

# UNIVERSITY OF CENTRAL MISSOURI

## MCC Associate in Applied Science in Computer Science and Information Systems: Software Development to

### UCM Bachelor of Science in Computer Science: Option 3 Computer Networking and Security Applications Development

#### YEARS 1 AND 2 AT MCC

This guide is based on the UCM 2016 Undergraduate Catalog and is subject to change.

UCM Equivalencies are in parenthesis. Courses marked \* fulfills a major requirement at UCM. All CSIS course requirements must be completed with a grade of C or higher.

#### Minimum Hours 18 hours

COLL 100 First-Year Seminar	1
ENGL 101 Composition & Reading I (ENGL 1020)*	3
ENGL 102 (ENGL 1030)*	-and/or-
ENGL 215 Technical Writing (CTE 3060)*	3
COMM 100 Fundamentals of Speech (COMM 1000)*	3
MATH 110 Intermediate Algebra (MATH 1101)	3
MATH 120 (MATH 1111) or above*	3
HIST 120 U.S. History to 1865 (HIST 1350)*	-or-
HIST 121 U.S. History since 1865 (HIST 1351)*	-or-
POLS 135 Intro to Political Science (POLS 1500)*	-or-
POLS 136 Intro to American Politics (POLS 1510)*	3

#### Specific Program/Emphasis Area Requirements: 45 hours

BSAD 221 Business Communications (ELCT 1000)	3
CSIS 110 Technology & Information Management (BTE 1210)	3
CSIS 115 Computer Concepts and Applications (CIS 1600)	3
CSIS 123 Programming Fundamentals (CS 1100)*	3
CSIS 128 Web Development (ELCT 1000)	3
CSIS 143 Database Design and Management (CS 4600)*	3
CSIS 161 Networking Fundamentals (NET 1060)	3
CSIS 170 Principles of Information Assurance (ELCT 1803)	3
CSIS 222 Object Oriented Programming with Java(CS 1110)*	3
<i>The following courses transfer as an Elective or, together, as CS 3500</i>	
CSIS 223 Object-Oriented Progr. in C++	3
CSIS 152 Linux Operating System	3
CSIS 228 Advanced Web Development (CS 3120)	3
CSIS 279 Web Database Programming	3
CSIS 290 Field Competencies & Employment Strategies	3

#### YEARS 3 AND 4 AT UCM

MCCCK Equivalencies are in parenthesis.

Required hours vary due to transfer credit\*\*

#### Major Requirements \*\*30 hours

CS 2200 Intro. to Computer Organization (CSIS 250)	3
CS 2300 Data Structures (CSIS 271)	3
CS 2400 Discrete Structure (MATH 141)	3
CS 3100 Programming Languages	3
CS 3200 Computer Architecture	3
CS 4300 Algorithm Design & Analysis	3
CS 4500 Operating Systems	3
CS 4910 Software Engineering	3
CS 4920 Senior Project	3
ACST 1300 Basic Statistics (MATH 115)	3

#### Option 3: Computer Networking and Security Applications Dev. 21 hrs

##### Choose 6-12 electives from the following 6-12

CS 4110 Mobile Applications Prog. With Android	3
CS 4130 Server Side Web Programming	3
CS 4800 Computer Networking	3
CS 4820 Computer Security	3

##### Choose 6-15 electives from the following 6-15

CS 3110 Appl. Prog. In C# & .NET (CSIS 265)	3
CS 3130 Secure Programming	3
CS 3300 Introduction to Cryptography	3
CS 3800 Applications Dev. In VB.NET	3
CS 3810 Introduction to Game Design	3
CS 4000 Special Problems CS	3
CS 4020 Internship in CS	3
CS 4120 Adv. Applications Prog. In Java	3
CS 4510 Intro. to Distributed Systems	3
CS 4610 Intro. to Cloud Computing	3
CS 4620 Big Data Systems	3
CS 4630 Data Mining	3
CS 4700 Artificial Intelligence	3
CS 4810 Computer Graphics	3
CS 4830 Game Development	3
CS 4930 Software Testing	3

#### General Education Requirements: \*\*6-8 hours

CS 1000 Computers and Modern Society	3
CS 1030 Introduction to Computer Programming,	3 -or-
MATH 1131 Applied Calculus (MATH 175)	3 -or-
MATH 1151 Calculus & Analytic Geometry (MATH 180)	5

#### Free Electives \*\*3-9 hours

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Minimum Hours Required for A.A.S: 64

Minimum Hours Required for B.S.: 120

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## VALIDITY OF THIS TRANSFER GUIDE

This guide is based on the UCM 2016 Undergraduate Catalog and is subject to change. This guide is a recommendation only and your actual program may vary. Time to degree completion and course sequencing will depend on any credits transferred to UCM and on planned placement in math, reading, and writing. See the current UCM Undergraduate Catalog and MCC Course Catalog for a complete listing of academic policies, curriculum, prerequisites, and course descriptions.

## GENERAL EDUCATION REQUIREMENTS

Students who hold an Associate in Arts Degree from MCC or have met the Missouri 42-hour General Education Core requirements are considered to have fulfilled all UCM General Education requirements, except specific general education classes required by this major. Lists of General Education Requirements can be found in the UCM Catalog.

**For those students with an associate degree other than the Associate of Arts or who have not completed the A.A. degree, transfer courses are evaluated on a course-by-course basis.**

## REQUIREMENTS FOR THIS MAJOR

- Minimum of 120 hours
- Minimum of 30 hours of upper-level credit (3000/4000 level). Courses taken at a two-year college MAY be articulated for an upper-level course but WILL NOT count towards upper-level hour requirements.
- Minimum of 12 hours of upper-level credit (3000/4000 level) in major
- No minor is required for this degree.
- No modern language is required for this degree.

## RESIDENCY REQUIREMENTS FOR A DEGREE AT UCM

A candidate for any bachelor's degree must have earned the following minimum hours at UCM:

- 30 hours overall
- 20 upper-level hours (3000/4000 level courses)
- 15 hours in the major
- 9 upper-level hours in the major
- 9 hours in minor (if applicable)
- 1 upper-level hour in minor (if applicable)
- The last 12 semester hours required for the degree

## GPA REQUIRED FOR GRADUATION

Students must achieve a minimum GPA of 2.00 in all GPAs to qualify for graduation. This includes cumulative GPA, UCM GPA, major GPA, and minor GPA (if applicable). Some degrees have additional GPA requirements.

## DUAL ADMISSION

Students are encouraged to apply for dual admission during their first semester at MCC to coordinate associate degree completion with degree requirements at UCM. To learn more visit [www.ucmo.edu/undergrad/dualadmissions.cfm](http://www.ucmo.edu/undergrad/dualadmissions.cfm).

## GENERAL EDUCATION ASSESSMENT

All UCM students are required to pass a General Education Assessment (GEA). Students transferring in more than 45 hours are required to take the test during their first semester at UCM. Testing Services can be contacted by phone at (660) 543-4919 or by e-mail at [testingservices@ucmo.edu](mailto:testingservices@ucmo.edu). A minimum score of 425 is needed for consideration based on a scaled score of 400-500. To learn more visit [www.ucmo.edu/assessment/documents/gened\\_policy.pdf](http://www.ucmo.edu/assessment/documents/gened_policy.pdf)

## CATALOGS

MCC catalog: <http://www.mcckc.edu/catalog/Catalog1415.pdf>  
UCM catalog: [www.ucmo.edu/catalogs](http://www.ucmo.edu/catalogs)

## TRANSFER WORK

Arrange for all transfer work to be posted at UCM at the time of application. An official transcript must be received at UCM directly from each school attended. Individual transfer equivalencies can be found online at [www.ucmo.edu/corequiv](http://www.ucmo.edu/corequiv). Transcripts can be sent to: University of Central Missouri, Office of Admissions, Ward Edwards 1400, Warrensburg, MO 64093

## UCM ACADEMIC ADVISORS

UCM advisors for programs in the College of Health, Science, and Technology (CHST) are located in the CHST Advising Center located in Administration 105. Contact your advisor by calling (660) 543-4554 or by email [chstadvising@ucmo.edu](mailto:chstadvising@ucmo.edu).

## UCM DEPARTMENT CONTACT

The Department of Mathematics and Computer Science, located in the W.C. Morris Building, Room 222. Please contact the department by telephone at (660) 543-4931. To learn more visit [www.ucmo.edu/math-cs](http://www.ucmo.edu/math-cs) or contact Belinda Copus, [copus@ucmo.edu](mailto:copus@ucmo.edu).