

Highland 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

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

Highland Equivalents

MATHEMATICS				Core
MATH 121 Calculus I	5		MAT 110 Calc W/ Analytic Geom 2	5 GE12
MATH 122 Calculus 2	5		MAT 201 Calc W/ Analytic Geom 3 (must take MAT 106+110+201)	5
MATH 223 Linear Algebra	3		No equivalent	
MATH 290 Elementary Linear Algebra	2		No equivalent	
MATH 220 Differential Equations	3		No equivalent	

NATURAL SCIENCES				Core
PHSX 211 & 216 Engineering Physics	5		PS 215 College Physics	5 GE3N, GE11, GE12
PHSX 212 & 236 Engineering Physics			PS 216 College Physics 2	5 GE3N
CHEM 130 Chemistry	5		PS 111 College Chemistry	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

Highland Equivalents

MATHEMATICS				Core
MATH 121 Calculus I	5		MAT 110 Calc W/ Analytic Geom 2	5 GE12
MATH 122 Calculus 2	5		MAT 201 Calc W/ Analytic Geom 3 (must take MAT 106+110+201)	5
MATH 223 Linear Algebra	3		No equivalent	
MATH 290 Elementary Linear Algebra	2		No equivalent	

NATURAL SCIENCES				Core
PHSX 211 & 216 Engineering Physics	5		PS 215 College Physics	5 GE3N, GE11, GE12
PHSX 212 & 236 Engineering Physics			PS 216 College Physics 2	5 GE3N
CHEM 130 Chemistry	5		PS 111 College Chemistry	5 GE12, GE3N
CHEM 135 Chemistry 2	5		PS 112 College Chemistry 2	5 GE3N, GE12
CHEM 330 & 331 Organic Chemistry	5		PS 210 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

Highland Equivalents

MATHEMATICS					<u>Core</u>
MATH 121 Calculus I	5		MAT 110 Calc W/ Analytic Geom 2	5	GE12
MATH 122 Calculus 2	5		MAT 201 Calc W/ Analytic Geom 3 (must take MAT 106+110+201)	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 220 Engineering Physics	5	GE3N, GE11, GE12
PHSX 212 & 236 Engineering Physics			PHYS 221 Engineering Physics 2		GE3N
CHEM 130 Chemistry	5		CHEM 124 & 125 General Chemistry	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

Highland Equivalents

MATHEMATICS					<u>Core</u>
MATH 121 Calculus I	5		MAT 110 Calc W/ Analytic Geom 2	5	GE12
MATH 122 Calculus 2	5		MAT 201 Calc W/ Analytic Geom 3 (must take MAT 106+110+201)	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		PS 215 College Physics	5	GE3N, GE11, GE12
PHSX 212 & 236 Engineering Physics			PS 216 College Physics 2	5	GE3N
CHEM 130 Chemistry	5		PS 111 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

Highland Equivalents

Goal 1: Critical Thinking and Quantitative Literacy (1 Unit from each outcome)					
Outcome 1				GE11	
ENGL 211 Intro to Drama	3		ENG 207 Narrative Film		3
PHIL 140 Intro to Philosophy	3		PHI 101 Introduction To Philosophy		3
PHIL 160 Intro to Ethics	3		PHI 102 Intro to Ethics		3
PHSX 111 Introductory Physics	3		PS 102 Concepts of Physics		3
PHSX 114 College Physics I	4		PS 203 General College Physics		5
PHSX 211/216 General Physics I	4		PS 215 College Physics I		5
HWC 204 Western Civilization	3		HIS 204 Reading Western Civ		3
HWC 205 Western Civilization 2	3		HIS 205 Reading Western Civ 2		3
SOC 104 Elements of Sociology	3		SOC 101 General Sociology		3
SOC 160 Social Problems/ American Values	3		SOC 210 Social Problems		3
Outcome 2				GE12	
MATH 101 College Algebra	3		MAT 104 College Algebra		3

MATH 125 Calculus	4		MAT 106 Calculus	5
CHEM 130 Chemistry	5		PS 111 College Chemistry	5
CHEM 135 Chemistry 2	5		PS 112 College Chemistry 2	5
PHSX 114 College Physics	5		PS 203 General Physics	5
PHSX 211 General Physics	5		PS 215 College Physics	5
MATH S365 Elementary Stats	3		MAT 203 Basic Statistics	3

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

Outcome 1		GE21	
ENGL 101 Composition	3	ENG 101 College English I	3
ENGL 102 Critical Reading and Writing	3	ENG 102 College English II	3
ENGL 211 Intro to Drama	3	ENG 207 Narrative Film	3
HWC 204 Western Civilization	3	HIS 204 Readings Western Civ	3
Outcome 2		GE22	
COMS 130 Speaker-Audience Communication	3	SP 106 Public Speaking	3

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

Arts & Humanities		GE3H	
HA 150 History of Western Art	3	A 201 Art History	3
		A 101 Art Appreciation	3
ART 101 Drawing I	3	A 107 Drawing I	3
ANTH 110 Intro to Archaeology	3	ANT 100 Intro to Archaeology	3
		ENG 202 American Literature I	3
		ENG 207 Narrative Film	3
		ENG 208 Intro To The Short Story	3
		ENG 209 American Literature II	3
		ENG 210 World Literature I	3
		ENG 211 World Literature II	3
		ENG 212 English Literature I	3
		ENG 213 English Literature II	3
		ENG 205 Old Testament Literature	3
		M 103 Music History and Appreciation	3
		M 223 History of Jazz	3
HSES 244 Physical Ed and Sport Studies	3	PE 123 Principles of Education	3
HSES 244 Physical Ed and Sport Studies	3	PE 111 History/Principles of Physical Education	3
		PHI 105 Religions Of The World	3
PHIL 140 Intro to Philosophy	3	PHI 101 Introduction To Philosophy	3
PHIL 160 Intro to Ethics	3	PHI 102 Intro to Ethics	3
PHMD 101 Fundamentals of Photography	3	PHO 101 Basic Photography	3
THR 100 Intro to Theatre	3	TH 105 Intro To Dramatics	3
		TH 108 History & App Of Theatre Arts	3
THR 106 Intro to Acting	3	TH 110 Acting I	3
HIST 128 Hist US thrgh Civil War	3	HIS 101 United States History I	3
HIST 129 Hist of US After Civil War	3	HIS 102 United States History II	3
Natural Sciences		GE3N	
ASTR 191 Contemporary Astronomy	3	PS 108 Astronomy	4
BIOL 100 Principals of Biology	3	BS 101 College Biology	5
BIOL 200/203 Microbiology	5	BS 203 Microbiology	5
		BS 291 Zoology	5
		BS 202 General Botany	5
EVRN 148 Sci Prins of Environmental Studies	3	BS 107 Intro Environmental Science	4
CHEM 110 College Chemistry	4	PS 107 General Chemistry	5
CHEM 130 Chemistry	5	PS 111 College Chemistry	5
CHEM 135 Chemistry 2	5	PS 112 College Chemistry 2	5
		PS 101 College Physical Science	5
PHSX 111 Introductory Physics	3	PS 102 Concepts of Physics	3
PHSX 114 College Physics	5	PS 203 General Physics	5
PHSX 211/216 General Physics	4	PS 215 College Physics	5
PHSX 212/236 General Physics II	4	PS 216 College Physics 2	5

GEOL 101 Intro to Geology	3		PS 104 General Geology	4
Social Sciences			GE3S	
COMS 244 Intr Personal Comm	3		SP 105 Interpersonal Communication	3
ECON 142 Princ of Microeconomics	3		BUS 204 Microeconomics	3
SOC 110 American Identities	3		SOC 106 Diversity and Inclusiveness	3
ECON 144 Princ of Macroeconomics	3		BUS 203 Macroeconomics	3
POLS 110 Intro to US Politics	3		POL 100 United States Government	3
EPSY S305 Dev and Learning of Young Child	3		PSY 202 Child Psychology	3
	3		PSY 205 Human Growth & Development	3
PSYC 104 General Psychology	3		PSY 101 General Psychology	3
SOC 104 Elements of Sociology	3		SOC 101 General Sociology	3
	3		POL 101 Intro To Political Science	3
ANTH 100 General Anthropology	3		ANT 112 General Anthropology	3
SOC 220 Sociology of Families	3		SOC 102 Marriage and the Family	3
SW Social Work, Soc Welfare in US Society	3		SOC 104 Intro to Social Work	3

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

Outcome 1			AE41	
SOC 160 Intro to Social Problems	3		SOC 210 Social Problems	3
SOC 110 American Identities	3		SOC 106 Diversity and Inclusiveness	3
SOC 104 Elements of Sociology	3		SOC 101 General Sociology	3
Outcome 2			AE42	
HA 150 History of Western Art	3		A 201 Art History	3
ANTH 100 General Anthropology	3		ANTH 112 General Anthropology	3
GEOG 100 World Regional Geography	3		GEO 212 World Regional Geography	3
			M 162 World Music	3
			PHI 105 Religions Of The World	3
HWC 204 Western Civilization	3		HIS 204 or 103 Readings in Western Civ	3
HWC 205 Western Civilization 2	3		HIS 205 Readings in Western Civ 2	3

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

Outcome 1			AE51	
SOC 160 Social Problems/ American Values	3		SOC 210 Social Problems	3
PHIL 160 Intro to Ethics	3		PHI 102 Introduction To Ethics	3
Outcome 2			AE52	
No Equivalencies Established				

Goal 6: Integration and Creativity (1 Unit)

Outcome 1			AE61	
No Equivalencies Established				