

# Barton County Community College

## Transfer Program to University of Kansas

### B.S. Electrical Engineering & Computer Science

(Computer Engineering, Computer Science, Electrical Engineering, Information Technology (Edward Campus only) and Interdisciplinary Computing)

Number to call at KU for advising: (785) 864-4487

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

Transfer students must have at least a 2.5 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.

#### **Computer Engineering:**

#### **KU Course Requirements**

#### **BARTON Equivalents**

<b>MATHEMATICS</b>				<b>Core</b>	
MATH 125 Calculus	4	MATH 1832 Analytical Geometry and Calculus	5	GE12	
MATH 126 Calculus 2	4	MATH 1834 Analytical Geometry and Calculus 2	5		
MATH 127 Calculus 3	4	MATH 1836 Analytical Geometry and Calculus 3	3		
MATH 220 Differential Equations	3	MATH 254 Differential Equations	4		
MATH 290 Elementary Linear Algebra	2	MATH 246 Elementary Linear Algebra	3		

<b>ECONOMICS &amp; electives</b>				<b>Core</b>	
<b>Choose One:</b>					
ECON 142 Princ of Microeconomics	3	ECON 1612 Prin of Microeconomics	3	GE3S	
ECON 144 Princ of Macroeconomics	3	ECON 1610 Prin of Macroeconomics	3	GE3S	
<b>Electives-12 hours total of Humanities &amp; Social Science (must be GE3H, AE41, AE42 + one extra GE3H or GE3S)</b>					

<b>NATURAL SCIENCES</b>				<b>Core</b>	
PHSX 211 & 216 Engineering Physics	5	PHYS 220 Engineering Physics	5	GE3N, GE11, GE12	

#### **Computer Science:**

#### **KU Course Requirements**

#### **BARTON Equivalents**

<b>MATHEMATICS</b>				<b>Core</b>	
MATH 125 Calculus	4	MATH 1832 Analytical Geometry and Calculus	5	GE12	
MATH 126 Calculus 2	4	MATH 1834 Analytical Geometry and Calculus 2	5		
MATH 127 Calculus 3	4	MATH 1836 Analytical Geometry and Calculus 3	3		
MATH 290 Elementary Linear Algebra	2	MATH 246 Elementary Linear Algebra	3		

<b>Humanities &amp; Social Science electives</b>				<b>Core</b>	
<b>Electives-12 hours total of Humanities &amp; Social Science (must include 2 GE3H and 2 GE3S)</b>					

<b>NATURAL SCIENCES</b>				<b>Core</b>	
PHSX 211 & 216 Engineering Physics	5	PHYS 1604 Engineering Physics	5	GE3N, GE11, GE12	
PHSX 212 & 236 Engineering Physics	4	PHYS 1606 Engineering Physics 2	5	GE3N	
<b>Choose One:</b>					
CHEM 130 Chemistry	5	CHEM 1806 College Chemistry I	5	GE12, GE3N	
CHEM 135 Chemistry 2	5	CHEM 1808 College Chemistry II	5	GE12, GE3N	
GEOG 104 & 105 Princ Physic Geography	5	GEOS 140 & 141 Physical Geography	5	GE3N	
GEOL 101 How the World Works	3	GEOS 130 General Geology	5	GE3N	

#### **Electrical Engineering:**

**KU Course Requirements****BARTON Equivalents**

<b>MATHEMATICS</b>				<b>Core</b>	
MATH 125 Calculus	4		MATH 1832 Analytical Geometry and Calculus	5	GE12
MATH 126 Calculus 2	4		MATH 1834 Analytical Geometry and Calculus 2	5	
MATH 127 Calculus 3	4		MATH 1836 Analytical Geometry and Calculus 3	3	
MATH 220 Differential Equations	3		MATH 254 Differential Equations	4	
MATH 290 Elementary Linear Algebra	2		MATH 246 Elementary Linear Algebra	3	

<b>ECONOMICS &amp; electives</b>				<b>Core</b>	
<b>Choose One:</b>					
ECON 142 Princ of Microeconomics	3		ECON 1612 Prin of Microeconomics	3	GE3S
ECON 144 Princ of Macroeconomics	3		ECON 1610 Prin of Macroeconomics	3	GE3S
<b>Electives-12 hours total of Humanities &amp; Social Science (must be GE3H, AE41, AE42 + one extra GE3H or GE3S)</b>					

<b>NATURAL SCIENCES</b>				<b>Core</b>	
PHSX 211 & 216 Engineering Physics	5		PHYS 1604 Engineering Physics	5	GE3N, GE11, GE12
PHSX 212 & 236 Engineering Physics			PHYS 1606 Engineering Physics 2	5	GE3N
CHEM 130 Chemistry	5		CHEM 1806 College Chemistry I	5	GE12, GE3N

**Information Technology:****KU Course Requirements****BARTON Equivalents**

<b>MATHEMATICS</b>				<b>Core</b>	
MATH 101 College Algebra	3		MATH 1826 Intermediate and College Algebra	3	GE12
<b>OR</b>					
MATH 104 Precalculus Mathematics	5		MATH 1828 & 1830 Precalculus Math	6	GE12
MATH S365 Elementary Statistics	3		MATH/STAT 1829 Elements Of Statistics	3	GE12

<b>ECONOMICS &amp; electives</b>				<b>Core</b>	
ECON 104 Intro to Economics	3		No equivalent		GE3S
ENGL 362 Technical Writing	3		ENGL 1236 Technical Writing	3	

<b>NATURAL SCIENCES-Choose one</b>				<b>Core</b>	
PHSX 211 & 216 Engineering Physics	5		PHYS 1604 Engineering Physics 1	5	GE3N, GE11, GE12
PHSX 114 College Physics	5		PHYS 1600 Physics I	5	GE3N, GE11, GE12
CHEM 130 Chemistry	5		CHEM 1806 College Chemistry I	5	GE12, GE3N
BIOL 150 Pm Molecular/Cellular	5		No Equivalent		GE3N

**Interdisciplinary Computing-Astronomy:****KU Course Requirements****BARTON Equivalents**

<b>MATHEMATICS</b>				<b>Core</b>	
MATH 125 Calculus	4		MATH 1832 Analytical Geometry and Calculus	5	GE12
MATH 126 Calculus 2	4		MATH 1834 Analytical Geometry and Calculus 2	5	
MATH 127 Calculus 3	4		MATH 1836 Analytical Geometry and Calculus 3	3	
MATH 290 Elementary Linear Algebra	2		MATH 246 Elementary Linear Algebra	3	
MATH 220 Differential Equations	3		MATH 254 Differential Equations	4	

<b>NATURAL SCIENCES</b>				<b>Core</b>	
PHSX 211 & 216 Engineering Physics	5		PHYS 1604 Engineering Physics	5	GE3N, GE11, GE12
PHSX 212 & 236 Engineering Physics	4		PHYS 1606 Engineering Physics 2	5	GE3N
ASTR 191 Contemporary Astronomy	3		PHSC 1408 & 2408 Astronomy	4	GE3N

**Interdisciplinary Computing-Biology:****KU Course Requirements****BARTON Equivalents**

<b>MATHEMATICS</b>				<b>Core</b>
MATH 125 Calculus	4	MATH 1832 Analytical Geometry and Calculus	5	GE12
MATH 126 Calculus 2	4	MATH 1834 Analytical Geometry and Calculus 2	5	
MATH 127 Calculus 3	4	MATH 1836 Analytical Geometry and Calculus 3	3	
MATH 290 Elementary Linear Algebra	2	MATH 246 Elementary Linear Algebra	3	

<b>NATURAL SCIENCES</b>				<b>Core</b>
CHEM 130 Chemistry	5	CHEM 1806 College Chemistry I	5	GE3N, GE12
CHEM 135 Chemistry 2	5	CHEM 1808 College Chemistry II	5	GE3N, GE12
BIOL 150 Prn Molecular/Cellular	5	No Equivalent		GE3N
BIOL 152 Princ of Organismal Biology	5	No Equivalent		GE3N

<b>ETHICS</b>				<b>Core</b>
PHIL 160 Intro to Ethics	3	PHIL 160 Introduction to Ethics	3	AE51, GE11, GE3H

**Interdisciplinary Computing-Chemistry:****KU Course Requirements****BARTON Equivalents**

<b>MATHEMATICS</b>				<b>Core</b>
MATH 125 Calculus	4	MATH 1832 Analytical Geometry and Calculus	5	GE12
MATH 126 Calculus 2	4	MATH 1834 Analytical Geometry and Calculus 2	5	
MATH 127 Calculus 3	4	MATH 1836 Analytical Geometry and Calculus 3	3	
MATH 290 Elementary Linear Algebra	2	MATH 246 Elementary Linear Algebra	3	
MATH 220 Differential Equations	3	MATH 254 Differential Equations	4	

<b>NATURAL SCIENCES</b>				<b>Core</b>
CHEM 130 Chemistry	5	CHEM 1806 College Chemistry I	5	GE3N, GE12
CHEM 135 Chemistry 2	5	CHEM 1808 College Chemistry II	5	GE3N, GE12
PHSX 211 & 216 Engineering Physics	5	PHYS 1604 Engineering Physics	5	GE3N, GE11, GE12
PHSX 212 & 236 Engineering Physics	4	PHYS 1606 Engineering Physics 2	5	GE3N
CHEM 330 & 331 Organic Chemistry	5	CHEM 1814 Organic Chemistry 1	5	

**Interdisciplinary Computing-Geography:****KU Course Requirements****BARTON Equivalents**

<b>MATHEMATICS</b>				<b>Core</b>
MATH 125 Calculus	4	MATH 1832 Analytical Geometry and Calculus	5	GE12
MATH 126 Calculus 2	4	MATH 1834 Analytical Geometry and Calculus 2	5	
MATH 127 Calculus 3	4	MATH 1836 Analytical Geometry and Calculus 3	3	
MATH 290 Elementary Linear Algebra	2	MATH 246 Elementary Linear Algebra	3	

<b>NATURAL SCIENCES</b>				<b>Core</b>
PHSX 211 & 216 Engineering Physics	5	PHYS 1604 Engineering Physics	5	GE3N, GE11, GE12

**Interdisciplinary Computing-Physics:****KU Course Requirements****BARTON Equivalents**

<b>MATHEMATICS</b>				<b>Core</b>
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MATH 125 Calculus	4	MATH 1832 Analytical Geometry and Calculus	5	GE12
MATH 126 Calculus 2	4	MATH 1834 Analytical Geometry and Calculus 2	5	
MATH 127 Calculus 3	4	MATH 1836 Analytical Geometry and Calculus 3	3	
MATH 220 Differential Equations	3	MATH 254 Differential Equations	4	
MATH 290 Elementary Linear Algebra	2	MATH 246 Elementary Linear Algebra	3	

NATURAL SCIENCES				Core
PHSX 211 & 216 Engineering Physics	5	PHYS 1604 Engineering Physics	5	GE3N, GE11, GE12
PHSX 212 & 236 Engineering Physics	4	PHYS 1606 Engineering Physics 2	5	GE3N

### Interdisciplinary Computing-Journalism:

### KU Course Requirements

### BARTON Equivalents

MATHEMATICS				Core
MATH 125 Calculus	4	MATH 1832 Analytical Geometry and Calculus	5	GE12
MATH 126 Calculus 2	4	MATH 1834 Analytical Geometry and Calculus 2	5	
MATH 127 Calculus 3	4	MATH 1836 Analytical Geometry and Calculus 3	3	
MATH 220 Differential Equations	3	MATH 254 Differential Equations	4	
MATH 290 Elementary Linear Algebra	2	MATH 246 Elementary Linear Algebra	3	

### 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

### Barton County Equivalents

Goal 1: Critical Thinking and Quantitative Literacy (2 Units)				
Only Interdisciplinary Computing (Geography and Journalism needs to take one of these courses)				
Outcome 1		GE11		
COMS 230 Fundamentals of Debate	3	COMM 1212 Fundamentals of Debate		3
HWC 204 Western Civilization I	3	HIST 1409 Hist & Phil of West Culture to 1500		3
HWC 205 Western Civilization II	3	HIST 1411 Hist & Phil of West Culture 1500-present		3
ENGL 211 Introduction to Drama	3	LITR 1228 Introduction to Drama		3
PHIL 140 Introduction to Philosophy	3	PHIL 1602 Introduction to Philosophy		3
PHIL 160 Intro to Ethics	3	PHIL 1604 Systematic Ethics		3
PHIL 148 Reason and Argument	3	PHIL 1605 Reason and Argument		3
PHSX 114 College Physics	4	PHYS Physics 1		5
PHSX 211/212 General Physics I	5	PHYS 1604 Engineering Physics I		5
SOC 104 Elements of Sociology	3	SOCI 1100 Intro to Sociology		3
SOC 160 Social Problems and American Values	3	SOCI 1104 Contemporary Social Problems		3

Goal 2: Communication (3 Units) -two from outcome 1 and one outcome 2				
Outcome 1		GE21		
ENGL 101 Composition	3	ENGL 1203 English Composition - Honors		3
ENGL 101 Composition	3	ENGL 1204 English Composition I		3
ENGL 102 Critical Reading and Writing	3	ENGL 1206 English Composition II		3
ENGL 102 Critical Reading and Writing	3	ENGL 1207 English Composition II - HONORS		3
ENGL 211 Introduction to Drama	3	LITR 1228 Introduction to Drama		3
HWC 204 Western Civ 1	3	HIST 1409 Hist and Phil of West Cul to 1500		3
Outcome 2		GE22		
COMS 130 Speaker-Audience Communication	3	COMM 1230 Public Speaking		3

Goal 3: Breadth of Knowledge (3 Units) -one from each category				
Arts & Humanities		GE3H		
	3	ARTS 1200 Art Appreciation		3
REL 104 Intro to Religious Studies	3	RELI 1311 World Religions		3
HA 150 Western Art - Ancient to Medieval	3	ARTS 1201 Survey of Art History		3

ART 101 Drawing I	3	ARTS 1214 Drawing I	3
		HIST 1400 American History to 1877	3
HIST 128 Hist of US through Civil War	3	HIST 1401 American History 1865-present	3
HIST 129 Hist of US after Civil War	3	HIST 1402 American History 1877-present	3
		HIST 1403 American History to 1865	3
		HIST 1416 American Military History	3
		HIST 1450 Hist of World Civilization to 1500	3
		HIST 1452 Hist of World civilization 1500-present	3
		LITR 1212 The Short Story	3
		LITR 1414 The Novel	3
		LITR 1215 World Literature	3
ENGL 211 Introduction to Drama	3	LITR 1228 Introduction to Drama	3
		LITR 1234 Shakespeare	3
PHIL 140 Introduction to Philosophy	3	PHIL 1602 Introduction to Philosophy	3
PHIL 160 Ethics	3	PHIL 1604 Introduction to Ethics	3
PHIL 148 Reason and Argument	3	PHIL 1605 Reason and Argument	3
		RELI 1311 World Religions	3
THR 100 Introduction to Theater	3	THEA 1300 Introduction to Theater	3
THR 106 Acting I	3	THEA 1302 Acting I	3
<b>Social Sciences</b>		<b>GE3S</b>	
ANTH 100 General Anthropology	3	ANTH 2812 Intro to Anthropology	3
ANTH 108 Intro to Cultural Anthropology	3	ANTH 1816 Cultural Anthropology	3
EPSY S305 Preschool Child	3	CHLD 1505 Child Development	3
COMS 244 Intro Interpersonal Communications	3	COMM 1200 Interpersonal Communications	3
		COMM 1220 Organizational Communications	3
ECON 104 Introductory Economics	3	ECON 1607 Intro to Economics	3
ECON 142 Prin of Microeconomics	3	ECON 1612 Prin of Microeconomics	3
ECON 144 Prin of Macroeconomics ECON 142	3	ECON 1610 Prin of Macroeconomics	3
		HIST 1425 Women and the American Experience	3
POLS 110 Intro to US Politics	3	POLS 1800 Government of the United States	3
		POLS 1801 Introduction to Political Science	3
POLS 170 Intro to International Relations	3	POLS 1804 International Relations	3
PSYC 104 General Psychology	3	PSYC 1000 General Psychology	3
		PSYC 1014 Developmental Psychology	3
PSYC 120 Personality	3	PSYC 1034 Theories of Personality	3
SOC 104 Elements of Sociology	3	SOCI 1100 Introduction to Sociology	3
		CHLD 1505 Preschool Child	3

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

<b>Outcome 1</b>		<b>AE41</b>	
SOC 104 Elements of Sociology	3	SOCI 1100 Introduction to Sociology	3
SOC 160 Social Problems and American Values	3	SOCI 1104 Contemporary Social Problems	3
<b>Outcome 2</b>		<b>AE42</b>	
ANTH 100 General Anthropology	3	ANTH 2812 Intro to Anthropology	3
ANTH 108 Intro to Cultural Anthropology	3	ANTH 1816 Cultural Anthropology	3
REL 104 Intro to Religious Studies	3	RELI 1311 World Religions	3
GEOG 100 World Regional Geography	3	ANTH/GEOG 1819 World and Regional Geography	3
HA 150 Western Art: Ancient to Medieval	3	ARTS 1201 Art History Survey I	3
HWC 204 Western Civilization I	3	HIST 1409 Hist and Phil of West Culture to 1500	3
HWC 205 Western Civilization 2	3	HIST 1411 Hist and Phil of West Culture 1500-present	3
GERM 104 Elementary German	5	LANG 1900 Elementary German	5
GERM 108 Elementary German II	5	LANG 1902 Elementary German 2	5
GERM 201 Intermediate German I	3	LANG 1904 Intermediate German	3
GERM 202 Intermediate German II	3	LANG 1905 Intermediate German 2	3
SPAN 212 Intermediate Spanish	3	LANG 1912 Intermediate Spanish	3
		LITR 1215 World Literature	3
POLS 170 International Relations	3	POLS 1804 International Relations	3
		POLS 1810 the Middle East in Modern Times	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