

# Butler 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.physics.engr.ku.edu](http://www.physics.engr.ku.edu)

Transfer students must have at least a 2.5 GPA and proof of competency in calculus.

### Requirements (all students):

#### Aerospace Systems:

#### **KU Course Requirements**

#### **Butler Equivalents**

<b>MATHEMATICS</b>					<b>Core</b>
MATH 125 Calculus	4		MA 151 Calculus & Analytic Geometry	5	GE12
MATH 126 Calculus 2	4		MA 152 Calculus & Analytic Geometry	5	
MATH 127 Calculus 3	4		MA 253 Calculus & Analytic Geometry	3	
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		PH 251 Physics I	5	GE3N, GE11, GE12
PHSX 212 & 236 Engineering Physics	4		PH 252 Physics II		GE3N
CHEM 130 Chemistry	5		CH 110 College Chemistry	5	GE12, GE3N

#### Chemical Systems:

#### **KU Course Requirements**

#### **Butler Equivalents**

<b>MATHEMATICS</b>					<b>Core</b>
MATH 125 Calculus	4		MA 151 Calculus & Analytic Geometry	5	GE12
MATH 126 Calculus 2	4		MA 152 Calculus & Analytic Geometry	5	
MATH 127 Calculus 3	4		MA 253 Calculus & Analytic Geometry	3	
MATH 220 Differential Equations	3		No equivalent		
MATH 290 Elementary Linear Algebra	2		No equivalent		

<b>NATURAL SCIENCES</b>					<b>Core</b>
PHSX 211 & 216 Engineering Physics	5		PH 251 Physics I	5	GE3N, GE11, GE12
PHSX 212 & 236 Engineering Physics	4		PH 252 Physics II		GE3N
CHEM 130 Chemistry	5		CH 110 College Chemistry	5	GE12, GE3N
CHEM 135 Chemistry 2	5		CH 115 College Chemistry 22	5	GE3N, GE12
CHEM S330 & S331 Organic Chemistry	5		CH 240 Organic Chemistry 1	5	

#### Digital Electronic Systems:

#### **KU Course Requirements**

#### **Butler Equivalents**

<b>MATHEMATICS</b>					<b>Core</b>
MATH 125 Calculus	4		MA 151 Calculus & Analytic Geometry	5	GE12
MATH 126 Calculus 2	4		MA 152 Calculus & Analytic Geometry	5	
MATH 127 Calculus 3	4		MA 253 Calculus & Analytic Geometry	3	
MATH 290 Elementary Linear Algebra	2		No equivalent		
MATH 220 Differential Equations	3		No equivalent		

NATURAL SCIENCES				Core
PHSX 211 & 216 Engineering Physics	5		PH 251 Physics I	5 GE3N, GE11, GE12
PHSX 212 & 236 Engineering Physics	4		PH 252 Physics II	GE3N
CHEM 130 Chemistry	5		CH 110 College Chemistry	5 GE12, GE3N

**Electromechanical Control Systems:****KU Course Requirements****Butler Equivalents**

MATHEMATICS				Core
MATH 125 Calculus	4		MA 151 Calculus & Analytic Geometry	5 GE12
MATH 126 Calculus 2	4		MA 152 Calculus & Analytic Geometry	5
MATH 127 Calculus 3	4		MA 253 Calculus & Analytic Geometry	3
MATH 290 Elementary Linear Algebra	2		No equivalent	
MATH 220 Differential Equations	3		No equivalent	

NATURAL SCIENCES				Core
PHSX 211 & 216 Engineering Physics	5		PH 251 Physics I	5 GE3N, GE11, GE12
PHSX 212 & 236 Engineering Physics	4		PH 252 Physics II	GE3N
CHEM 130 Chemistry	5		CH 110 College Chemistry	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****Butler Equivalents**

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		EG 101 English Composition
ENGL 101 Composition	3		EG 100 English Composition with Review
ENGL 102 Critical Reading and Writing	3		EG 102 English Composition 2
ENGL 210 Intro to Poetry	3		LT 204 Intro to Poetry
<b>Outcome 2</b>			<b>GE22</b>
COMS 130 Speaker-Audience Communication	3		SP 100 Public Speaking

Goal 3: Breadth of Knowledge (3 Units) -one from each category			
<b>Arts &amp; Humanities</b>			<b>GE3H</b>
ENGL 210 Intro to Poetry	3		LT 204 Intro to Poetry
			LT 205 Intro to the Short Story
			LT 211 British Literature I
			LT 212 British Literature II
			LT 215 American Literature I
			LT 216 American Literature II
			LT 218 Shakespeare
ART 101 Drawing I	3		AR 141 Drawing and Composition
			AR 100 Art Appreciation
HIST 128 History of the US through the Civil War	3		HS 131 U.S. History I
HIST 129 History of the US after the Civil War	3		HS 132 U.S. History II
			HS 201 History of World Civilization
			HS 202 History of World Civilization II
			RG 190 New Testament
			RG 191 Old Testament
			RG 210 Comparative Religions
PHIL 140 Intro to Philosophy	3		PL 290 Philosophy
PHIL 148 Reason and Argument	3		PL 101 Intro to Logic
PHIL 160 Ethics	3		PL 291 Ethics
THR 100 Intro to the Theater	3		TA 206 Intro to Theater Art
THR 106 Intro to Acting	3		TA 110 Acting

		TA 120 Film Appreciation: American Cinema	3
HSES 244 Intro PE and Sports Science	3	PE 120 Intro to Physical Education	3
PHMD 101 Fund of Photography	3	MC 100 Photography I	3
<b>Social Sciences</b>		<b>GE3S</b>	
EPSY S305 Development/Learning of the Child	3	BS 270 Child Psychology	3
METL 211 Intro to Jewelry	3	AR 118 Jewelry Design	3
COMS 244 Intr Personal Comm	3	SP 102 Interpersonal Communication	3
ECON 142 Princ of Microeconomics	3	EC 200 Principles of Microeconomics	3
ECON 144 Princ of Macroeconomics	3	EC 201 Principles of Macroeconomics	3
POLS 110 Intro to US Politics	3	PO 141 American Federal Government	3
POLS 170 Intro to International Politics	3	PO 201 International Relations	3
PSYC 104 General Psychology	3	BS 160 General Psychology	3
SOC 104 Elements of Sociology	3	BS 105 Sociology	3
ANTH 100 General Anthropology	3	BS 106 Intro to Anthropology	3
		BS 260 Developmental Psychology	3
BLAW S301 Legal Aspects of Business		BA 115 Business Law	3
JOUR 101 Media and Society	3	MC 161 Intro to Mass Communication	3

#### **Goal 4: Culture and Diversity (1 Unit from each outcome)**

<b>Outcome 1</b>		<b>AE41</b>	
SOC 104 Elements of Sociology	3	BS 105 Sociology	3
SOC 160 Social Problems and American Values	3	BS 110 Contemporary Social Problems	3
<b>Outcome 2</b>		<b>AE42</b>	
POLS 170 Intro to International Politics	3	PO 201 International Relations	3
		RG 210 Comparative Religion	3
SPAN 212 Intermediate Spanish	3	FL 201 Intermediate Spanish	3
GERM 104 Elementary German I	4	FL 117 Intro to German 2	3

- In order to graduate in four years, a student must transfer to KU after one year
- Pass/Fail Policy. Only courses used to fulfill English, Humanities, and Social Science requirements will be accepted with a "P" grade
- \*PHSX 211 satisfies the PHSX 210 requirement for Engineering at KU
- "S" before a number (Ex. MATH S365) indicates the course will be satisfied but will not count toward the number of Junior/Senior (upper-level) hours required for graduation
- The requirements listed above are subject to annual change
- A maximum of 64 hours of community college course work can be applied toward a KU degree
- Courses with a grade of D or below do not transfer