Johnson County Community College
Academic Program Map for Transfer
University of Missouri-Kansas City
School of Science and Engineering
Division of Computing, Analytics, and Mathematics
2023-2024 Catalog

Contact: School of Science & Engineering
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The Associate of Science degree (A.S.) at JCCC is designed as a transfer degree. Student pursing the A.S. may select courses that satisfy both the A.S. degree requirements and lower-division requirements for a bachelor's degree at four-year institutions. The 27 credit hours of electives within the A.S. allows students to complete additional general education and lower division courses required for specific majors. The A.S. degree requires the completion of 60 credit hours; please see JCCC A.S. degree requirements. **Meeting with a JCCC counselor is strongly recommended for the selection of appropriate courses.**

The Division of Computing, Analytics, and Mathematics at UMKC offers the following degrees:

- Computer Science
  - Bachelor of Arts in Computer Science
  - Bachelor of Information Technology
  - Bachelor of Science in Computer Science
- Mathematics and Statistics
  - Bachelor of Arts in Mathematics and Statistics
  - Bachelor of Science in Mathematics and Statistics

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

- 2.25 or higher cumulative GPA (Students between 2.0-2.24 will have the opportunity to petition. Please contact Nate Jacobs in UMKC Admissions for the full policy).

*Credit/no credit may only be applied to elective coursework and will not apply towards UMKC's general education core or major requirements. *(UMKC did allow Credit/No-credit or Pass/Fail for Spring 2020 coursework. Please see the 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 Science and Engineering Transfer Admission Requirements

- School of Science & Engineering admission requirements vary by major. Please visit https://sse.umkc.edu/admissions/transfer-students.html to read about the requirements for your program.

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. The A.S. is a better option for most students wanting to transfer into SSE. 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

Major/Course	UMKC Course	JCCC Course	Req. Fulfilled
Computer Science (BA) – A minimum grade of "C" in required in all Computer Science, Math, and Stat coursework.			
Calculus I	MATH 210	MATH 241 Calculus I*	Major Req
Calculus II	MATH 220	MATH 242 Calculus II*	Major Req
Elementary Statistics	STAT 235	MATH 181 Statistics *	Major Req
Life and Physical Sciences – Select one Life Science course and one Physical Science course. A minimum of one lab is required.			
Biology and Living	BIOLOGY 102	BIOL 121 Intro Biology for Non-Majors	Major Req
General Biology I	BIOLOGY 108	BIOL 125 General Botany	Major Req
General Biology II	BIOLOGY 109	BIOL 150 Biology of Organisms*	Major Req
Physical Science – Select One			
Astronomy: Motions of the Cosmos	ASTR 150	ASTR 120 Fundamentals of Astronomy	Major Req
Elements of Chemistry I	CHEM 115	CHEM 122 Principles of Chemistry*	Major Req
General Chemistry I	CHEM 211	CHEM 124 General Chemistry I*	Major Req
General Chemistry II	CHEM 212R	CHEM 131 General Chemistry II*	Major Req
Understanding the Earth	ENV-SCI 110R	GEOS 140 Physical Geography	Major Req
General Geology	GEOLOGY 220	GEOS 130 General Geology	Major Req
General Physics I	PHYSICS 210	PHYS 130 College Physics I*	Major Req
General Physics II	PHYSICS 220	PHYS 131 College Physics II*	Major Req
Physics for Scientists and Engineers I	PHYSICS 240	PHYS 220 Engineering Physics I*	Major Req
Physics for Scientists and Engineers II	PHYSICS 250	PHYS 221 Engineering Physics II*	Major Req
Take each of the following			
Foreign Language Level I Students having 2 years of high school FL can waive FL requirements	FL 110	FL Level I	Major Req
Foreign Language Level II Students having 2 years of high school FL can waive FL requirements	FL 120	FL Level II*	Major Req
Problem Solving & Programming I/Lab	COMP-SCI 101 **AND** COMP-SCI 101L	CS 200 Concepts of Programming Algorithms Using C++*	Major Req
Problem Solving & Programming II/Lab	COMP-SCI 201R **AND** COMP-SCI 201L	CS 235 Object-Oriented Programming Using C++*	Major Req
Discrete Structures I **AND** Discrete Structures II	COMP-SCI 191 **AND** COMP-SCI 291	CS 210 Discrete Structures I* **AND** CS 211 Discrete Structures II*	Major Req
Data Structures	COMP-SCI 303	CS 250 Basic Data Structures using C++*	Major Req

Computer Science (BS) – A minimum of one lab from one of the following areas: Biology, Chemistry, Environmental Science, Geoscience, or Physics is required. A minimum grade of "C" in required in all Computer Science, Info Tech, Math, Stat and Physics coursework.			
Calculus I	MATH 210	MATH 241 Calculus I*	Major Req
Calculus II	MATH 220	MATH 242 Calculus II*	Major Req
Linear Algebra I	MATH 300	MATH 246 Elementary Linear Algebra*	Major Req
Elementary Statistics	STAT 235	MATH 181 Statistics*	Major Req
Life and Physical Sciences			
Physics for Scientists and Engineers I	PHYSICS 240	PHYS 220 Engineering Physics I*	Major Req
Take one of the following:			
General Biology I	BIOLOGY 108	BIOL 125 General Botany	Major Req
General Biology II	BIOLOGY 109	BIOL 150 Biology of Organisms*	Major Req
General Chemistry I	CHEM 211	CHEM 124 General Chemistry I*	Major Req
General Geology	GEOLOGY 220	GEOS 130 General Geology	Major Req
Understanding the Earth	ENV-SCI 110R	GEOS 140 Physical Geography	Major Req
Physics for Scientists and Engineers II	PHYSICS 250	PHYS 221 Engineering Physics II*	Major Req
Take each of the following			
Problem Solving & Prog. I	COMP-SCI 101 & 101L	CS 200 Concepts of Programming Algorithms Using C++*	Major Req
Problem Solving & Prog II	COMP-SCI 201R & 201L	CS 235 Object-Oriented Programming Using C++*	Major Req
Discrete Structures I **AND** Discrete Structures II	COMP-SCI 191 **AND** COMP-SCI 291	CS 210 Discrete Structures I* **AND** CS 211 Discrete Structures II* *(Students must complete both at JCCC to receive credit)*	Major Req
Data Structures	COMP-SCI 303	CS 250 Basic Data Structures using C++*	Major Req
Information Technology (BIT) – A minimum grade of "C" is required in all courses offered in the School of Science and Engineering.			
Introduction to Managerial Accounting	ACCTNG 211	ACCT 222 Managerial Accounting*	Major Req
Calculus I	MATH 210	MATH 241 Calculus I*	Major Req
Elementary Statistics	STAT 235	MATH 181 Statistics*	Major Req
Life and Physical Sciences – Select one Life Science course and one Physical Science course. A minimum of one lab is required.			
Biology and Living	BIOLOGY 102	BIOL 122 Introductory Biology	Major Req
General Biology I	BIOLOGY 108	BIOL 125 General Botany	Major Req
General Biology II	BIOLOGY 109	BIOL 150 Biology of Organisms*	Major Req
Physical Science – Select one of the following			
Astronomy: Motions of the Cosmos	ASTR 150	ASTR 120 Fundamentals of Astronomy	Major Req
Elementary Chemistry I w/Lab	CHEM 115	CHEM 122 Principles of Chemistry*	Major Req
General Chemistry I	CHEM 211	CHEM 124 General Chemistry I*	Major Req
General Chemistry II	CHEM 212R	CHEM 131 General Chemistry II*	Major Req
Understanding the Earth	ENV-SCI 110R	GEOS 140 Physical Geography	Major Req
General Geology	GEOLOGY 220	GEOS 130 General Geology	Major Req
General Physics I	PHYSICS 210	PHYS 130 College Physics I*	Major Req
General Physics II	PHYSICS 220	PHYS 131 College Physics II*	Major Req
Physics for Scientists and Engineers I	PHYSICS 240	PHYS 220 Engineering Physics I*	Major Req
Physics for Scientists and Engineers II**	PHYSICS 250	PHYS 221 Engineering Physics II*	Major Req

Take each of the following			
Principles of Microeconomics	ECON 202	ECON 231 Principles of Microeconomics	Major Req
Intro to Financial Accounting	ACCTNG 210	ACCT 122 Accounting II*	Major Req
Problem Solving & Prog I	COMP-SCI 101 & 101L	CS 200 Concepts of Programming Algorithms Using C++*	Major Req
Problem Solving & Prog II	COMP-SCI 201R & 201L	CS 235 Object-Oriented Programming Using C++*	Major Req
Discrete Structures I **AND** Discrete Structures II	COMP-SCI 191 **AND** COMP-SCI 291	CS 210 Discrete Structures I* **AND** CS 211 Discrete Structures II* *(Students must complete both at JCCC to receive credit)*	Major Req
Data Structures	COMP-SCI 303	CS 250 Basic Data Structures using C++*	Major Req
Mathematics and Statistics (BA)			
Pre-Calculus	MATH 120	MATH 173 Precalculus*	Major Req ^Gen Edu
Calculus I	MATH 210	MATH 241 Calculus I*	Major Req
Calculus II	MATH 220	MATH 242 Calculus II*	Major Req
Calculus III	MATH 250	MATH 243 Calculus III*	Major Req
Elementary Statistics	STAT 235	MATH 181 Statistics*	Data Analytic Minor
Foreign Language Level I Students having 2 years of high school FL can waive FL requirements	FL 110	FL Level I	Major Req
Foreign Language Level II Students having 2 years of high school FL can waive FL requirements	FL 120	FL Level II*	Major Req
Lab Science	Check course equivalents	JCCC course descriptions, click here	Major Req
General Electives (Suggested Coursework Below) *Student must take electives credit hours to meet the minimum credit hour requirement for their degree, including at least 36 credit hours of coursework at the 300-level or above. Please note 30 credit hours must be taken at UMKC of the minimum 120 credit hours required by the university.*			
Intro to Financial Accounting	ACCTNG 210	ACCT 122 Accounting II*	General Elective
Problem Solving & Prog I	COMP-SCI 101 & 101L	CS 200 Concepts of Programming Algorithms Using C++*	General Elective
Discrete Structures I **AND** Discrete Structures II	COMP-SCI 191 **AND** COMP-SCI 291	CS 210 Discrete Structures I* **AND** CS 211 Discrete Structures II* *(Students must complete both at JCCC to receive credit)*	General Elective
Principles of Macroeconomics	ECON 201	ECON 230 Principles of Macroeconomics	General Elective
Principles of Microeconomics	ECON 202	ECON 231 Principles of Microeconomics	General Elective
Mathematics and Statistics (BS)			
Pre-Calculus	MATH 120	MATH 173 Precalculus*	Major Req ^Gen Edu
Calculus I	MATH 210	MATH 241 Calculus I*	Major Req
Calculus II	MATH 220	MATH 242 Calculus II*	Major Req
Calculus III	MATH 250	MATH 243 Calculus III*	Major Req
Elementary Statistics	STAT 235	MATH 181 Statistics*	Major Req

*JCCC course has a prerequisite or corequisite.

It is the STUDENT'S RESPONSIBILITY to check for updates to all transfer information. This academic program map for transfer 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.