106 or 1105	3
EM 324	AerE, AE, BSE, CE, ConE, EnvE, ME	3	Mechanics of Materials	ENGR 2024	3
MATH 207	EE, CprE	3	Matrices and Linear Algebra	MATH 2221	3
MATH 265	Required (or accepted as math elective) in all majors except AE(LW), BSE	4	Calculus III	MATH 2219	5
MATH 267 or 266	All	4	Differential Equations	MATH 2222	3
ME 345	AerE, AE(PM), CE, ME	3	Engineering Dynamics	ENGR 2025	3
PHYS 232/232L	AerE, ChE, ConE, EE, IE, MatE, ME	5	Classical Physics II and Lab	PHYS 1082	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	COMM 1110	3

*Inver Hills BIOL 1154 and BIOL 1155 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>EC; FB; OP</i>	Biological Systems Engineering Ecological option; Food & Bioprocess option; Open option	CybE	Cyber Security Engineering
ChE	Chemical Engineering	EE	Electrical Engineering
CE	Civil Engineering	EnvE	Environmental Engineering
<i>Envr</i>	Environmental Specialization	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 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	Inver Hills	Cr
ANTHRO 201 ²	3	Intro to Cultural Anthropology	ANTH 1110	3
ECON 101 or ECON 102	3	Principles of Microeconomics or Macroeconomics	ECON 1106 or 1105	3
HD FS 240 ¹	3	Literature for Children	EDU 2805	3
HD FS 276 ¹	3	Human Sexuality	HSER 1140	3
HIST 201 ²	3	Intro to Western Civilization I	HIST 1106	4
HIST 202 ²	3	Intro to Western Civilization II	HIST 1107	4
HIST 221	3	Survey of U.S. History I	HIST 1114	4
HIST 222	3	Survey of U.S. History II	HIST 1115	4
MUSIC 102 ²	3	Intro to Music Listening	MUSC 1140	3
PHIL 201	3	Intro to Philosophy	PHIL 1110	3
POL S 111	3	Intro to American Government	POLS 1111	3
PSYCH 101	3	Intro to Psychology	PSYC 1101	3
PSYCH 230	3	Developmental Psychology	PSYC 1210	3
PSYCH 280	3	Social Psychology	PSYC 2100	3
RELIG 205 ²	3	World Religions	HIST 2125	4
SOC 134	3	Intro to Sociology	SOC 1100	4
SOC 235	3	Social Problems	SOC 1114	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.

Sample Inver Hills course plan – Year One

(Shown as an example only – please personalize when working with your academic advisor.)

SEMESTER 1

Inver Hills Course Number	Credits	Course Name/Topic	Equivalent course at Iowa State
ENG 1108	4	English/Composition I	ENGL 150
MATH 1133	5	Calculus I	MATH 165
CHEM 1061	5	General Chemistry I	CHEM 177 (or CHEM 167)
	= 14 cr		

SEMESTER 2

Inver Hills Course Number	Credits	Course Name/Topic	Equivalent course at Iowa State
ENG 1114	3	English/Composition II	ENGL 250
MATH 1134	5	Calculus II	MATH 166
PHYS 1081	5	Classical Physics I	PHYS 231/231L
ECON 1106	3	Microeconomics	ECON 101
	= 16 cr		