



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 30 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 60 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.**

The Department of Computer Science and Electrical Engineering at UMKC offers the following degrees:

- Bachelor of Arts in Computer Science (BACS)
- Bachelor of Science in Computer Science (BSCS)
- Bachelor of Science in Electrical and Computer Engineering (BSECE)
- Bachelor of Information Technology (BIT)

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. *(UMKC did allow Credit/No-credit or Pass/Fail for Spring 2020 coursework. 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://sce.umkc.edu/new-roo/transfer/>
- Apply online at: [www.umkc.edu/apply](http://www.umkc.edu/apply)

#### **SCE-Computer Science & Electrical Engineering Transfer Admission Requirements:**

- 2.0 or higher GPA in all math and science coursework

#### **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.) at JCCC will satisfy all general education requirements at UMKC, including the Constitution requirement. It is highly recommended that students complete the Associates degree prior to transfer to UMKC whenever possible.** 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 Specific Information

| Major/Course  | UMKC Course   | JCCC Course   | Req. Fulfilled |
|---|---|---|----------------|
| <b>Computer Science (BA)</b> - A minimum of one lab from one of the following areas: Biology, Chemistry, Environmental Science, Geoscience, or Physics is required. A minimum C or better in CS/COMP-SCI and MATH coursework is required. |   |   |                |
| Calculus I  | MATH 210  | MATH 241 Calculus I*  | Major Req.     |
| Calculus II   | MATH 220  | MATH 242 Calculus II*   | Major Req.     |
| Statistics  | STAT 235  | MATH 181 Statistics*  | Major Req.     |
| Life Science - select one   | BIOLOGY 102, 108, 109,<br>CHEM 115, 211, 212R   | BIOL 121 Intro Biology for Non-Majors OR<br>BIOL125 General Botany OR<br>BIOL127 General Zoology OR<br>BIOL 135 Principles of Cell and Molecular Biology OR<br>Biology 150 Biology of Organisms* OR<br>CHEM 122 Principles of Chemistry* OR<br>CHEM 124 General Chemistry I* OR<br>CHEM 131 General Chemistry II* | Major Req.     |
| Physical Science - select one   | PHYSICS/ASTR/PHYS-SCI 150<br>ENV-SCI 110<br>GEOLOGY 220<br>PHYSICS 210, 220, 240, 250 | ASTR 120 Fundamentals of Astronomy OR<br>ASTR 122 Astronomy OR<br>EVRN 130 Environmental Sci. OR<br>GEOS130 General Geology OR<br>PHYS 130 College Physics I* OR<br>PHYS 131 College Physics II* OR<br>PHYS 220 Eng. Physics I* OR<br>PHYS 221 Eng. Physics II*   | Major Req.     |
| Foreign Language Level I<br>Students having 2 years of high school FL can waive FL requirements.  | FL 110  | FL Level I  | Major Req.     |
| Foreign Language Level II<br>Students having 2 years of high school FL can waive FL requirements.   | FL 120  | FL Level II*  | Major Req.     |
| Problem Solving & Programming I   | COMP - SCI 101<br>COMP-SCI 101L   | CS 200 Concepts of Programming Algorithms Using C++* OR<br>CS 201 Concepts of Programming Algorithms using C#* OR<br>CS 205 Concepts of Programming Algorithms using Java*  | Major Req.     |
| Problem Solving & Programming II  | COMP - SCI 201R<br>COMP-SCI 201L  | CS 250 Basic Data Structures using C++*   | Major Req.     |
| Discrete Structures I & II  | COMP - SCI 191 &<br>COMP - SCI 291  | CS 210 Discrete Structures I* AND<br>CS 211 Discrete Structures II*<br>(Students must complete both to receive credit)  | 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 C or better in CS/COMP- SCI and MATH coursework is required.

|                                       |  |   |            |
|---------------------------------------|--|---|------------|
| Statistics                            | STAT 235   | MATH 181 Statistics *   | Major Req. |
| Life or Physical Science - select one | BIOLOGY 108, 109<br>CHEM 211, 212R<br>GEOLOGY 220<br>ENV-SCI 110R<br>PHYSICS 250 | BIOL 135 Principles of Cell and Molecular Biology OR<br>Biology 150 Biology of Organisms*<br>OR<br>CHEM 124 General Chemistry I*<br>OR<br>CHEM 131 General Chemistry II*<br>OR<br>GEOS 130 General Geology OR<br>GEOS 140 Physical Geography OR<br>PHYS 221 Engineering Physics II* | Major Req. |
| Engineering Physics I                 | PHYSICS 240  | PHYS 220 Engineering Physics I*   | Major Req. |
| Calculus I                            | MATH 210   | MATH 241 Calculus I*  | Major Req. |
| Calculus II                           | MATH 220   | MATH 242 Calculus II*   | Major Req. |
| Problem Solving & Programming I       | COMP - SCI 101<br>COMP-SCI 101L  | CS 200 Concepts of Programming Algorithms Using C++* OR<br>CS 201 Concepts of Programming Algorithms using C#* OR<br>CS 205 Concepts of Programming Algorithms using Java*  | Major Req. |
| Problem Solving & Programming II      | COMP - SCI 201R<br>COMP SCI 201L   | CS 250 Basic Data Structures using C++*   | Major Req. |
| Discrete Structures I & II            | COMP - SCI 191 &<br>COMP - SCI 291   | CS 210 Discrete Structures I* AND<br>CS 211 Discrete Structures II*<br>(Students must complete both to receive credit)  | Major Req. |

**Information Technology (BIT) – A minimum of one lab from each of the following areas: Biology, Chemistry, Environmental Science, Geoscience, or Physics is required.**

|                                    |  |  |            |
|------------------------------------|--|--|------------|
| Calculus I                         | MATH 210   | MATH 241 Calculus I*   | Major Req. |
| Life Science – select one          | BIOLOGY 102, 108, 109<br>CHEM 115, 211, 212 R  | BIOL 121 Intro Biology for Non-Majors OR<br>BIOL125 General Botany OR<br>BIOL127 General Zoology OR<br>BIOL 135 Principles of Cell and Molecular Biology OR<br>Biology 150 Biology of Organisms*<br>OR<br>CHEM 122 Principles of Chemistry*<br>OR<br>CHEM 124 General Chemistry I*<br>OR<br>CHEM 131 General Chemistry II* | Major Req. |
| Physical Science – select one      | PHYSICS/ASTR/ PHYS- SCI 150<br>ENV-SCI110R<br>GEOLOGY 220,<br>PHYSICS 210, 220, 240, 250 | ASTR 120 Fundamentals of Astronomy OR<br>ASTR 122 Astronomy<br>GEOS 130 General Geology<br>GEOS 140 Physical Geography<br>PHYS 130 College Physics I*<br>PHYS 131 College Physics II*<br>PHYS 220 Engineering Physics I*<br>PHYS 221 Engineering Physics II*   | Major Req. |
| Microeconomics                     | ECON 202   | ECON 231 Principles of Microeconomics  | Major Req. |
| Principles of Accounting           | ACCTNG 210   | ACCT 122 Accounting II*  | Major Req. |
| Problem Solving and Programming I  | COMP-SCI 101 COMP SCI 101L   | CS 200 Concepts of Programming Algorithms Using C++** OR<br>CS 201 Concepts of Programming Algorithms using C#* OR<br>CS 205 Concepts of Programming Algorithms using Java*  | Major Req. |
| Problem Solving and Programming II | COMP-SCI 201R COMP SCI 201L  | CS 250 Basic Data Structures using C++*  | Major Req. |
| Discrete Structures I & II         | COMP - SCI 191 & COMP - SCI 291  | CS 210 Discrete Structures I* AND CS 211 Discrete Structures II*<br>(Students must complete both to receive credit)  | Major Req. |

**Electrical and Computer Engineering (BS) - A minimum of “C” or better in E&C - ENGR coursework is recommended.**

|                                  |                            |   |            |
|----------------------------------|----------------------------|---|------------|
| Calculus I                       | MATH 210                   | MATH 241 Calculus I*  | Major Req. |
| Engineering Physics I            | PHYSICS 240                | PHYS 220 Engineering Physics I*   | Major Req. |
| Engineering Physics II           | PHYSICS 250                | PHYS 221 Engineering Physics II*  | Major Req. |
| Biology or Chemistry             | BIOLOGY 102 OR<br>CHEM 211 | BIOL 121 Introductory Biology for Non-Majors OR<br>CHEM 124*/125* General Chemistry I*<br>/Lab* | Major Req. |
| Calculus II                      | MATH 220                   | MATH 242 Calculus II*   | Major Req. |
| Calculus III and Diff. Equations | E & C - ENGR 241           | MATH 243 Calculus III* AND<br>MATH 254 Differential Equations*                                  | Major Req. |
| Engineering Graphics             | MEC-ENGR 130               | ENGR 131 Engineering Graphics I:<br>AutoCAD*<br>(and MEC-ENGR 131 at UMKC)                      | Major Req. |
| Engineering Computation          | E&C-ENGR 216               | CS 200 Concepts of Programming<br>Algorithms Using C++*   | Major Req. |

\*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.**