Graduate Studies

MS: Applied Computer Science

HARRISON COLLEGE OF BUSINESS AND COMPUTING

Applied Computer Science

Master of Science (M.S.)

SOUTHEAST MISSOURI STATE UNIVERSITY · 1873

The Master of Science in Applied Computer Science program offers a broad range of courses in theoretical computer science, software construction, data analytics, cloud computing, emerging and converging technologies and many more, which provide the much-needed opportunity for the development of a high degree of specialization and critical experience as computer professionals.

Students will further their knowledge through advanced courses in their area(s) of interest. They will enhance their technical and professional skills which are vital in the modern global society. Although tailored for computer science professionals, who want to advance their careers and graduate students seeking competitive jobs, the program is designed to engage and prepare students with no background in computer science as well.

Applied Computer Science Students will…

- Master the knowledge of the most up-to-date technologies
- Use a wide array of technical skills to develop software applications that demand performance, reliability, and safety standards
- Engage in primary and secondary research
- Develop critical reasoning and technical writing skills
- Develop professional presentation skills
- Receive focused attention from faculty advisors
- Practice hands-on exposure to a variety of computer systems, tools and techniques
- Receive excellent preparation for seeking careers in software-related computing fields

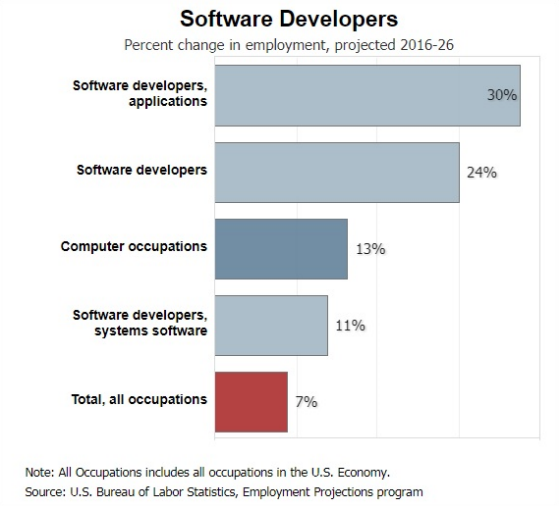
Why should I study Applied Computer Science at Southeast?

Faculty in the Applied Computer Science program have Ph.Ds from varied and impressive graduate schools around the United States, and are armed with their unique professional/industrial background. In the tailored program, the students will get personal attention from faculty who will inspire them to nurture creativity as they learn to analyze concerns, devise systems, and troubleshoot problems.

Career Planning

Graduates from our program will enter the most demanding and rewarding careers in the computing field

- New computer science graduates enjoy a hefty salary with a median base pay of $70,000/year. ~ glassdoor.com
- The job outlook for software developers is expected to grow 24 percent from 2016 to 2026. ~ U.S. Bureau of Labor Statistics.
- The number of job openings for computer science graduates will outpace the number of graduates through 2024. ~ New York Times, November 2017



Admission Requirements

1. Bachelor's degree in Computer Science, Computer Information Systems or related field*
   *Students with bachelor's degrees from other fields will be required to take up to two prerequisites (provisional admission).
2. Minimum undergraduate grade point average of 3.0 on a 4.0 point scale
3. Completed at least 6 hours of science and 6 hours of mathematics in undergraduate degree

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

To explore the Harrison College of Business and Computing, visit
semo.edu/business-computing

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Graduate Studies

Degree Guide

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This is a guide based on the 2019-2020 Graduate Bulletin and is subject to change. The time it takes to earn a degree will vary based on factors such as duel enrollment, remediation, and summer enrollment. Students meet with an academic advisor each semester and use Degree Works to monitor their progress.

CURRICULUM CHECKLIST

30 Hours Required
Core Requirements:
___CY501 Introduction to Cybersecurity (3)
___CS506 Distributed Cloud Computing (3)
___CS591 Advanced Artificial Intelligence (3)
___CS605 Research Methods (3)
___CS609 Advanced Programming Languages (3)
___CS630 Current Topics in Human Computer Interaction (3)
Choose one thesis option:
Thesis option - 12 hours
___CS/CY5xx-6xx – choose 6 hours*
___CS697 Thesis Research I (3)
___CS698 Thesis Research II (3)
___GR699 Master's Oral Examination (0)
Non Thesis option - 12 hours
___CS/CY5xx-6xx – choose 12 hours*
___CS690 Graduate Project (0)
___GR698 Master's Final Comprehensive Examination (0)

Electives may be chosen from the following with the advice of advisor:*
___CS505 Data Mining (3)
___CS533 Mobile Computing (3)
___CS560 Computer Architecture (3)
___CS575 Advanced Web Development (3)
___CS580 Advanced Robotics
___CS581 Advanced Network Programing (3)
___CS585 Formal Systems and Modeling (3)
___CS603 Introduction to Data Analytics (3)
___CS612 Simulation and Modeling for Computing (3)
___CS631 Advanced Software Engineering (3)
___CS632 Emerging and Converging Technologies and Computing (3)
___CS633 Digital Signal and Image Processing (3)
___CS634 Machine Learning (3)
___CS640 Advanced Database Systems (3)
___CS645 Internet of Things (3)
___CS650 Theory of Computation (3)
___CS653 Special Topics (3)
___CS693 Independent Study (3)
___CS699 Internship (3)
___CY510 Info Security and Assurance (3)
___CY520 Information Security in Systems Administration (3)
___CY610 Web Application Security (3)
___CY620 Computer Forensics (3)
XX5xx/6xx Any relevant course from other departments and listed as electives – up to 6 hours

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