

Bachelor of Science (BS)

Computer Information Systems

Computer information systems teaches software development in focused application areas. Computer science focuses more deeply on the scientific, engineering, and theoretical aspects of computing. The goal of both programs is the education of software developers – the people who create the software tools and systems that are used by others. The program has many course choices either for applying computing in different application areas or for specializing in different computing disciplines.

Computer information systems program offers nine tracks, five of which require a specific minor:

- Business Administration (can be completed fully online)
- Commerce
- Game Programming
- Information Assurance
- Multimedia Programming
- Networking
- Science
- Web Page Design & Multimedia Computing
- Web Programming

Computer Information Systems students will...

- Obtain a thorough understanding of the fundamental principles of computing and mathematics.
- Demonstrate fundamental software engineering skills on a non-trivial project to the satisfaction of a client.
- Demonstrate programming proficiency in a modern language.
- Be prepared to enter the workforce or be accepted into the graduate school of their choice.

Career Planning

Career preparation is part of the mission of Southeast. In fact, more than 90% of Southeast students participate in internships, clinical opportunities, student teaching, research assistantships, and study abroad. All graduates find employment in their field or start graduate programs within a few months of graduation.

Professional career counselors are available for all students. The Office of Career Services in Academic Hall 057 can provide students with professional career counseling, resume critiques, practice interviews, job search strategies, career events, networking opportunities, and more.

Demonstrated Career Proficiency is a Requirement of all Southeast Students		
CL001/CL002	First Semester	Complete the FOCUS2 assessment and develop a Career Action Plan.
CL003	Junior Year	Students gain information about career planning and job searching resources.
CL004	Senior Year	Students demonstrate advanced proficiency by identifying a position in their field, developing a cover letter, and tailoring a resume for the position. Materials are critiqued to ensure preparedness for a successful job search.

Internship and Employment Opportunities of Recent Graduates

- Boeing
- Garmin
- Microsoft
- A T & T
- Edward Jones
- Maritz
- Big River Telephone
- Element 74
- Vintage Software
- MedAssets

Graduate Schools and Programs of Recent Graduates

- University of Missouri
- Missouri State University
- Auburn University
- University of Illinois

Admission Requirements

A high school student interested in majoring in Computer Information Systems should complete four years of mathematics that includes trigonometry and an introduction to calculus. Four years of science, which includes both chemistry and physics is highly recommended. A strong background in English is essential.

To learn more
Office of Admissions
(573) 651-2590
admissions@semo.edu
www.semo.edu

To explore the College of Science, Technology and Agriculture online, visit
www.semo.edu/costa

For advising
Center for Academic Advising - North
(573) 651-5090
www.semo.edu/advising
advisingnorth@semo.edu

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This is a guide based on the 2016-2017 Undergraduate Bulletin and is subject to change. The time it takes to earn a degree will vary based on several factors such as the area of specialization chosen by the student, dual enrollment, remediation, and summer enrollment. Students will meet with an academic advisor each semester and use DegreeWorks to monitor their individual progress.

Degree Map 2016-2017

CURRICULUM CHECKLIST

Computer Information Systems – 82 hours

- ___ IS003 Computer Info Systems Assessment (0)
- ___ IS130 Application Development I (3)
- ___ IS175 Computer Information Systems I (3)
- ___ IS245 Web Development & Security (3)
- ___ IS275 Computer Information Systems II (3)
- ___ IS320 Human Computer Interaction (3)
- ___ IS330 Application Development II (3)
- ___ IS340 Information Technology (3)
- ___ IS360 Mobile Application Development (3)
- ___ IS375 Database & Information Systems (3)
- ___ IS445 Systems Analysis & Design (3)
- ___ IS448 IS/IT Project Management (3)
- ___ IS465 Management Support Systems (3)
- ___ IS495 Senior Seminar (1)
- ___ IU309 Writing for Science and Technology (3)
- ___ IU315 Ethics in the Cyber World (3)
- ___ MA139 Applied Calculus (3)
- ___ MA223 Elementary Probability & Statistics (3)
- ___ UI450 Capstone Experience (3)

Choose one advising track:

- ___ Business Administration – requires Business Administration minor and 12 additional specified hours
- ___ Commerce – Required minor from specified list; 6 specified hours and 6-9 hours from specified list of courses
- ___ Game Programming – requires 33 specified hours
- ___ Information Assurance – requires Cybersecurity minor and 6 hour from specified list of courses
- ___ Multimedia Programming – requires 15 specified hours and 12 hours from specified list
- ___ Networking – requires Computer Networking minor and 18 specified hours
- ___ Science – required minor from specified list and additional 10-15 hours from specified list of courses
- ___ Web Page Design & Multimedia Computing – requires 12 specified hours and additional 15 hours from specified list of courses
- ___ Web Programming – requires 30 specified hours

University Studies Requirements (not already listed above):

UI100 First Year Seminar, EN100 English Composition, Artistic Expression, Written Expression, Oral Expression, Literary Expression, Behavioral Systems, Living Systems, Physical Systems, Development of a Major Civilization, Economic Systems, Political Systems, and Social Systems

SAMPLE FOUR-YEAR PLAN

	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
FIRST YEAR	UI100	3	IS175	3
	EN100	3	Track course	3
	IS130	3	Track course	3
	MA139	3	Artistic Expression	3
	Behavioral Systems	3	Written Expression	3
	Total	15	Total	16
Milestone: maintain 2.0 cumulative GPA				
SECOND YEAR	IS245	3	IS330	3
	IS275	3	IS340	3
	MA223	4	Track course	3
	Track course	4	Track course	3
	Oral Expression	3	Literary Expression	3
	Total	16	Total	16
Milestone: maintain 2.0 cumulative GPA				
<i>(summer courses are encouraged to avoid 18 hour semesters)</i>				
THIRD YEAR	IS375	3	IS320	3
	IS465	3	IS360	3
	IU309	3	IU315	3
	Track course	3	Living Systems	3
	Track course	3	Physical Systems	3
	Total	15	Total	15
Milestone: maintain 2.0 cumulative GPA				
FOURTH YEAR	IS445	3	IS003	0
	IS448	3	IS495	1
	Track course	3	UI450	3
	Track course	3	Track course	3
	Social Systems	3	Develop of a Mjr Civ	3
			Economics Systems	3
		Political Systems	3	
Total	15	Total	16	
Milestone: maintain 2.0 cumulative GPA				

A "Milestone" signifies a significant stage for a student in the completion of a degree.

Degree requirements for all students: a minimum of 120 credit hours, completion of University Studies program, career proficiencies (CL001-004), Writing Proficiency Exam (WP003), and completion of the Measure of Academic Proficiency and Progress (MAPP) at the senior level.

Refer to the Undergraduate Bulletin or DegreeWorks for additional graduation requirements (i.e. minimum GPA and coursework) for your program of study.

Revised
2/23/2016

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Computer Information Systems Tracks

BUSINESS ADMINISTRATION	Required Courses:	
	AC 330 Accounting Analytics	3
	IS 440 Web Design for Electronic Commerce	3
	IS 575 IS/IT Strategy & Management	3
	MK 555 Internet Marketing	3
	Required Minor: Business Administration	

COMMERCE	Required Courses:	
	IS 440 Web Design for Electronic Commerce	3
	IS 575 IS/IT Strategy & Management	3
	Additional Requirements: Choose 6-9 hours depending on minor chosen	
	AC 222 Principles of Managerial Accounting	3
	AC 375 Financial Statement Analysis	3
	EC 225 Principles of Macroeconomics	3
	FI 361 Financial Management	3
	IM 411 Total Quality Assurance	3
	MG 301 Principles of Management	3
MK 301 Principles of Marketing	3	
Required Minor (Choose One):	Marketing: Integrated Marketing Communications	
	Economics	Marketing: Marketing Management
	International Business Management	Marketing: Retail Management
		Marketing: Sales Management

GAME PROGRAMMING	Required Courses:	
	AR 104 2D Design	3
	AR 323 Art & New Technology	3
	CS 155 Computer Science I	4
	CS 265 Computer Science II	4
	CS 300 Computer Science III	4
	CS 315 C & the Unix Environment	3
	CS 373 Introduction to Game Programming	3
	CS 375 Computer Graphics	3
	CS 473 3D Game Programming	3
MA 345 Linear Algebra	3	

INFORMATION ASSURANCE	Choose 6 hours:	
	CS 315 C and the Unix Environment	3
	CY 410 Web Applications Security	3
	CY 420 Computer Forensics	3
	EP 305 Digital System Design	3
	ET 245 Logic Circuits	3
	ET 366 Microcontrollers	3
	TN 375 Network Rout Protocols/ Concepts	3
	TN 435 Network Security	3
	Required Minor: Cybersecurity	

NETWORKING	Required Courses:	
	CS 155 Computer Science I	4
	CS 265 Computer Science II	4
	CS 300 Computer Science III	4
	CS 315 C & the Unix Environment	3
	CS 480 Data Communications	3
Required Minor: Computer Networking		

MULTIMEDIA PROGRAMMING	Required Courses:	
	CS 155 Computer Science I	4
	CS 265 Computer Science II	4
	CS 300 Computer Science III	4
	CS 440 Database	3
	MC 221 Media Elements	3
	Additional Requirements: Choose 12 hours	
	AR 104 2D Design	3
	AR 323 Art & New Technology	3
	CS 315 C & the Unix Environment	3
	CS 331 Application Programming	3
	CS 403 Information Retrieval	3
GM 180 Intro to Technical Graphics	3	
GM 200 Vector & Bitmapped Graphics	3	
MC 310 Advertising Analysis/ Strategy	3	

SCIENCE	Choose 10-15 hours, depending on minor chosen:		
	CS 155 Computer Science I	4	
	CS 265 Computer Science II	4	
	CS 300 Computer Science III	4	
	CS 2xx	3	
	CS 3xx	3	
	CS 4xx	3	
	Required Minor (Choose One):	Engineering Physics	
	Biology	Industrial Management	
	Chemistry	Mathematics	
Electronics Technology	Physics		

WEB PAGE DESIGN & MULTIMEDIA COMPUTING	Required Courses:	
	AR 104 2D Design	3
	GM 180 Intro to Technical Graphics	3
	IS 440 Web Design for Elec Commerce	3
	MC 221 Media Elements	3
	PG 284 Photography Fundamentals	3
	Additional Requirements: Choose 15 hours	
	AR 323 Art & New Technology	3
	GM 200 Vector & Bitmapped Graphics	3
	GM 282 Vector Graphics	3
	GM 380 3D Modeling/ Animation Production	3
	GM 386 Interactive Multimedia/ Animation	3
	GM 480 3D Animation Pipeline	3
MC 310 Advertising Analysis & Strategy	3	
MC 312 Advertising Creative Concepts	3	
MC 318 Advertising Digital Applications	3	

WEB PROGRAMMING	Required Courses:	
	CS 155 Computer Science I	4
	CS 265 Computer Science II	4
	CS 300 Computer Science III	4
	AR 323 Art & New Technology	3
	CS 331 Application Programming	3
	CS 403 Information Retrieval	3
	CS 440 Database	3
	GM 180 Intro to Technical Graphics	3
	IS 440 Web Design for Electronic Commerce	3

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