Bachelor of Information Technology

University Requirements

General Education
The UMKC General Education Core (http://catalog.umkc.edu/undergraduate-academic-regulations-information/general-education-requirements) is the university-wide curriculum that all undergraduate students will complete. The 30-credit hour core curriculum includes three course types designated as Anchor, Discourse and Focus and is detailed in the General Education (http://catalog.umkc.edu/undergraduate-academic-regulations-information/general-education-requirements) section of the catalog.

Constitution Course
Every undergraduate student must take a course covering the United States Constitution and the Missouri State Constitution before graduation. Course options are included in the program requirements section below.

RooWriter Assessment
Candidates for all baccalaureate degrees must complete the online UMKC RooWriter Writing Assessment after they have passed Discourse 200 (or its equivalent) but before they have attained 90 credit hours. Incoming transfer students with more than 90 credit hours must complete the RooWriter by the end of their first semester of enrollment or within one semester after passing Discourse 200 (or its equivalent). Students who have not completed the RooWriter Writing Assessment within two semesters after passing Discourse 200 (or its equivalent) will be blocked from enrollment until they successfully complete the RooWriter. Additional information is available in the Undergraduate Academic Regulations and Information (http://catalog.umkc.edu/undergraduate-academic-regulations-information/roowriter) section of the catalog.

Exit Examinations
Information on exit examinations and/or major field exams is available in the Undergraduate Academic Regulations and Information (http://catalog.umkc.edu/undergraduate-academic-regulations-information/graduation/exitexams) section of the catalog.

Missouri Higher Education Civics Achievement Examination
In accordance with Missouri Senate Bill 807 (section 170.013.1), 'any student entering a public institution of higher education for the first time after July 2019 who is pursuing an associate's or bachelor's degree from such institution shall successfully pass an examination on the provisions and principles of American civics with a score of seventy percent or greater as a condition of graduation from such institution'. To satisfy this requirement at UMKC, students access the exam through the Canvas site. This requirement will be listed in the degree audit system as, 'Take State Mandated Missouri Higher Education Civics Achievement Examination', and listed on the transcript as 'Missouri Civics Examination'.

Student Learning Outcomes
Students graduating from this program will:

• Have the ability to apply knowledge of computing and mathematics appropriate to the discipline;
• Have the ability to analyze a problem, and identify and define the computing requirements appropriate to its solution;
• Have the ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs;
• Have the ability to function effectively on teams to accomplish a common goal;
• Have the understanding of professional, ethical, legal, security and social issues and responsibilities;
• Have the ability to communicate effectively with a range of audiences;
• Have the ability to analyze the local and global impact of computing on individuals, organizations, and society;
• Have recognition of the need for and an ability to engage in continuing professional development;
• Have the ability to use current techniques, skills, and tools necessary for computing practice;
• Have the ability to use and apply current technical concepts and practices in the core information technologies;
• Have the ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems;
• Have the ability to effectively integrate IT-based solutions into the user environment;
• Have the understanding of best practices and standards and their application;
• Have the ability to assist in the creation of an effective project plan.

Program Description
The Bachelor of Information Technology is accredited by the Computing Accreditation Commission of ABET. http://www.abet.org. ABET outcomes may be found on the SCE Accreditation page (https://sce.umkc.edu/about/accreditation/#tab-id-3).

The use of computers in commerce and industry keeps the college educated IT professional at the forefront of occupational demand. The Bachelor of Information Technology (B.I.T.) program prepares for a career path where the student contributes to the continued deployment of technology
infrastructure (operating systems, browsers, applications, software, networking, etc.). It blends both CS, IT, and Business coursework and requires an internship for the completion of the degree. Please contact the DST Student Services Center for more information at (816)235-2399 or sce@umkc.edu.

**Educational Objectives**

The Bachelor of Information Technology degree is designed so that graduates will attain employment in an IT related field. Some graduates will achieve appropriate certifications and/or will pursue advanced study in business, IT or other fields. Graduates will be engaged in lifelong learning and thereby advance in their careers.

**Career Implications**

There remains a large and growing number of unfulfilled IT positions both nationwide and within the Kansas City area. B.I.T. graduates are typically employed as software developers, network specialists, web developers, information system operators, programmer analysts, digital media specialists and database administrators. The need of the future is for students with an analytic and problem solving mindset who are able to adapt quickly to an ever-changing environment.

**Admission Requirements**

High school students planning to apply to the School of Computing & Engineering are strongly encouraged to take a college preparatory program that emphasizes mathematics, science and communication skills.

First-time college student applicants to the undergraduate program in information technology will be admitted if they obtain:

1. An ACT mathematics score of at least 25 and
2. An ACT composite score of at least 24

First-time college student applicants who do not meet the above criteria but do meet UMKC general admission requirements will have their applications reviewed by a faculty committee for admission. Applicants who are not admitted to SCE but do meet UMKC general admission requirements may be admitted to University College.

Students without the prerequisite preparation must take the needed coursework before enrolling in courses required for the bachelor’s degree. Students seeking re-admission must have been in good academic standing when last enrolled. Otherwise, re-admission requires a formal review by the undergraduate program committee.

Transfer applicants must have at least 24 credits of transferable college credit, an overall 2.0 GPA on a 4.0 scale in all coursework, which includes repeated coursework, attempted at previous institutions. Transfer applicants without a 2.0 or higher college GPA must submit a petition for admission.

**Program Requirements**

The requirements for the BIT degree are categorized into several areas totaling at least 120 hours of study.

**Program Specific Recommendations for UMKC General Education Core**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchor I</td>
<td>1</td>
<td>Anchor II</td>
</tr>
<tr>
<td>DISC 100</td>
<td>Discourse I: Reasoning and Values (Speech and Writing)</td>
<td>3</td>
</tr>
<tr>
<td>DISC 200</td>
<td>Discourse II: Culture and Diversity (Writing and Speech)</td>
<td>3</td>
</tr>
<tr>
<td>DISC 300</td>
<td>Discourse III: Civic and Community Engagement (Speech and Writing)</td>
<td>3</td>
</tr>
<tr>
<td>Focus A</td>
<td>1</td>
<td>Focus C (May be satisfied by the Constitution requirement below)</td>
</tr>
<tr>
<td>Focus Elective (Satisfied in program requirements below)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

'Total credits' in this section indicates the number of General Education Core credit hours that are not met by the degree specific requirements outlined below.

Total Credits 18

1 See the UMKC General Education Core (http://catalog.umkc.edu/undergraduate-academic-regulations-information/general-education-requirements) section of the catalog for available Anchor and Focus course options.
Constitution Course Requirement

Section 170.011.1 of the Missouri Revised Statutes, 2015, states that all candidates for a degree issued by a college or university in the state of Missouri must have “satisfactorily passed an examination on the provisions and principles of the Constitution of the United States and of the state of Missouri, and in American history and American institutions.”

Courses at UMKC that satisfy this state requirement are:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJC 364</td>
<td>The Supreme Court And The Criminal Process</td>
<td>3</td>
</tr>
<tr>
<td>HISTORY 101</td>
<td>U.S. History to 1877 (Focus C)</td>
<td></td>
</tr>
<tr>
<td>HISTORY 102</td>
<td>U.S. History Since 1877 (Focus C)</td>
<td></td>
</tr>
<tr>
<td>HONORS 230</td>
<td>Honors American Government (Focus C)</td>
<td></td>
</tr>
<tr>
<td>POL-SCI 210</td>
<td>American Government (Focus C)</td>
<td></td>
</tr>
</tbody>
</table>

Total Credits 3

1 Course may satisfy both the UMKC General Education Core (Focus C) and Constitution requirements.

There are a few other ways this requirement can be satisfied for students transferring to UMKC:

- Take an equivalent course from the list above at a regionally accredited institution.
- Earn credit for one of the above courses through AP, IB, or CLEP.
- Take a course that directly satisfies the Missouri Constitution Requirement at another Missouri institution.
- Have a previous bachelors degree (or higher) from a regionally accredited institution.
- Have an Associate of Arts degree from a regionally accredited institution.
- Complete the 42 Hour Core at a Missouri institution and have it listed on the official transcript.

Major Requirements

A minimum grade of C is required in all courses offered in the School of Computing & Engineering, as well as in Math and Stat coursework.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mathematics</td>
<td></td>
</tr>
<tr>
<td>ALEKS Math Placement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 110 (College Algebra; Typically not required due to ACT Admission Requirement)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 120 (Precalculus; Typically not required due to ACT Admission Requirement)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 210</td>
<td>Calculus I (Focus B)</td>
<td>4</td>
</tr>
<tr>
<td>STAT 235</td>
<td>Elementary Statistics (or MATH 110)</td>
<td>3</td>
</tr>
</tbody>
</table>

Life and Physical Sciences 7-10

One Life Science
One Physical Science
To include at least one laboratory component

General Education Synthesis

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP-SCI 449</td>
<td>Foundations of Software Engineering</td>
<td>3</td>
</tr>
<tr>
<td>COMP-SCI 451R</td>
<td>Software Engineering Capstone</td>
<td>3</td>
</tr>
</tbody>
</table>

Anatomy of Business

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCTNG 210</td>
<td>Introduction To Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ECON 202</td>
<td>Introduction To Economics II</td>
<td>3</td>
</tr>
<tr>
<td>MKT 324</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>DSOM 326</td>
<td>Production/Operations Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Select two of the following: 6

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCTNG 211</td>
<td>Introduction To Managerial Accounting</td>
<td></td>
</tr>
<tr>
<td>ENT 315</td>
<td>Entrepreneurial Mindset and Opportunity Recognition</td>
<td></td>
</tr>
<tr>
<td>FIN 325</td>
<td>Financial Management</td>
<td>5</td>
</tr>
<tr>
<td>MGT 306</td>
<td>Legal, Ethical And Regulatory Environment Of Business</td>
<td></td>
</tr>
<tr>
<td>MGT 330</td>
<td>Understanding the Individual in the Organization</td>
<td>5</td>
</tr>
</tbody>
</table>
Computer Science/Information Technology

ANCH 308                           Ethical Issues in Computing & Engineering             3
COMP-SCI 101                       Problem Solving and Programming I                   4
& 101L                             and Problem Solving & Programming I Lab             
COMP-SCI 191                       Discrete Structures I                                 3
COMP-SCI 201R                       Problem Solving and Programming II                 4
& COMP-SCI 201L                     and Problem Solving and Programming II - Lab        4
COMP-SCI 281R                       Introduction to Computer Architecture and Organization 3
COMP-SCI 291                       Discrete Structures II                               3
COMP-SCI 303                       Data Structures                                      3
COMP-SCI 431                       Introduction to Operating Systems                    3
COMP-SCI 420                       Introductory Networking and Applications             3
or COMP-SCI 421A                   Foundations of Data Networks                           
COMP-SCI 456                       Human Computer Interface                              3
COMP-SCI 470                       Introduction to Database Management Systems          3
or COMP-SCI 371                     Database Design, Implementation and Validation      3
INFO-TEC 222                       Multimedia Production and Concepts                   3
INFO-TEC 321                       Introduction to Computer Resources Administration     3

CS/IT Electives (Upper Level)  2

COMP-SCI 349                       Java Programming with Applications                    
COMP-SCI 423                       Client/Server Programming and Applications            
COMP-SCI 424                       Software Methods and Tools                            
COMP-SCI 457                       Software Architecture: Requirements & Design           
COMP-SCI 458                       Software Architecture: Testing & Maintenance           
INFO-TEC 426                       Practical Network Security                                
INFO-TEC 429                       Introduction to Cybersecurity                             

Internship Requirement

Take 3 hours of the following:

INFO-TEC 491                       Internship                                                 3

Total Credits 91-94

1 Students must take and pass the Math Entrance Test called ALEKS before enrolling in this course.
2 See advisor for course options.
3 RooWriter must be taken before completing 90 credit hours. (go to https://umkc.edu/roowriter/ for more details)
4 Students with appropriate CS/IT business experience may petition to replace the internship requirement with a 3 credit hour senior CS/IT course.
5 Course required if pursuing a business minor.

Code        Title                                      Credits
General Electives                                      5-8

Minimum GPA: 2.0

Total Credit Hours: 120

Tools for Planning and Filling Academic Requirements

UMKC’s Major Maps (https://cf1.umkc.edu/majormaps) are detailed, semester by semester plans that lead a student to complete all degree requirements within four years. Plans include benchmarks and critical courses by term that assist a student’s evaluation of progress and major “fit”. In order to ensure that the appropriate courses are taken, students are encouraged to consult with the undergraduate advisor for this major.

UMKC’s Degree Audit System (https://www.umkc.edu/registrar/majors-degrees/plannmydegree.asp) provides an individual evaluation of all degree requirements (General Education Core, Degree Specific, Major Specific, etc.) for student’s officially recorded (Office of Registration and Records) and “what if” plans of study. This evaluation is used to certify all graduation requirements.
UMKC's Transfer Guides (https://www.umkc.edu/transferguides) provide detailed guidance on recommended transfer coursework, plans of study, transfer timelines, and transfer contact information. To ensure a seamless transfer experience, students are encouraged to work with both their community college advisor and a UMKC advisor when planning their coursework.