

IOWA STATE UNIVERSITY

College of Engineering

Northwest Iowa Community College (NCC) 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; NCC MAT 121) and/or college trigonometry/prep for calculus (MATH 143; NCC MAT 128 or 129).
- 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				
<i>>> focus on these courses first <<</i>				
Iowa State	Cr	Iowa State Course Name	NCC	Cr
CHEM 177 (or 167)	4	General Chemistry I (for Engineers)	CHM 163/164	4
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 210-211	4-5
MATH 166	4	Calculus II	MAT 216	4
PHYS 221 (or 231/231L)	5	Classical Physics I and Lab	PHY 212	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	NCC	Cr
AGRON 181	AE(LW)	3	Intro to Crop Science	AGA 114	3
AGRON 182	AE(LW,PM)	3	Intro to Soil Science	AGA 154	3
CHEM 178/178L	ChE,CE,EnvE,MatE (possibly AE,BSE)	4	General Chemistry II and Lab	CHM 173/174	4
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 130 or ECN 120	3
ENGR 170	AE, BSE, CE, ConE, MatE, ME	3	Engineering Graphics & Intro to Design	EGR 400	3
MATH 265	Required (or accepted as math elective) in all majors except AE(LW), BSE	4	Calculus III	MAT 219	4
MATH 267 or 266	All	4	Differential Equations	MAT 227	4
PHYS 232/232L	AerE,ChE,CprE,ConE,EE,IE,MatE,ME	5	Classical Physics II and Lab	PHY 222	5
SP CM 212	CE,EnvE,IE,SE (also accepted as an elective by AE,BSE,ChE,CprE,CybE,EE,MatE,ME)	3	Fundamentals of Public Speaking	SPC 101 or SPC 112	3

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 Resource 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
<i>Envr</i>	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	NCC	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
HD FS 276 ¹	3	Human Sexuality	PSY 261	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
POL S 241 ²	3	Democracy and Dictatorship: Intro to Comparative Politics	POL 125	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
RELIG 205 ²	3	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	3	Youth and Crime	SOC 230	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 advisor in your major of interest.
- Additional transfer student resources are available at www.engineering.iastate.edu/transfer.
- Email questions to engrapp@iastate.edu.

Sample NCC course plan – Year One

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

SEMESTER 1

NCC Course Number	Credits	Course Name/Topic	Equivalent course at Iowa State
ENG 105	3	English/Composition I	ENGL 150
MAT 210/211	4	Calculus I	MATH 165
CHM 163/164	4	General Chemistry I	CHEM 177 (or CHEM 167)
MUS 100 or ANT 105	3	SS/H (meets International Perspective) (or choose another SS/H elective)	MUSIC 102 ² or ANTHRO 201 ²
	= 14 cr		

SEMESTER 2

NCC Course Number	Credits	Course Name/Topic	Equivalent course at Iowa State
ENG 106	3	English/Composition II	ENGL 250
MAT 216	4	Calculus II	MATH 166
PHY 212	5	Classical Physics I and lab	PHYS 221 (aka PHYS 231/231L)
ECN 130 or 120	3	Microeconomics (or Macro)	ECN 101 or 102
	= 15 cr		