

# IOWA STATE UNIVERSITY

## College of Engineering

### Des Moines Area Community College (DMACC) 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; DMACC MAT 121) and/or college trigonometry/prep for calculus (MATH 143; DMACC MAT 129).
- The College of Engineering requires two years of a single foreign language in high school or the equivalent in college (typically two semesters).

<b>Courses required in all engineering degree programs at ISU</b>				
<b>&gt;&gt; focus on these courses first &lt;&lt;</b>				
<b>Iowa State</b>	<b>Cr</b>	<b>Iowa State Course Name</b>	<b>DMACC</b>	<b>Cr</b>
CHEM 177 (or 167)	4	General Chemistry I (for Engineers)	CHM 165	4
ENGL 150	3	Critical Thinking and Communication	ENG 105	3
ENGL 250	3	WOVE Composition	ENG 106	3
ENGR 101	R	Engineering Orientation	EGR 100	1
ENGR 160*	3	Engineering Problems	EGR 161* <i>and</i> EGR 151,152 or 155	2 2
LIB 160	1	Information Literacy	SDV 171	1
MATH 165	4	Calculus I	MAT 211	5
MATH 166	4	Calculus II	MAT 217	5
PHYS 221 (or 231/231L)	5	Classical Physics I and Lab	PHY 213	6

\*For ease of transfer, we recommend taking the EGR 161 combination of courses during the same semester.

\*May also transfer for ABE 160, AerE 160, CE 160, ChE 160, CprE 185, EE 185, IE 148, ME 160 or SE 185.

<b>Additional courses required in specific engineering degree programs at ISU</b>					
<b>Iowa State</b>	<b>Engineering Major(s) Requiring Course</b> (see abbreviation key below)	<b>Cr</b>	<b>Iowa State Course Name</b>	<b>DMACC</b>	<b>Cr</b>
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
BIOL 211*	AE, CE (Envr)	3	Principles of Biology I	BIO 112*	4
BIOL 212*	BSE	3	Principles of Biology II	BIO 113*	4
CE 274	All except ChE, CprE, CybE, EE, MatE, SE	3	Engineering Statics	EGR 180	3
CHEM 178/178L	ChE, CE, EnvE, MatE (possibly AE, BSE)	4	General Chemistry II and Lab	CHM 175	4
CHEM 331/333L	ChE (possibly BSE)	5	Organic Chemistry I and Lab	CHM 263	5
CHEM 332/334L	ChE (possibly BSE)	5	Organic Chemistry II and Lab	CHM 273	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 130 or ECN 120	3
ENGR 170	AE, BSE, CE, ConE, MatE, ME	3	Engineering Graphics & Intro to Design	EGR 166	4
MATH 207	EE	3	Matrices and Linear Algebra	MAT 148	4
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 223	6
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	3

\*DMACC 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 Resource option; Open option	CybE	Cyber Security Engineering
ChE	Chemical Engineering	EE	Electrical Engineering
CE <i>Envr</i>	Civil Engineering Environmental Specialization	EnvE	Environmental Engineering
		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 <sup>1</sup>); and three credits of course work categorized as “International Perspective” (indicated below with <sup>2</sup>). 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	DMACC	Cr
ANTHRO 201 <sup>2</sup>	3	Intro to Cultural Anthropology	ANT 105	3
CJ ST 241	3	Youth and Crime	CRJ 201	3
ECON 101 or ECON 102	3	Principles of Microeconomics or Macroeconomics	ECN 130 or 120	3
HD FS 240 <sup>1</sup>	3	Literature for Children	LIT 105	3
HD FS 276 <sup>1</sup>	3	Human Sexuality	PSY 261	3
HIST 201 <sup>2</sup>	3	Intro to Western Civilization I	HIS 112	4
HIST 202 <sup>2</sup>	3	Intro to Western Civilization II	HIS 113	4
HIST 221	3	Survey of U.S. History I	HIS 150	4
HIST 222	3	Survey of U.S. History II	HIS 153	4
MUSIC 102 <sup>2</sup>	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 <sup>2</sup>	3	Intro to Comparative Government and Politics	POL 125	3
POL S 251 <sup>2</sup>	3	Intro to International Politics	POL 121	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 <sup>2</sup>	3	Intro to World Religions	REL 101	3
RELIG 210 <sup>1</sup>	3	Religion in the U.S.	REL 140	3
SOC 134	3	Intro to Sociology	SOC 110	3
SOC 219	3	Sociology of Intimate Relationships	SOC 120	3
SOC 235 <sup>1</sup>	3	Social Problems and American Values	SOC 115	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](mailto: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](http://www.engineering.iastate.edu/transfer).
- Email questions to [engrapp@iastate.edu](mailto:engrapp@iastate.edu).

### Sample DMACC course plan – Year One

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

#### SEMESTER 1

DMACC Course Number	Credits	Course Name/Topic	Equivalent course at Iowa State
ENG 105	3	English/Composition I	ENGL 150
MAT 211	5	Calculus I	MATH 165
HIS 112	4	Western Civilization I	HIST 201 <sup>2</sup>
CHM 165	4	General Chemistry I	CHEM 177 (or CHEM 167)
	= 16 cr		

#### SEMESTER 2

DMACC Course Number	Credits	Course Name/Topic	Equivalent course at Iowa State
ENG 106	3	English/Composition II	ENGL 250
MAT 217	5	Calculus II	MATH 166
EGR 161	2	Engineering Problems I	ENGR 160
EGR 151 or 152 or 155	2	(combined w/EGR 161 = ENGR 160)	
ECN 130	3	Microeconomics	ECON 101
	= 15 cr		

#### SUMMER 1

DMACC Course Number	Credits	Course Name/Topic	Equivalent course at Iowa State
PHY 213	6	Classical Physics I	PHYS 221 (aka 231/231L)
	= 6 cr		