

# Kansas City Kansas Community College

## Transfer Program to University of Kansas

### B.S. Engineering Physics

(Aerospace Systems, Chemical Systems, Digital Electronic Systems, Electromechanical Control Systems)

Number to call at KU for advising: (785) 864-4626

Website: [www.eecs.ku.edu](http://www.eecs.ku.edu)

Sixty-four credit hours may be transferred to KU from community colleges. Transfer students must have at least a 3.0 GPA and proof of competency in calculus.

#### **Requirements (all students):**

The only classes listed are the ones that could be taken at a 2 year College.

#### **Aerospace Systems:**

The courses listed below are **REQUIRED**. These courses **MAY** be taken to complete the **KU CORE**, but if they are not, this additional coursework is necessary to complete degree requirements. 132 hours are required for a degree.

#### **KU Course Requirements**

#### **Dodge City Equivalents**

<b>MATHEMATICS</b>				<b>Core</b>
MATH 121 Calculus I	5	MATH 221 Analytic Geom & Calc 2	5	GE12
MATH 122 Calculus 2	5	MATH 222 Analytic Geom & Calc 3 (must take MATH 221+222)	5	
MATH 223 Linear Algebra	3	No equivalent		
MATH 290 Elementary Linear Algebra	2	No equivalent		
MATH 220 Differential Equations	3	No equivalent		

<b>NATURAL SCIENCES</b>				<b>Core</b>
PHSX 211 & 216 Engineering Physics	5	PHYS 231 Engineering Physics	5	GE3N, GE11, GE12
PHSX 212 & 236 Engineering Physics		PHYS 233 Engineering Physics 2	5	GE3N
CHEM 130 Chemistry	5	CHEM 111 or 211 College Chem	5	GE12, GE3N

#### **Chemical Systems:**

The courses listed below are **REQUIRED**. These courses **MAY** be taken to complete the **KU CORE**, but if they are not, this additional coursework is necessary to complete degree requirements. 132 hours are required for a degree.

#### **KU Course Requirements**

#### **Dodge City Equivalents**

<b>MATHEMATICS</b>				<b>Core</b>
MATH 121 Calculus I	5	MATH 221 Analytic Geom & Calc 2	5	GE12
MATH 122 Calculus 2	5	MATH 222 Analytic Geom & Calc 3 (must take MATH 221+222)	5	
MATH 223 Linear Algebra	3	No equivalent		
MATH 290 Elementary Linear Algebra	2	No equivalent		

<b>NATURAL SCIENCES</b>				<b>Core</b>
PHSX 211 & 216 Engineering Physics	5	PHYS 231 Engineering Physics	5	GE3N, GE11, GE12
PHSX 212 & 236 Engineering Physics		PHYS 233 Engineering Physics 2	5	GE3N
CHEM 130 Chemistry	5	CHEM 111 or 211 College Chem	5	GE12, GE3N
CHEM 135 Chemistry 2	5	CHEM 112 or 212 College Chem 2	5	GE3N, GE12
CHEM 330 & 331 Organic Chemistry	5	CHEM 241 & 242 Organic Chemistry 1	5	

#### **Digital Electronic Systems:**

The courses listed below are **REQUIRED**. These courses **MAY be taken to complete the KU CORE**, but if they are not, this additional coursework is necessary to complete degree requirements. 132 hours are required for a degree.

**KU Course Requirements****Dodge City Equivalents**

MATHEMATICS					<u>Core</u>
MATH 121 Calculus I	5		MATH 221 Analytic Geom & Calc 2	5	GE12
MATH 122 Calculus 2	5		MATH 222 Analytic Geom & Calc 3 (must take MATH 221+222)	5	
MATH 290 Elementary Linear Algebra	2		No equivalent		
MATH 220 Differential Equations	3		No equivalent		

NATURAL SCIENCES					<u>Core</u>
PHSX 211 & 216 Engineering Physics	5		PHYS 231 Engineering Physics	5	GE3N, GE11, GE12
PHSX 212 & 236 Engineering Physics			PHYS 233 Engineering Physics 2	5	GE3N
CHEM 130 Chemistry	5		CHEM 111 or 211 College Chem	5	GE12, GE3N

**Electromechanical Control Systems:**

The courses listed below are **REQUIRED**. These courses **MAY be taken to complete the KU CORE**, but if they are not, this additional coursework is necessary to complete degree requirements. 132 hours are required for a degree.

**KU Course Requirements****Dodge City Equivalents**

MATHEMATICS					<u>Core</u>
MATH 121 Calculus I	5		MATH 221 Analytic Geom & Calc 2	5	GE12
MATH 122 Calculus 2	5		MATH 222 Analytic Geom & Calc 3 (must take MATH 221+222)	5	
MATH 290 Elementary Linear Algebra	2		No equivalent		
MATH 220 Differential Equations	3		No equivalent		

NATURAL SCIENCES					<u>Core</u>
PHSX 211 & 216 Engineering Physics	5		PHYS 231 Engineering Physics	5	GE3N, GE11, GE12
PHSX 212 & 236 Engineering Physics			PHYS 233 Engineering Physics 2	5	GE3N
CHEM 130 Chemistry	5		CHEM 111 or 211 College Chem	5	GE12, GE3N

**KU Core Curriculum (additional requirements not covered by degree requirements)**

Additional courses that satisfy the KU Core are continuously updated and available at <http://kucore.ku.edu/courses>.

**KU Course Requirements****Dodge City Equivalents**

Goal 1: Critical Thinking and Quantitative Literacy (1 Unit from each outcome)					
<b>Outcome 1</b>			<b>GE11</b>		
PHIL 160 Intro to Ethics	3		PHIL 202 Intro to Ethics		3
PHIL 140 Intro to Philosophy	3		PHIL 201 Intro To Philosophy		3
SOC 104 Elements of Sociology	3		SOC 101 Principles of Sociology		3
SOC 160 Social Problems/American Values	3		SOC 201 Social Problems		3
PHSX 114 College Physics	4		PHYS 201 General Physics I		5
PHSX 211/216 General Physics	4		PHYS 231 Engineering Physics I		5
<b>Outcome 2</b>			<b>GE12</b>		
MATH 101 College Algebra	3		MATH 106 College Algebra		3
MATH 125 Calculus	4		MATH 120 Analytic Geom and Calc		5
CHEM 130/190 Chemistry	5		CHEM 111 or 211 College Chem		5
CHEM 135/195 Chemistry 2	5		CHEM 112 or 212 College Chem 2		5
PHSX 114 College Physics	5		PHYS 201 General Physics & Lab		5

PHSX 211 General Physics	5		PHYS 231 Engineering Physics	5
MATH S365 Elementary Stats	3		MATH 230 Elementary Statistics	3

**Goal 2: Communication (3 Units) -two from outcome 1 and one from outcome 2**

<b>Outcome 1</b>		<b>GE21</b>	
ENGL 101 Composition	3	ENG 102 or 150 English Composition	3
ENGL 102 Critical Reading and Writing	3	ENG 103 or 151 English Composition 2	3
<b>Outcome 2</b>		<b>GE22</b>	
COMS 130 Speaker-Audience Communication	3	SP 106 Public Speaking	3

**Goal 3: Breadth of Knowledge (3 Units) -one from each category**

<b>Arts &amp; Humanities</b>		<b>GE3H</b>	
		ART 101 Art Appreciation	3
ART 101 Drawing I		ART 110 Drawing I	3
PHMD 101 Fundamentals of Photography	3	ART 117 Photography I	3-4
	3	ENG 206 World Literature	3
		ENG 204 English Literature	3
		ENG 205 English Literature 2	3
		ENG 209 American Literature	3
		ENG 210 American Literature	3
		RS 101 Old Testament Survey	3
HA 150 Western Art History I	3	ART 150 Survey of Art History	3
		RS 102 New Testament Survey	3
PHIL 140 Intro to Philosophy	3	PHIL 201 Intro To Philosophy	3
PHIL 160 Intro to Ethics	3	PHIL 202 Intro to Ethics	3
		ART 132 History and Criticism of Art	3
		HIST 120 World History to 1500	3
		HIST 121 World History from 1500	
HIST 128 Hist US thrgh Civil War	3	HIST 101 American History	3
HIST 129 Hist of US After Civil War	3	HIST 102 American History 2	3
HSES 244 Intro to Phys Ed and Sport Studies	3	PE 114 Intro Health, PE and Recreation	3
<b>Natural Sciences</b>		<b>GE3N</b>	
ASTR 191 Contemporary Astronomy	3	PHYS 110 Intro To Astronomy	3
BIOL 100/102 Principals of Biology	3	BIO 101 General Biology	5
BIOL 150 Prn Molecular/Cellular	5	BIO 102 Principles Of Biology <u>OR</u>	5
		BIO 111 Cellular Biology and Genetics	5
BIOL 152 Principles of Organismal Biology	5	BIO 211 Animal and Plant Biology	5
BIOL 200/203 Microbiology	5	BIO 210 Microbiology	5
CHEM 110 College Chemistry	4	CHEM 100 General Chemistry	5
CHEM 130/190 Chemistry	5	CHEM 111 or 211 College Chem	5
CHEM 135/195 Chemistry 2	5	CHEM 112 or 212 College Chem 2	5
EVRN 148 Scientic Princ Envrn Study	3	BIO 203 Environmental Science	5
PHSX 114 College Physics	5	PHYS 201 General Physics & Lab	5
PHSX 211/216 General Physics I	4	PHYS 231 Engineering Physics	5
PHSX 212/236 General Physics II	4	PHYS 233 Engineering Physics 2	5
GEOL 101/103 Intro to Geology	5	GEL 101 Intro To Geology	5
		PHYS 104 Physical Science	4-5
ATMO 105 Intro Meteorology	5	MET 105 Intro Meteorology	4
<b>Social Sciences</b>		<b>GE3S</b>	
COMS 244 Interpersonal Communication	3	SP 206 Interpersonal Communication	3
EPSY S305 Intro Child Behavior/Development	3	ECE 105 Child Growth & Development	3
ECON 142 Princ of Microeconomics	3	ECON 102 Prin Of Econ : Microecon	3
ECON 144 Princ of Macroeconomics	3	ECON 101 Prin Of Econ : Macroecon	3
METL 211 Intro to Jewelry/Metalsmithing	3	ART 114 Metalsmithing Jewelry	3
POLS 110 Intro to US Politics	3	GOV 101 American Natl Government	3
PSYC 104 General Psychology	3	PSY 101 General Psychology	3
JOUR 101 Media and Society	3	MC 110 Mass Media	3
SOC 104 Elements of Sociology	3	SOC 101 Principles Of Sociology	3
SOC 160 Intro to Social Problems	3	SOC 201 Social Problems	3

			SOC 202 Race & Ethnic Relations	3
ANTH 100 General Anthropology	3		ANTH 111 Anthropology	3
			PSY 102 Human Growth & Development	3
SOC 220 Sociology of Families	3		SOC 203 Sociology of Families	3
SW 220 Social Work, Social Welfare and Society	3		SW 201 <u>AND</u> 202 Intro to Social Work	6

**Goal 4: Culture and Diversity (One Unit from each outcome)**

<b>Outcome 1</b>			<b>AE41</b>	
SOC 104 Elements of Sociology	3		SOC 101 Principles Of Sociology	3
SOC 160 Intro to Social Problems	3		SOC 201 Social Problems	3
SOC 220 Sociology of Families	3		SOC 203 Sociology of Families	3
MUSC 298 Introduction to Jazz	3		MUS 225 A Study of Jazz	3
<b>Outcome 2</b>			<b>AE42</b>	
			ENG 206 World Literature	3
GEOG 100 World Regional Geography	3		GEO 101 Geography	3
SPAN 212 Intermediate Spanish	3		LANG 203 Intermediate Spanish	3
SPAN 216 Intermediate Spanish 2	3		LANG 204 Intermediate Spanish 2	3
GERM 104 Elementary German	5		LANG 120 Elementary German	3
GERM 108 Elementary German 2	5		LANG 121 Elementary German 2	3
ANTH 100 General Anthropology	3		ANTH 111 Anthropology	3
HA 150 Western Art History	3		ART 150 Survey of Art History	3

**Goal 5: Social Responsibility and Ethics (1 Unit from either outcome)**

<b>Outcome 1</b>			<b>AE51</b>	
PHIL 160 Intro to Ethics	3		PHIL 202 Intro to Ethics	3
SOC 160 Intro to Social Problems	3		SOC 201 Social Problems	3
<b>Outcome 2</b>			<b>AE52</b>	
No Equivalencies Established				

**Goal 6: Integration and Creativity (1 Unit)**

<b>Outcome 1</b>			<b>AE61</b>	
No Equivalencies Established				