

## Cybersecurity

### University of Central Missouri

Johnson County Community College Transfer Program to the University Central Missouri	Dr. Belinda Copus, School Chair
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Academic Year 2024-2025	www.ucmo.edu/ cybersecurity

#### Program Description

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 who transfer to UCM with an Associate of Arts degree are considered to have met all 42 hours of UCM's General Education requirements, with the exception of Major/Minor-Required General Education courses and the Constitution Requirement. (See the UCM General Education Program guide (<https://nam12.safelinks.protection.outlook.com/?url=http%3A%2F%2Fnextcatalog.jccc.edu%2Ftransfer-guides%2Fcentral-missouri%2Fcentral-missouri-general-education%2F&data=05%7C02%7Cskhalif2%40jccc.edu%7C3bbbe8fc84564328cf7008de1320415e%7C15244239dcf245e7aefd127b69fc5438%7C1%7C0%7C638969226426500133%7CUnknown%7CTWfPbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUslIYiOilwLjAuMDAwMCIsIIAiOjXaW4zMiIskFOljoiTWFpbClslldUljoyfQ%3D%3D%7C0%7C%7C%7C&sdata=2fEwF%2FitGtEBAX4dsIJ2vihW0Lf5GJaDs7z4GtDDwc8%3D&reserved=0>) for details.) The elective hours within the A.A. allow students to complete additional general education and lower division courses required for specific majors/minors.

Students who transfer to UCM without a degree (or a degree other than an AA) will have all coursework evaluated on a course-by-course basis. JCCC students not completing the AA degree should refer to the tables in the UCM General Education Program guide (<https://nam12.safelinks.protection.outlook.com/?url=http%3A%2F%2Fnextcatalog.jccc.edu%2Ftransfer-guides%2Fcentral-missouri%2Fcentral-missouri-general-education%2F&data=05%7C02%7Cskhalif2%40jccc.edu%7C3bbbe8fc84564328cf7008de1320415e%7C15244239dcf245e7aefd127b69fc5438%7C1%7C0%7C638969226426500133%7CUnknown%7CTWfPbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUslIYiOilwLjAuMDAwMCIsIIAiOjXaW4zMiIskFOljoiTWFpbClslldUljoyfQ%3D%3D%7C0%7C%7C%7C&sdata=2fEwF%2FitGtEBAX4dsIJ2vihW0Lf5GJaDs7z4GtDDwc8%3D&reserved=0>) for course equivalents and also the UCM catalog for any specific or additional General Education requirements for their UCM program of study.

NOTE: Courses taken to fulfill General Education requirements may not be taken on the pass/fail basis. Students should be cognizant of UCM's Upper-Level Course Requirement and Residence Requirement, especially if enrolling in more than 60 hours at JCCC. Please refer to the UCM General Education Program guide (<https://nam12.safelinks.protection.outlook.com/?url=http%3A%2F%2Fnextcatalog.jccc.edu%2Ftransfer-guides%2Fcentral-missouri%2Fcentral-missouri-general-education%2F&data=05%7C02%7Cskhalif2%40jccc.edu%7C3bbbe8fc84564328cf7008de1320415e%7C15244239dcf245e7aefd127b69fc5438%7C1%7C0%7C638969226426500133%7CUnknown%7CTWfPbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUslIYiOilwLjAuMDAwMCIsIIAiOjXaW4zMiIskFOljoiTWFpbClslldUljoyfQ%3D%3D%7C0%7C%7C%7C&sdata=2fEwF%2FitGtEBAX4dsIJ2vihW0Lf5GJaDs7z4GtDDwc8%3D&reserved=0>) for details.

NOTE: The UCM General Education guide can be found at: <https://www.jccc.edu/studentresources/transfer/files/transfer-guides/ucmo-general-ed.pdf> (<https://nam12.safelinks.protection.outlook.com/?url=http%3A%2F%2Fnextcatalog.jccc.edu%2Ftransfer-guides%2Fcentral-missouri%2Fcentral-missouri-general-education%2F&data=05%7C02%7Cskhalif2%40jccc.edu%7C3bbbe8fc84564328cf7008de1320415e%7C15244239dcf245e7aefd127b69fc5438%7C1%7C0%7C638969226426500133%7CUnknown%7CTWfPbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUslIYiOilwLjAuMDAwMCIsIIAiOjXaW4zMiIskFOljoiTWFpbClslldUljoyfQ%3D%3D%7C0%7C%7C%7C&sdata=2fEwF%2FitGtEBAX4dsIJ2vihW0Lf5GJaDs7z4GtDDwc8%3D&reserved=0>)

Courses taken at two-year colleges are not applicable toward UCM Upper-Level Requirement. Students are advised to meet with a UCM advisor before taking additional hours at JCCC.

## Program Requirements

### GENERAL EDUCATION REQUIREMENTS FOR THIS DEGREE

Course Code Code	Course Title Title	Course Hours	Transfer Code Hours	Transfer Title	Transfer Hours
<b>Select one of the following:</b>					
MATH 171	College Algebra*	3	MATH 1111	College Algebra	3
MATH 173	Precalculus*	5	MATH 1150	Pre-Calculus Mathematics	4-5
MATH 231	Business and Applied Calculus I*	3	MATH 1131	Applied Calculus	3
MATH 241	Calculus I*	5	MATH 1151	Calculus I	5
MATH 201	Statistics*	3	ACST 1300 & ACST 3311	Basic Statistics and Intro to Prob Stat	3
COMS 121	Public Speaking	3	COMM 1000	Public Speaking	3

+ Course requires a grade of "C" or better.

### CYBERSECURITY MAJOR REQUIREMENTS (45 hours)

A grade of "C" or better is required in all major coursework

Course Code Code	Course Title Title	Course Hours	Transfer Code Hours	Transfer Title	Transfer Hours
<b>Select one of the following:</b>					
CS 134	Programming Fundamentals	4	CS 1030 Python Programming I		
IT 202	IT Scripting*	3	CS 1030 Python Programming I		
CS 210	Discrete Structures I*	3	CS 2400	Discrete Structures	3
IT 175	Cybersecurity Fundamentals*	3	CYBR 1800 Introduction to Cybersecurity		
IT 230	Linux Fundamentals	3	CYBR 1500 Command Line Environments		
IT 238	Digital Forensics*	3	CYBR 4850 Computer Network Forensics		
IT 239	Ethical Hacking*	3	CYBR 4840 Ethical Hacking		

Additional requirements for this major have no equivalent at JCCC

Choose one of the following areas: (13-15 hours)

(Cyber Operations OR Secure Software Development)

Course Code Code	Course Title Title	Course Hours	Transfer Code Hours	Transfer Title	Transfer Hours
<b>CYBER OPERATIONS</b>					
IT 141	Introduction to Networks	3	NET 1060	Introduction to Networks	3
IT 150	Switching, Routing, and Wireless Essentials*	3	NET 1061	Switching/Routing/ Wireless Ess	3
IT 206	Network Security Fundamentals*	3	NET 3068 Network Security I		
IT 204	Enterprise Networking, Security and Automation*	3	NET 2060	Networking/Security/ Automation	3



Course Code Code	Course Title Title	Course Hours	Transfer Code Hours	Transfer Title	Transfer Hours
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**SECURE SOFTWARE DEVELOPMENT**

Select one of the following:

CS 200	Concepts of Programming Algorithms Using C++*	4	CS 1100	Computer Programming I	
CS 201	Concepts of Programming Algorithms using C#*	4	CS 1100	Computer Programming I	
CS 205	Concepts of Programming Algorithms using Java*	4	CS 1100	Computer Programming I	
CS 236	Object-Oriented Programming Using C#*	4	CS 1110	Computer Programming II	
CS 255	Basic Data Structures Using Java*	4	CS 2300	Data Structures	
SE 3910	Software Engineering	No equivalent			
SE 4950	Secure Software Engineering	No equivalent			

**CYBERSECURITY ELECTIVES (6-12 hours)** Please note courses taken to satisfy the Cyber Operations option or Secure Software Development option do not satisfy Elective hours.

Course Code Code	Course Title Title	Course Hours	Transfer Code Hours	Transfer Title	Transfer Hours
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CIS 204	UNIX Scripting and Utilities*	3	CS 3500	C and UNIX Environment	
CIS 240	Advanced Topics in Java*	4	CS 4120	Adv App Programming in Java	3
CIS 260	Database Management*	4	CS 4600	Database Theory Applications	
CIS 275	Web-Enabled Database Programming*	4	CS 4130	Server Side Web Programming	

Select one of the following:

CS 200	Concepts of Programming Algorithms Using C++*	4	CS 1100	Computer Programming I	
CS 201	Concepts of Programming Algorithms using C#*	4	CS 1100	Computer Programming I	
CS 205	Concepts of Programming Algorithms using Java*	4	CS 1100	Computer Programming I	
CS 236	Object-Oriented Programming Using C#*	4	CS 1110	Computer Programming II	

Course Code Code	Course Title Title	Course Hours	Transfer Code Hours	Transfer Title	Transfer Hours
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CS 236	Object-Oriented Programming Using C#*	4	CS 3110	Applications Programming in C# and .NET	
CS 255	Basic Data Structures Using Java*	4	CS 2300	Data Structures	



IT 206	Network Security Fundamentals*	3	NET 3068 Network Security I	
IT 141	Introduction to Networks	3	NET 1060	Introduction to Networks 3
IT 150	Switching, Routing, and Wireless Essentials*	3	NET 1061	Switching/Routing/Wireless Ess 3
IT 204	Enterprise Networking, Security and Automation*	3	NET 2060	Networking/Security/Automation 3
IT 223	Azure Administration*	3	CS 4610	Introduction to Cloud Computing
IT 257	Cybersecurity Operations*	3	NET 2061	Cisco CyberOps Associate

**Select one of the following:**

IT 271	Information Technology Internship I*	3	CS 4020	Internship
IT 272	Information Technology Internship II*	3	CS 4020	Internship

\* JCCC Course has a prerequisite or corequisite.  
 \*\* CS 236 transfers to UCM as CS 1110 OR CS 3110.