COLLEGE OF SCIENCE, TECHNOLOGY AND AGRICULTURE

Computer Science

Bachelor of Science (BS)

Computer Science

Playing a video game, downloading MP3s, or talking on a cell phone depend on software. Computer scientists design, analyze and develop software for the computer systems and networks that power today's world. Software applications include personal computing, entertainment systems, and life-critical applications such as medical and flight systems. Computer scientists are the people that develop this software, which requires a high degree of specialization. The computer science program at Southeast is one of only five programs in Missouri to hold accreditation by the Computing Accreditation Commission of ABET, (http://www.abet.org).

Computer Science 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 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 the graduate programs of their choice 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 Science 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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SOUTHEAST MISSOURI STATE UNIVERSITY · 1873

Degree Map 2016-2017

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.

CURRICULUM CHECKLIST

"Critical Courses" are italicized and bolded. Data shows that students who have completed this course in the first two years and have earned the noted grade are most likely to complete this program of study.

Computer Science Required Courses:

A grade of 'C' or better is required in each course that is a prerequisite course.

___ CS003 Computer Science Assessment (0)
___ CS155 Computer Science I (4)
___ CS245 Discrete Structures I (3)
___ CS265 Computer Science II (4)
___ CS280 Computer Systems (3)
___ CS300 Computer Science III (4)
___ CS315 C and the Unix Environment (3)
___ CS331 Applications Programming (3)
___ CS345 Discrete Structures II (3)
___ CS350 Analysis of Algorithms (3)
___ CS380 Computer Operating Systems (3)
___ CS390 Programming Languages (3)
___ CS440 Database (3)
___ CS445 Software Engineering I (3)
___ CS480 Data Communications (3)
___ CS495 Senior Seminar (1)
___ ***MA140 Analytic Geometry and Calculus I (5)***
___ MA145 Analytic Geometry and Calculus II (4)
___ MA223 Elementary Probability and Statistics (3)
___ MA345 Linear Algebra (3)
___ IU309 Writing for Science and Technology (3)
___ UI450 Capstone Experience (3)

Choose 3 hours of CS300-599 level elective:

___ CS Elective (3)

Cognate Discipline Support:

There is a 12-hour science requirement, which must include a two-semester laboratory science sequence from among the following:

Biology:
___ BI151 Biological Reasoning (3)
___ BI153 Introduction to Organismal Biology (4)
___ BI154 Genetics and Cellular Biology I (4)
OR
Chemistry:
___ CH185 General Chemistry (5)
___ CH186 Foundations of Inorganic Chemistry (3)
___ CH187 Inorganic Chemistry and qualitative Analysis Lab (2)
OR
Introductory Physics:
___ PH120 Introductory Physics I (5)
___ PH121 Introductory Physics II (5)
OR
General Physics:
___ PH230 General Physics I (5)
___ PH231 General Physics II (5)

For the remainder of the 12-hour requirement, the student must take science course(s) suitable to science majors from among Biology, Chemistry, Geosciences, Engineering Physics, or Physics.

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* or Physical Systems*, Development of a Major Civilization, Economic Systems, Political Systems, Social Systems, and one IU/UI3XX.

*dependent upon which science sequence is chosen in the major.

SAMPLE FOUR-YEAR PLAN

	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
FIRST YEAR	UI100	3	CS265	4
	EN100	3	MA145	4
	CS155	4	Artistic Expression	3
	MA140	5	Behavioral Systems	3
			Written Expression	3
	Total	**15**	**Total**	**17**
	Milestone: maintain 2.0 cumulative GPA			
SECOND YEAR	CS245	3	CS280	3
	CS300	4	CS345	3
	MA223	3	MA345	3
	Science Course*	3-5	Science Course	4-5
			Literary Expression	3
	Total	**13-15**	**Total**	**16-17**
	Milestone: maintain 2.0 cumulative GPA			

(summer courses are encouraged to avoid 18 hour semesters)

THIRD YEAR	CS315	3	CS331	3
	CS350	3	CS380	3
	Science Course	3-5	CS440	3
	Living/Physical Systems	3	Develop of a Major Civ	3
	Oral Expression	3	Economic Systems	3
	Total	**15-17**	**Total**	**15**
	Milestone: maintain 2.0 cumulative GPA			
FOURTH YEAR	CS390	3	CS003	0
	CS445	3	CS495	1
	CS480	3	CS elective	3
	IU309	3	UI450	3
	Political Systems	3	Social Systems	3
			IU/UI3xx	3
			Elective	1-3
	Total	**15**	**Total**	**14-16**
	Milestone: maintain 2.0 cumulative GPA			

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

*One of the science courses will satisfy either Living Systems or Physical Systems

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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