



The Associate of Arts degree (A.A.) at JCCC is a general transfer degree and partners well with the first two years of most bachelor degree programs. Students pursuing the A.A. may select courses that satisfy both the A.A. degree requirements and lower division requirements for a bachelor's degree at four-year institutions. The 33 hours of electives within the A.A. allows students to complete additional general education and lower division courses required for specific majors. The A.A. degree requires completion of 64 credit hours, the maximum number of hours from a community college that will be applied toward a bachelor's degree at most four-year schools. Meeting with a JCCC counselor is strongly recommended for selection of appropriate courses.

Timely completion of prerequisite courses is imperative due to tight sequencing of major courses. Consult KU catalog and seek KU advising early.

- ❖ Sixty-four credit hours may be transferred to KU from community colleges; in addition to meeting course requirements, the last 30 hours must be completed at KU. A total of 128 credit hours is required for the B.S. in Mechanical Engineering.
- ❖ Transfer students will have their applications to Engineering School evaluated on a case-by-case basis and must have minimum GPA of 2.5 to be considered.
- ❖ Either math ACT score greater than 22 or proof of competency in calculus by earning a "C" or better.
- ❖ Application deadline for the School of Engineering is May 1 for fall and summer; December 1 for spring.
- ❖ Pass/Fail – Not acceptable
- ❖ Only courses with grades of "C" or higher at JCCC will apply toward the degree at KU.

**KU REQUIREMENTS**

**JCCC EQUIVALENTS**

<b>I. General Education Component (21 hours)</b>				
<u>English (6 hours minimum)</u>				
ENGL 101 Composition	3	___ ENGL 121	Composition I	3
ENGL 102 Critical Reading and Writing	3	___ ENGL 122	Composition II	3
Select one course from each of the five areas below. Any of the JCCC courses listed below will satisfy this requirement. Additional courses are available at KU as options for this requirement.				
Economics Elective	3	___ ECON 230	Economics I <u>OR</u>	3
		___ ECON 231	Economics II	3
Ethics Elective	3	___ PHIL 143	Ethics	3
Communication Elective	3	___ SPD 121	Public Speaking	3
		___ SPD 125	Personal Communication	3
		___ PHIL 124	Logic and Critical Thinking	3
Environmental Concern Elective ( 3 hours)				
GEOG 148/EVRN 148	3	___ BIOL 130	Environmental Science	3
		___ BIOL 250	Ecology	4
Contemporary Issues Elective	3	___ ANTH 125	Cultural Anthropology	3
		___ GEOS 145	World Regional Geography	3
		___ POLS 124	American National Government	3
		___ POLS 132	Intro to Comparative Government	3
		___ POLS 135	International Relations	3
		___ SOC 122	Intro to Sociology	3
		___ SOC 131	Marriage and the Family	3
		___ SOC 165	Chinese Society: Past and Present	3
		___ WGS 201	Global Women's Studies	3

<b>II. Mathematics, Basic Sci. and Computer Sci. (37 hours)</b>					
<u>Mathematics (21 hours)</u>					
MATH 121	Calculus I	5	_____ MATH 241	Calculus I	5
MATH 122	Calculus II	5	_____ MATH 242	Calculus II <u>AND</u>	
			_____ MATH 243	Calculus III	10
MATH 290	Elementary Linear Algebra	2	_____ MATH 246	Elementary Linear Algebra	3
MATH 220	Applied Differential Equations	3	_____ MATH 254	Differential Equations	4
MATH 365	Statistics	3	_____ MATH 181	Statistics	3
ME 508	Numerical Methods	3		No equivalent	
<u>Natural Science (16 hours)</u>					
	Physics I and II	8	_____ PHYS 220	Engineering Physics I <u>AND</u>	5
			_____ PHYS 221	Engineering Physics II	5
CHEM 150	Chemistry for Engineers	5	_____ CHEM 124/125	Gen Chemistry I/Lab	4/1
<u>Computer Science</u>					
	C++ Programming	3	_____ CS 200	Concepts of Programming Algorithms/C++ (see catalog for prerequisite)	4

<b>III. Engineering Sciences and Design (57 hours)</b>	_____ ENGR 251	Statics	3
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<b>IV. Approved Electives (13 hours)</b>
May be selected with a KU Mechanical Engineering advisor or from the attached list of approved courses. A maximum of 7 credits from the attached list may be applied toward a degree. Go to <a href="http://admissions.ku.edu/credit/transfer">http://admissions.ku.edu/credit/transfer</a> for equivalent JCCC courses.
Up to 6 credit hours of foreign language is acceptable if student is NOT native speaker of that language.

Students are encouraged to transfer to KU after the **third semester** in order to stay on track in major coursework.

<b>RECOMMENDED PROGRAM AT JCCC</b>					
<b>FIRST SEMESTER</b>			<b>SECOND SEMESTER</b>		
ENGL 121	Composition I	3		General Education Component	3
MATH 241	Calculus I	5	ENGL 122	Composition II	3
CHEM 124/125	General Chemistry I/Lab	4/1	MATH 242	Calculus II	5
	General Education Component Elective	<u>3</u>	CS 200	Concepts of Prog. Algorithms/C++	<u>4</u>
		16			15
<b>THIRD SEMESTER</b>			<b>FOURTH SEMESTER</b>		
PHYS 220	Engineering Physics I	5	MATH 181	Statistics	3
ENGR 251	Statics	3	MATH 246	Elementary Linear Algebra	3
MATH 243	Calculus III	5	MATH 254	Differential Equations	4
	General Education Component	<u>3</u>	PHYS 221	Engineering Physics II	<u>5</u>
		16			15

It is the STUDENT'S RESPONSIBILITY to check for updates to all transfer information. This transfer program is provided as a service and is updated at least annually. Degree requirements at the four-year colleges are subject to change by those institutions.

## KU – Mechanical Engineering, B.S.

### APPROVED KU ELECTIVES - LIST 2

#### A MAXIMUM OF SEVEN CREDITS\* FROM THIS LIST MAY BE APPLIED TOWARD THE DEGREE

No course from List 2 may be substituted for a course on List 1 (Required Course List)

#### I. Mathematics and Basic Sciences

##### Astronomy

ASTR 191	Contemporary Astronomy	3
ASTR 196	Introductory Astronomy Lab	1

##### Biological Sciences

BIOL 100/101	Principles of Biology	3
BIOL 102/103	Principles of Biology Lab	1
BIOL 120	Insects in Your World	3
BIOL 150/151	Principles of Molecular & Cellular Bio	4
BIOL 152/153	Principles of Organismal Bio	4
BIOL 240	Fundamentals of Human Anatomy	3
BIOL 296	Principles of Human Physiology	3

##### Chemistry

CHEM 625	Organic Chemistry I Lab	2
CHEM 626	Organic Chemistry II	3
CHEM 627	Organic Chemistry II Lab	2

##### Earth Sciences

ATMO 105	Introductory Meteorology	5
ATMO 220	Unusual Weather	3
GEOG 104	Principles of Physical Geography	3
GEOG 105	Laboratory in Physical Geography	2
GEOG/ENVR 148	Principles of Environmental Studies	3
GEOL 101	Introduction to Geology	3
GEOL 103	Geology Fundamentals Lab	2
GEOL 105	History of the Earth	3
GEOL 171	Earthquakes and Natural Disasters	3

##### Mathematics

MATH 223	Vector Calculus	3
MATH 450	Math. Foundations for Computer Science	3
MATH 590	Linear Algebra	3
MATH 627	Probability	3
MATH 628	Math. Theory of Statistics	3
MATH 646	Complex Variable & Applications	3
MATH 647	Applied Partial Differential Equations	3
MATH 648	Calculus of Variations and Integral Equations	3

##### Physics

PHSX 313	General Physics III	3
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#### II. Engineering Sciences and Design

##### Civil Engineering

CE 240	Surveying	3
CE 477	Intro Environmental Engineering & Science	3

##### Electrical Engineering & Computer Engineering

EECS 140	Intro to Digital Logic Design	4
EECS 210	Discrete Structures	4
EECS 315	Electric Circuits and Machines	3

##### Mechanical Engineering

ME 360	Mechical Engineering Problems	1-3
ME 361	Undergraduate Honors Research	1-3

#### III. General Education Component

##### Business

ACCT 200	Financial Accounting I	4
ACCT 201	Managerial Accounting I	3
MGMT 310	Organizational Behavior	3
BLAW 301	Legal Aspects of Business	3
FIN 310	Finance	3
IST 301	Introduction to Information Systems	3
MKTG 310	Marketing	3

##### Fine Arts

Courses such as band, chorus, orchestra, instrumental or vocal music, drawing, painting and sculpture which are not designated as humanities courses are acceptable.

##### Foreign Language

See catalog for details.

##### Humanities or Social Sciences

Courses in addition to the General Education Component Required Category requirement are acceptable.

##### ROTC

ROTC work is accepted only for students who complete the ROTC program.