



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 elective hours 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 60 credit hours. **Completing an Associate of Arts degree or the Associate of Science in General Sciences at JCCC will satisfy all general education requirements at UMKC, including the Constitution requirement. It is highly recommended that students complete the Associate's degree prior to transfer to UMKC whenever possible. Meeting with a JCCC counselor is strongly recommended for selection of appropriate courses.**

The School of Biological & Chemical Sciences (SBC) at UMKC offers the following degrees:

- Bachelor of Arts
 - Biology
 - Chemistry
- Bachelor of Science
 - Biology
 - Emphasis Areas or Concentrations
 - Bioinformatics
 - Biomedical Sciences (requires a supplemental application)
 - Biotechnology
 - Cellular and Molecular Basis of Health and Disease
 - Clinical Laboratory Science
 - Pre-Dentistry
 - Chemistry

All UMKC undergraduate degrees require at least 120 credit hours; some programs may require more hours. Students must complete at least 30 credit hours at UMKC and at least 12 upper division credit hours in their major department/program at UMKC to be eligible to receive an undergraduate degree from UMKC.

General UMKC Transfer Admission Requirements

- 2.0 or higher cumulative GPA
- Credit/no credit may only be applied to elective coursework and will not apply towards UMKC's general education core or major requirements. requirements (*UMKC did allow Credit/No-credit or Pass/Fail for Spring 2020. Please see specific program for transfer guidelines.*)
- Equivalent courses can be repeated but all grades will be averaged for GPA calculation purposes and students will only receive credit for one attempt
- Full transfer admission requirements can be found at <https://www.umkc.edu/transfer/apply.html>

School of Biological and Chemical Sciences Transfer Admission Requirements

- 2.0 or higher GPA in all math and science coursework
 - A student must earn a "D-" or higher in general education coursework and a "C-" or higher in degree applicable biology, chemistry, physics, and math courses for them to count towards the major in the School of Biological & Chemical Sciences.

General Education Requirements for Transfer students:

All UMKC undergraduate students complete general education requirements. Completing an Associate of Arts (A.A.) degree or the Associate of Science (A.S.) in General Sciences at JCCC will satisfy all general education requirements at UMKC, including the Constitution requirement. JCCC students transferring to UMKC without completing the A.A. or A.S. will have the option to elect to complete either the UMKC Essentials or the Missouri Transfer (MOTR) Core 42 curriculum to meet general education requirements.

^To learn more about these two options and UMKC general education requirements, including how transfer coursework applies to specific general education requirements, please refer to

<https://www.jccc.edu/student-resources/academic-counseling/transfer/files/transfer-guides/umkc-general-education.pdf>

BIOLOGY REQUIRED CLASSES - All Biological Sciences majors can complete the following courses at JCCC

(denotes courses that must be completed with a grade of C- or above):**

Major/Course	UMKC Course	JCCC Course	Requirement Fulfilled
General Biology I & lab** (OR MOTRBIOL 100LB)	BIOLOGY 108 & 108L (OR MOTRBIOL 100LB)	BIOL 135 Principles of Cell and Molecular Biology (OR BIOL 125 General Botany)	Major Requirement General education^
General Biology II & lab** (OR MOTRBIOL 100LZ)	BIOLOGY 109 & 109L (OR MOTRBIOL 100LZ)	BIOL 150 Biology of Organisms* (OR BIOL 127 General Zoology)	Major Requirement
Genetics**	BIOLOGY 206	BIOL 205 General Genetics*	Major Requirement
General Chemistry I**	CHEM 211 & 211L	CHEM 124 General Chem I* & CHEM 125 General Chem I Lab*	Major Requirement General Education^
General Chemistry II**	CHEM 212R & 212LR	CHEM 131 General Chem II* & CHEM 132 General Chem II Lab*	Major Requirement
Pre-Calculus**	MATH 120	MATH 173 Precalculus*	Major Requirement General Education^
Biology (BA)			
Calculus I or Statistics**	MATH 210 OR STAT 235	MATH 241 Calculus I* OR MATH 181 Statistics*	Major Requirement
General Physics I**	PHYSICS 210	PHYS 130 College Physics I*	Major Requirement General Education^
Biology (BS)			
Calculus I**	MATH 210	MATH 241 Calculus I*	Major Requirement
Calculus II or Statistics**	MATH 220 OR STAT 235	MATH 242 Calculus II* OR MATH 181 Statistics*	Major Requirement
General Physics I OR Engineering Physics I**	PHYSICS 210 OR 240	PHYS 130 College Physics I* OR PHYS 220 Engineering Phys. I*	Major Requirement General Education^
General Physics II OR Engineering Physics II**	PHYSICS 220 OR 250	PHYS 131 College Physics II* OR PHYS 221 Engineering Physics II*	Major Requirement
Biology - Bioinformatics Emphasis (BS)			
Problem Solving & Programming I**	COMP-SCI 101	CS 200 Concepts of Programming Algorithms Using C++*	Major Requirement
Discrete Structures I**	COMP-SCI 191	CS 210 Discrete Structures I*	Major Requirement
Problem Solving & Programming II**	COMP-SCI 201R	CS 250 Basic Data Structures using C++*	Major Requirement
Statistics**	STAT 235	MATH 181 Statistics*	Major Requirement
Calculus I**	MATH 210	MATH 241 Calculus I*	Major Requirement
<i>Biology – Bioinformatics Emphasis (BS) continued on next page</i>			

Biology – Bioinformatics Emphasis (BS) continuation			
Calculus II*	MATH 220	MATH 242 Calculus II*	Major Requirement
General Physics I OR Engineering Physics I**	PHYSICS 210 OR 240	PHYS 130 College Physics I* OR PHYS 220 Engineering Physics I*	Major Requirement General Education^
General Physics II OR Engineering Physics II**	PHYSICS 220 OR 250	PHYS 131 College Physics II* OR PHYS 221 Engineering Physics II*	Major Requirement
Biology - Biomedical Science Emphasis (BS) Requires a supplemental application			
Intro. Anatomy w/lab**	BIOLOGY 218 & 218L	BIOL 140 Human Anatomy	Major Requirement
Calculus I**	MATH 210	MATH 241 Calculus I*	Major Requirement
Calculus II or Statistics**	MATH 220 OR STAT 235	MATH 242 Calculus II* OR MATH 181 Statistics*	Major Requirement
General Physics I OR Engineering Physics I**	PHYSICS 210 OR 240	PHYS 130 College Physics I* OR PHYS 220 Engineering Physics I*	Major Requirement General Education^
General Physics II OR Engineering Physics II**	PHYSICS 220 OR 250	PHYS 131 College Physics II* OR PHYS 221 Engineering Physics II*	Major Requirement
Biology - Biotechnology Emphasis (BS)			
Problem Solving & Programming I**	COMP-SCI 101	CS 200 Concepts of Programming Algorithms Using C++*	Major Requirement
Statistics**	STAT 235	MATH 181 Statistics*	Major Requirement
Calculus I**	MATH 210	MATH 241 Calculus I*	Major Requirement
Calculus II**	MATH 220	MATH 242 Calculus II*	Major Requirement
General Physics I OR Engineering Physics I**	PHYSICS 210 OR 240	PHYS 130 College Physics I* OR PHYS 220 Engineering Physics I*	Major Requirement General Education^
General Physics II OR Engineering Physics II**	PHYSICS 220 OR 250	PHYS 131 College Physics II* OR PHYS 221 Engineering Physics II*	Major Requirement
Biology - Cellular and Molecular Basis of Health and Disease Emphasis (BS)			
Calculus I**	MATH 210	MATH 241 Calculus I*	Major Requirement
Calculus II or Statistics**	MATH 220 OR STAT 235	MATH 242 Calculus II* OR MATH 181 Statistics*	Major Requirement
General Physics I OR Engineering Physics I**	PHYSICS 210 OR 240	PHYS 130 College Physics I* OR PHYS 220 Engineering Phys. I*	Major Requirement General Education^
General Physics II OR Engineering Physics II**	PHYSICS 220 OR 250	PHYS 131 College Physics II* OR PHYS 221 Engineering Phys. II*	Major Requirement
Biology - Clinical Laboratory Science Emphasis (BS)			
Calculus I OR Stats**	MATH 210 OR STAT 235	MATH 241 Calculus I* OR MATH 181 Statistics*	Major Requirement
General Physics I**	PHYSICS 210	PHYS 130 College Physics I*	Major Requirement General Education^
General Physics II**	PHYSICS 220	PHYS 131 College Physics II*	Major Requirement
Biology - Pre-Dentistry Concentration (BS)			
Intro. Anatomy w/lab**	BIOLOGY 218 & 218L	BIOL 140 Human Anatomy	Major Requirement
Calculus I**	MATH 210	MATH 241 Calculus I*	Major Requirement
Calculus II or Statistics**	MATH 220 OR STAT 235	MATH 242 Calculus II* OR MATH 181 Statistics*	Major Requirement
General Physics I OR Engineering Physics I**	PHYSICS 210 OR 240	PHYS 130 College Physics I* OR PHYS 220 Engineering Physics I*	Major Requirement General Education^
General Physics II OR Engineering Physics II**	PHYSICS 220 OR 250	PHYS 131 College Physics II* OR PHYS 221 Engineering Physics II*	Major Requirement

CHEMISTRY REQUIRED CLASSES - All Chemistry majors can complete the following courses at JCCC (denotes courses that must be completed with a grade of C- or above):**

Major/Course	UMKC Course	JCCC Course	Requirement Fulfilled
General Chemistry I**	CHEM 211 & 211L	CHEM 124 General Chemistry I* & CHEM 125 General Chemistry I Lab*	Major Requirement General Education^
General Chemistry II**	CHEM 212R & 212LR	CHEM 131 General Chemistry II* & CHEM 132 General Chemistry II Lab*	Major Requirement
Organic Chemistry I**	CHEM 321 & 321L	CHEM 220 - Organic Chemistry I*	Major Requirement
Organic Chemistry II**	CHEM 322R & 322L	CHEM 221 - Organic Chemistry II*	Major Requirement
Chemistry (BA)			
Precalc./Algebra**	MATH 110 OR MATH 120	MATH 171 College Algebra* OR MATH 173 Pre-Calculus*	Major Requirement General Education^
Calculus I or Statistics **	MATH 210 OR STAT 235	MATH 241 Calculus I* OR MATH 181 Statistics*	Major Requirement
General Physics I	PHYSICS 210	PHYS 130 College Physics I*	Major Requirement General Education^
General Physics II	PHYSICS 220	PHYS 131 College Physics II*	Major Requirement
Chemistry (BS)			
Pre-Calculus**	MATH 120	MATH 173 Precalculus*	Major Requirement General Education^
Calculus I**	MATH 210	MATH 241 Calculus I*	Major Requirement
Calculus II**	MATH 220	MATH 242 Calculus II*	Major Requirement
Calculus III**	MATH 250	MATH 243 Calculus III*	Major Requirement
Engineering Physics I (OR General Physics I)	PHYSICS 240 (OR PHYSICS 210)	PHYS 220 Engineering Physics I* (OR PHYS 130 College Physics I*)	Major Requirement General Education^
Engineering Physics II (OR General Physics II)	PHYSICS 250 (OR PHYSICS 220)	PHYS 221 Engineering Physics II* (OR PHYS 131 College Physics II*)	Major Requirement

* JCCC course has a prerequisite or corequisite.

It is the STUDENT'S RESPONSIBILITY to check for updates to all transfer information. This transfer guide is provided as a service and is updated as needed. Degree requirements at the four-year colleges are subject to change by those institutions. To ensure you have the most accurate up to date information about the program, it is imperative you meet with an advisor at the transfer institution.