

# IOWA STATE UNIVERSITY

## College of Engineering

### Rochester Community and Technical 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](mailto:engineering@iastate.edu)

<b>Courses required in all engineering degree programs at ISU</b> >> focus on these courses first <<				
Iowa State	Cr	Iowa State Course Name	RCTC	Cr
CHEM 177 (or 167)	4	General Chemistry I (for Engineers)	CHEM 1127	4
ENGL 150	3	Critical Thinking and Communication	ENGL 1117	4
ENGL 250	3	WOVE Composition	ENGL 1118	4
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 1127	5
MATH 166	4	Calculus II	MATH 1128	5
PHYS 231/231L	5	Classical Physics I and Lab	PHYS 1127	5

<b>Additional courses required in specific engineering degree programs at ISU</b>					
Iowa State	Engineering Major(s) Requiring Course (see abbreviation key below)	Cr	Iowa State Course Name	RCTC	Cr
BIOL 211 <sup>+</sup>	AE	3	Principles of Biology I	BIOL 1220	4
BIOL 212 <sup>+</sup>	BSE	3	Principles of Biology II	BIOL 1230	4
CE 274	All except ChE,CprE,CybE,EE,MatE,SE	3	Engineering Statics	ENGR 2211	3
CHEM 178/178L	ChE,CE,EnvE,MatE (possibly AE,BSE)	4	General Chemistry II and Lab	CHEM 1128	4
CHEM 231/231L	BSE, CE(Envr), EnvE	4	Elementary Organic Chemistry and Lab	CHEM 2100	4
CHEM 331/333L	ChE (possibly BSE)	5	Organic Chemistry I and Lab	CHEM 2127	5
CHEM 332/334L	ChE (possibly BSE)	5	Organic Chemistry II and Lab	CHEM 2128	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 2214 or 2215	4
MATH 265	Required (or accepted as math elective) in all majors except AE(LW), BSE	4	Calculus III	MATH 2237	5
ME 345	AerE, AE(PM), CE, ME	3	Engineering Dynamics	ENGR 2212	3
PHYS 232/232L	AerE,ChE,ConE,EE,IE,MatE,ME	5	Classical Physics II and Lab	PHYS 1128	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 1114	3

\*RCTC BIOL 1220 and BIOL 1230 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
		EE	Electrical Engineering
		EnvE	Environmental Engineering
ChE	Chemical Engineering	IE	Industrial Engineering
CE <i>Envr</i>	Civil Engineering Environmental Specialization	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	RCTC	Cr
AM IN 210 <sup>1</sup>	3	Intro to American Indian Studies	HUM 1190	3
ANTHRO 201 <sup>2</sup>	3	Intro to Cultural Anthropology	ANTH 1612	3
ECON 101 or ECON 102	3	Principles of Microeconomics or Macroeconomics	ECON 2214 or 2215	4
HD FS 240 <sup>1</sup>	3	Literature for Children	ENGL 2297	3
HD FS 276 <sup>1</sup>	3	Human Sexuality	SOC 1612	3
HIST 201 <sup>2</sup>	3	Intro to Western Civilization I	HIST 1613 or 1617	3
HIST 202 <sup>2</sup>	3	Intro to Western Civilization II	HIST 1614 or 1618	3
HIST 221	3	Survey of U.S. History I	HIST 1624	3
HIST 222	3	Survey of U.S. History II	HIST 1625 or 2925	3
MUSIC 102 <sup>2</sup>	3	Intro to Music Listening	MUSC 1101	3
PHIL 201	3	Intro to Philosophy	PHIL 1114	3
POL S 111	3	Intro to American Government	POLS 1615	3
POL S 121 <sup>2</sup>	3	Intro to International Politics	POLS 1619	3
PSYCH 101	3	Intro to Psychology	PSYC 2618	4
PSYCH 230	3	Developmental Psychology	PSYC 2626	3
PSYCH 280	3	Social Psychology	PSYC 2611	3
RELIG 205 <sup>2</sup>	3	World Religions	PHIL 1160	3
SOC 134	3	Intro to Sociology	SOC 1614	3
SOC 219	3	Sociology of Intimate Relationships	SOC 2612	3
SOC 235 <sup>1</sup>	3	Social Problems and American Values	SOC 1616	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](http://www.engineering.iastate.edu/transfer-students).
- Email questions to [engineering@iastate.edu](mailto:engineering@iastate.edu).

*Last updated on 7/25/23 based on course listings in the ISU 2022-23 catalog and the RCTC 2022-23 catalog.*

**Sample RCTC course plan – Year One**

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

**SEMESTER 1**

<b>RCTC Course</b>	<b>Credits</b>	<b>Course Name/Topic</b>	<b>Equivalent course at Iowa State</b>
ENGL 1117	4	English/Composition I	ENGL 150
MATH 1127	5	Calculus I	MATH 165
CHEM 1127	5	General Chemistry I	CHEM 177 (or CHEM 167)
	= 14 cr		

**SEMESTER 2**

<b>RCTC Course</b>	<b>Credits</b>	<b>Course Name/Topic</b>	<b>Equivalent course at Iowa State</b>
ENGL 1118	4	English/Composition II	ENGL 250
MATH 1128	5	Calculus II	MATH 166
PHYS 1127	5	Classical Physics I	PHYS 231/231L
	= 14 cr		