



JOHNSON COUNTY COMMUNITY COLLEGE
Transfer Program to Kansas State University
College of Engineering
Biological and Systems Engineering (127 hours)

Contact: Assistant Dean of Student Services
Phone: 785-532-5592
Email: enggss@k-state.edu
Home Page:
<http://www.engg.ksu.edu/student-services>

Engineering is a profession in which knowledge of mathematics and natural science is applied to develop ways to utilize the materials and forces of nature for the benefit of mankind. The curricula for the KSU College of Engineering are designed to meet the Accreditation Board of Engineering and Technology (ABET) degree program criteria. The overall curriculum provides an integrated educational experience that is practice-oriented while firmly rooted in fundamentals, learning-based, and integrative and holistic. Coursework in the following areas is included:

- Communications
- Humanities and Social Sciences
- Physical Sciences and Mathematics
- Engineering Sciences
- Discipline specific courses and technical electives

Approximately 30% of the KSU/Engineering graduating seniors are transfer students, many earning credits from several two- and four-year schools. However, students should be aware that only half of the total B.S. degree credits may be earned at a two-year school, at least 30 credit hours must be KSU credit hours, and 20 of the last 30 must be KSU credit hours. Only courses with a grade of A, B or C will be applicable toward engineering degree requirements.

Admissions

To apply for admission to Kansas State University, complete an application online at www.k-state.edu/admissions and have official transcripts from all previous colleges sent directly to the Office of Admissions, Kansas State University, 119 Anderson Hall, Manhattan, KS, 66505-0102, or faxed to 785-532-6393 or emailed via electronic transcript service to k-state@k-state.edu. For students transferring to K-State with fewer than 24 credit hours, please also send final high school transcript and ACT or SAT scores.

College of Engineering admission is selective based on academic performance and space availability. Submit application, application fee, and all official transcripts postmarked by the priority deadline. For students transferring to K-State with fewer than 24 credit hours, please also send final high school transcript and ACT or SAT scores.

Transfer applications are accepted for the fall and spring terms only. For Spring semester admission, all documents must be postmarked by November 1 to receive priority consideration. For Fall semester admission, all documents must be postmarked by February 1 to receive priority consideration. Applications received after these dates will be placed on a waitlist for consideration. Transfer applicants are required to have completed the equivalent of K-State's MATH 220 Analytic Geometry and Calculus I with a C or better before being considered for acceptance into the Biological and Systems Engineering degree. An overall GPA of 2.75 is required for acceptance into the major.


Each student must successfully complete credit-bearing courses/experiences to cover all of the K-State 8 areas. A minimum of four different course prefixes (e.g. AGECE, MATH, FSHS) must be represented in the fulfillment of the K-State 8 requirements. Students who began at K-State before Summer 2011, may choose to move to the K-State 8 program or complete their degrees with University General Education (UGE) requirements. For more information: <http://www.k-state.edu/kstate8>

	Aesthetic Experiences and Interpretive Understanding		Historical Perspectives
	Empirical and Quantitative Reasoning		Human Diversity within the U.S.
	Ethical Reasoning and Responsibility		Natural and Physical Sciences
	Global Issues and Perspectives		Social Sciences

Disclaimer

The material in this community college transfer guide is provided for informational purposes only. General requirements, courses, curricula, degree requirements, fees, and policies are subject to constant review and change without notice. Final approval for transfer credit to degrees is determined by departments within the college after students are admitted.

KSU Requirements		Johnson Co. Equivalents	
Communications (6 hours)			
ENGL 100	Expository Writing I	—	ENGL 121 Composition I*
		—	ENGL 122 Composition II*
COMM 106	Public Speaking IA	—	SPD 121 Public Speaking
		*Must earn a C or better.	

<p><u>Humanities & Social Sciences (9 hours)</u> Required: ECON 110 Macroeconomics Electives (6 hours) 1. _____ 2. _____</p>	<p>Required: _____ ECON 230 Principles of Macroeconomics Select Electives to fit :  *www.engg.ksu.edu/studentservices Click on: Suggested Humanities & Social Sciences Courses</p>
<p><u>Quantitative Math (16 hours)</u> MATH 220 Analytic Geometry and Calculus I MATH 221 Analytic Geometry and Calculus II MATH 222 Analytic Geometry and Calculus III MATH 340 Elementary Differential Equations</p>	<p>_____ MATH 241 Calculus I _____ MATH 242 Calculus II _____ MATH 243 Calculus III _____ MATH 254 Differential Equations</p>
<p><u>Natural Sciences (25-27 hours)</u> CHM 210 Chemistry I CHM 230 Chemistry II CHM 350 General Organic Chemistry and CHM 351 Lab BIOL 198 Principles of Biology PHYS 213 Engineering Physics I PHYS 214 Engineering Physics II</p>	<p>_____ CHEM 124 & 125 General Chemistry I Lecture & Lab _____ CHEM 131 & 132 General Chemistry II Lecture & Lab _____ CHEM 140 Principles of Organic & Biological Chemistry _____ BIOL 121 or 135 Prin. Cell/Molec. Bio _____ PHYS 220 Engineering Physics I _____ PHYS 221 Engineering Physics II</p>

Additional KSU Courses

Credits

Johnson Co. Equivalency

CE 333 Statics	3	ENGR 251
**ME 212 Engineering Graphics	2	ENGR 131
ME 512 Dynamics	3	ENGR 254
***BIOL 455 Microbiology	4	BIOL 230 & 231 & lab
***BIOCH 521 Biochemistry	3	CHEM 250

*Options within BSE include Biological, Environmental, and Machine Systems

**Machine Systems Option only

***Biological option only

*Additional courses in the curriculum do not have an equivalent course at Johnson County. Please see the K-State Undergraduate Catalog for details and a list of courses.

Aesthetic Experience & Interpretive Understanding (BE, CE, CMPEN, CS, EE, IE, IS, ME: see table on p. 7 for additional information)

K-State Requirement	JCCC Equivalent	Credit Hours
ART 180 2D Design	ART 124 Design 2D	3
ART 190 Drawing 1	ART 130 Drawing 2D	3
ART 195 Survey Art History 1	ARTH 180 Art History, Ancient/Ren	3
ENGL 251 Intro To Literature	ENGL 130 Intro to Literature	3
ENGL 295 Selected Stdy/Engl	ENGL 205 Bible As Literature	3
ENGL 295 Selected Stdy/Engl	ENGL 215 Us Latino And Latina Literature	3
ENGL 295 Selected Stdy/Engl	ENGL 217 Literature By Women	3
ENGL 295 Selected Stdy/Engl	ENGL 223 Creative Writing	3
ENGL 295 Selected Stdy/Engl	ENGL 227 Intro to Poetry	3
ENGL 295 Selected Stdy/Engl	ENGL 230 Intro to Fiction	3
ENGL 295 Selected Stdy/Engl	ENGL 235 Drama As Literature	3
ENGL 295 Selected Stdy/Engl	ENGL 247 American Literature II	3
ENGL 295 Selected Stdy/Engl	ENGL 244 Literature of American Popular Music	3
ENGL 260 British Literature	ENGL 236 British Literature I	3
ENGL 260 British Literature	ENGL 237 British Literature II	3
ENGL 270 American Literature	ENGL 246 American Literature I	3
ENGL 287 Great Books	ENGL 250 World Masterpieces	3
MUSIC 220 Top/In Music	MUS 121 Intro to Music Listening	3
MUSIC 100 Music Fundamentals	MUS 123 Intro to Music Fundamentals	3
MUSIC 170 History Of Rock & Roll	MUS 128 History of Rock And Roll Music	3
MUSIC 210 Music Theory 1	MUS 141 Music Theory: Harmony I	3
MUSIC 280 L-D Ensb	MUS 151 Mixed Vocal Ensemble I	3
MUSIC 280 L-D Ensb	MUS 152 Mixed Vocal Ensemble II	3
MUSIC 280 L-D Ensb	MUS 153 Mixed Vocal Ensemble III	3
MUSIC 280 L-D Ensb	MUS 154 Mixed Vocal Ensemble IV	3
MUSIC-1:** & MUSIC 631 Tech Elect Mus Stu	MUS 157 Intro to Digital Audio	3
MUSIC 280 L-D Ensb	MUS 161 Chamber Choir I	3
MUSIC 280 L-D Ensb	MUS 162 Chamber Choir II	3
MUSIC 280 L-D Ensb	MUS 163 Chamber Choir III	3
MUSIC 280 L-D Ensb	MUS 164 Chamber Choir IV	3
MUSIC 323 L-D Composition	MUS 166 Music Composition II	3
MUSIC 323 L-D Composition	MUS 167 Music Composition III	3
MUSIC 103 Voice Class 1	MUS 169 Voice Class I	3
MUSIC 104 Voice Class 2	MUS 170 Voice Class II	3
MUSIC 280 L-D Ensb	MUS 176 Jazz Band I	3
MUSIC 280 L-D Ensb	MUS 177 Jazz Band II	3
MUSIC 280 L-D Ensb	MUS 178 Jazz Band III	3
MUSIC 280 L-D Ensb	MUS 179 Jazz Band IV	3
MUSIC 280 L-D Ensb	MUS 187 Jazz Improvisation I	3
MUSIC 280 L-D Ensb	MUS 188 Jazz Improvisation II	3
MUSIC 116 Concert Band	MUS 191 Concert Band I	3
MUSIC 116 Concert Band	MUS 192 Concert Band II	3
MUSIC 116 Concert Band	MUS 193 Concert Band III	3
MUSIC 116 Concert Band	MUS 194 Concert Band IV	3
MUSIC 280 L-D Ensb	MUS 195 Vocal Jazz Ensemble I	3

K-State Requirement	JCCC Equivalent	Credit Hours
MUSIC 280 L-D Ensb	MUS 196 Vocal Jazz Ensemble II	3
MUSIC 280 L-D Ensb		
MUSIC 280 L-D Ensb		
MUSIC 280 L-D Ensb	MUS 201 Chamber Ensemble I	3
MUSIC 280 L-D Ensb	MUS 202 Chamber Ensemble II	3
MUSIC 280 L-D Ensb	MUS 203 Chamber Ensemble III	3
MUSIC 280 L-D Ensb	MUS 204 Chamber Ensemble IV	3
MUSIC 130 Symphony Orchestra		
Music 130 Symphony Orchestra		
MUSIC 206 Piano Class 1	MUS 221 Piano Class I	3
MUSIC 206 Piano Class 1	MUS 222 Piano Class II	3
MUSIC 206 Piano Class 1	MUS 223 Piano Class III	3
MUSIC 255 Lower Div Perf	MUS 226 Applied Guitar I (Class)	3
MUSIC 255 Lower Div Perf	MUS 227 Applied Guitar II (Class)	3
MUSIC 255 Lower Div Perf	MUS 231 Applied Voice I (Private)	3
MUSIC 255 Lower Div Perf	MUS 232 Applied Voice II(Private)	3
MUSIC 255 Lower Div Perf	MUS 233 Applied Voice III (Private)	3
MUSIC 255 Lower Div Perf	MUS 234 Applied Voice IV(Private)	3
MUSIC 255 Lower Div Perf	MUS 236 Applied Piano I (Private)	3
MUSIC 255 Lower Div Perf	MUS 237 Applied Piano II(Private)	3
MUSIC 255 Lower Div Perf	MUS 238 Applied Piano III(Private)	3
MUSIC 255 Lower Div Perf	MUS 239 Applied Piano IV(Private)	3
MUSIC 255 Lower Div Perf	MUS 241 Applied Guitar I (Private)	3
MUSIC 255 Lower Div Perf	MUS 242 Applied Guitar II (Private)	3
MUSIC 255 Lower Div Perf	MUS 243 Applied Guitar III(Private)	3
MUSIC 255 Lower Div Perf	MUS 244 Applied Guitar IV(Private)	3
MUSIC 255 Lower Div Perf	MUS 246 Appl Classical Guitar I (Pri)	3
MUSIC 255 Lower Div Perf	MUS 247 Appl Classical Guitar II (Pri)	3
MUSIC 255 Lower Div Perf	MUS 248 Appl Classical Guitar III (Pri)	3
MUSIC 255 Lower Div Perf	MUS 249 Appl Classical Guitar IV(Pri)	3
MUSIC 255 Lower Div Perf	MUS 251 Applied Brass I (Private)	3
MUSIC 255 Lower Div Perf	MUS 252 Applied Brass II (Private)	3
MUSIC 255 Lower Div Perf	MUS 256 Appl Percussion I (Private)	3
MUSIC 255 Lower Div Perf	MUS 257 Appl Percussion II (Private)	3
MUSIC 255 Lower Div Perf	MUS 258 Appl Percussion III (Private)	3
MUSIC 255 Lower Div Perf	MUS 259 Appl Percussion IV(Private)	3
MUSIC 255 Lower Div Perf	MUS 261 Applied Woodwind I (Private)	3
MUSIC 255 Lower Div Perf	MUS 262 Applied Woodwind II(Private)	3
MUSIC 255 Lower Div Perf	MUS 263 Applied Woodwind III(Private)	3
MUSIC 255 Lower Div Perf	MUS 264 Applied Woodwind IV(Private)	3
THTRE 211 Run Crew	THEA 123 Improvisation for the Theater	3
THTRE 211 Run Crew	THEA 133 Technical Practicum I	3
THTRE 211 Run Crew	THEA 134 Performance Practicum	3
THTRE 211 Run Crew	THEA 233 Technical Practicum II	3
THTRE 211 Run Crew	THEA 234 Theatre Practicum	3
THTRE 260 Stage Movement	THEA 137 Movement For Stage	
THTRE 261 Fundamentals Acting	THEA 121 Fund of Acting	

K-State Requirement	JCCC Equivalent	Credit Hours
THTRE 261 Fundamentals Acting	THEA 130 Acting I	
THTRE 270 Intro to Theatre	THEA 120 Intro to Theatre	
All Foreign Language (Except Native Language)		
Ethical Reasoning and Responsibility (CE)		
K-State Requirement	JCCC Equivalent	Credit Hours
PHILO 100 Intro Philosophical Problems	PHIL 121 Intro to Philosophy	3
PHILO 115 Intro Philo Religion	PHIL 176 Philosophy of Religion	3
PHILO 130 Intro/Moral Philo		
PHILO 130 Intro/Moral Philo	PHIL 128 Environmental Ethics	3
PHILO 130 Intro/Moral Philo	PHIL 143 Ethics	3
THTRE 261 Fundamentals Acting	THEA 121 Fund Of Acting	3
THTRE 261 Fundamentals Acting	THEA 130 Acting I	3
GWSS 105 – Intro to Gender, Women and Sexuality Studies	WGS 201 Global Women’s Studies	3
Global Issues and Perspectives (IE)		
ANTH 200 Intro to Cultural Anthropology	ANTH 125 Cultural Anthropology	3
ECON 110 Prin/Macroeconomics	ECON 230 Prin of Macroeconomics	3
GEOG 100 World Regional Geography	GEOG 145 World Regional Geography	3
HIST 101 Rise of Europe	HIST 125 West Civ: to The Renaissance	3
HIST 102 The Modern Era	HIST 126 Western Civ: Scientific Revol	3
HIST 102 The Modern Era	HIST 130 European History Since 1789	3
HIST 111 World Hist to 1450	HIST 151 World History I: Trad World	3
HIST 112 World Hist From 1450	HIST 152 World History 2: Mod World	3
POLSC 110 Intro Pol Science	POLS 122 Political Science	3
POLSC 135 Intro Comp Politics	POLS 132 Intro to Comparative Government	3
All Foreign Language (Except Native Language)		
Historical Perspectives (BSE, CHE, CMPEN, CS, EE, IS, ME)		
ANTH 260 Intro Archaeology	ANTH 142 World Prehistory	3
ANTH260 Intro Archaeology	ANTH 144 Archeology	3
ENGL 260 British Literature	ENGL 236 British Literature I	3
ENGL 260 British Literature	ENGL 237 British Literature II	3
ENGL 270 American Literature	ENGL 246 American Literature I	3
ENGL 287 Great Books	ENGL 250 World Masterpieces	3
HIST 101 Rise of Europe	HIST 125 West Civ: to The Renaissance	3
HIST 102 The Modern Era	HIST 126 Western Civ: Scientific Revol	3
HIST 102 The Modern Era	HIST 130 European History Since 1789	3
HIST 111 World Hist to 1450	HIST 151 World History I: Trad World	3
HIST 112 World Hist From 1450	HIST 152 World History 2: Mod World	3
HIST 200 Top/History F & S	HIST 120 Local & Kansas History	3
HIST 200 Top/History F & S	HIST 129 Early Modern Europe 1500-1789	3
HIST 200 Top/History F & S	HIST 162 Modern Latin America	3
HIST 200 Top/History F & S	HIST 180 North American Indian History	3

K-State Requirement	JCCC Equivalent	Credit Hours
HIST 200 Topics in History for Freshmen & Sophomores	HIST 250 American West	3
HIST 251 History of the US to 1877	HIST 140 US History to 1877	3
HIST 252 History of the US Since 1877	HIST 141 US History Since 1877	3
MC 110 Mass Communication in Society	JOUR 120 Mass Media & Society	3
MUSIC 170 History of Rock & Roll	MUS 128 History of Rock and Roll Music	3
MUSIC 220 Topics in Music	MUS 121 Intro to Music Listening	3
PHILO 145 History/Intro/Philo	PHIL 142 History of Asian Philosophy	3
POLSC 115 US Politics	POLS 124 American National Gov't	3
THTRE 270 Intro to Theatre	THEA 120 Intro to Theatre	3
THTRE 270 Intro to Theatre	THEA 232 Play Reading & Production	3
Human Diversity within the U.S. (ARE, BSE, CE, CHE, CMPEN, CNSM, CS, EE, IS, ME)		
ANTH 220 Intro to Linguistic Anthropology	ANTH 165 Linguistic Anthropology	3
ENGL 270 American Literature	ENGL 246 American Literature I	3
HIST 251 History of the US to 1877	HIST 140 US History to 1877	3
HIST 252 History of the US Since 1877	HIST 141 US History Since 1877	3
LEAD 212 Intro to Leadership Concepts	LEAD 130 Leadership & Civic Engagement	3
FSHS 110 Intro Human Development	PSYC 218 Human Development	3
SOCIO 211 Intro to Sociology	SOC 122 Intro To Sociology	3
GWSS 105 Intro to Gender, Women and Sexuality Studies	WGS 201 Global Women's Studies	3
300 Level and Higher		
Aesthetic Experience & Interpretive Understanding (BSE, CE, CHE, CMOEN, CS, EE, IE, IS, ME)		
ART 345 Intro to Oil Painting	ART 135 Painting I	3
ART 365 Ceramics I	ART 142 Ceramics I	3
ART 340 Sculpture I	ART 145 Sculpture I	3
ART 370 Metalsmithing I	ART 148 Metal & Silversmithing I	3
ART 320 Water Media I	ART 172 Watercolor Painting	3
ART 325 Figure Drawing I	ART 231 Life Drawing I	3
ART 395 Photography In Art I	PHOT 121 Fundamentals Of Photography	3
MC 331 Digital Photography for Mass Media	JOUR 145 Photojournalism	3
THTRE 361 Intermediate Acting	THEA 230 Acting II	3
All Foreign Language Course 300 or Higher (except native language)		
Ethical Reasoning and Responsibility (CE)		
PHILO 365 Medical Ethics	PHIL 155 Bioethics	3
SOCIO 360 Social Problems	SOC 125 Social Problems	3
THTRE 361 Intermediate Acting	THEA 230 Acting II	3
Global Issues and Perspectives (IE)		
HIST 330 History of East Asian Civilizations	HUM 165 Introduction to Chinese Culture	3
POLSC 333 World Politics	POLS 135 International Relations	3
COMM 480 Intercultural Communication	SPD 180 Intercultural Communication	3

K-State Requirement	JCCC Equivalent	Credit Hours
Historical Perspectives (BSE, CHE, CMPEN, CS, EE, IE, IS, ME)		
HIST 330 History of East Asian Civilizations	HUM 165 Intro to Chinese Culture	3
HIST 331 Introduction to Japan	HUM 167 Intro to Japanese Culture	3
PHILO 300 History of Ancient Philosophy	PHIL 154 History of Ancient Philosophy	3
PHILO 301 History of Philosophy	PHIL 210 History of Modern Philosophy	3
POLSC 321 Kansas Politics and Government	POLS 126 State & Local Government	3
Human Diversity within the U.S. (ARE, BSE, CE, CHE, CMPEN, CNSM, CS, EE, IS, ME)		
SOCIO 361 Criminal Justice Systems	ADMJ 121 Intro to Admin of Justice	3
SOCIO 432 Community Organization & Leadership	SOC 240 Sociology of Community	3
COMM 322 Interpersonal Communication	SPD 120 Interpersonal Communication	3
COMM 480 Intercultural Communication	SPD 180 Intercultural Communication	3

ARE	Architectural Engineering
BSE	Biological and Agricultural Engineering
CE	Civil Engineering
CHE	Chemical Engineering
CMPEN	Computer Engineering
CNSM	Construction Science and Management
CS	Computer Science
EE	Electrical Engineering
IE	Industrial Engineering
ME	Mechanical Engineering