HARRISON COLLEGE OF BUSINESS AND COMPUTING
Applied Computer Science

Master of Science (MS)

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.

Becoming Career Ready...
/Students master the knowledge of the most up-to-date technologies.
/Students use a wide array of technical skills to develop software applications that demand performance, reliability, and safety standards.
/Students engage in primary and secondary research.
/Students develop critical reasoning and technical writing skills.
/Students develop professional presentation skills.
/Students receive focused attention from faculty advisors.
/Students practice hands-on exposure to a variety of computer systems, tools and techniques.
/Students 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 2 prerequisites related to Fundamentals of Computing and Programming (provisional admission).
2. Minimum undergraduate grade point average of 3.0 on a 4.0 scale
3. Completed at least 6 hours of science and 6 hours of mathematics in undergraduate degree
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This is a guide based on the 2020-2021 Graduate Bulletin and is subject to change. The time it takes to earn a degree will vary based on factors such as dual enrollment, remediation, and summer enrollment. Students meet with an academic advisor each semester and use Degree Works to monitor their progress.

### CURRICULUM CHECKLIST

<table>
<thead>
<tr>
<th>30 Hours Required</th>
<th>Core Requirements:</th>
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<tbody>
<tr>
<td></td>
<td>_CY501 Introduction to Cybersecurity (3)</td>
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<tr>
<td></td>
<td>_CS506 Distributed Cloud Computing (3)</td>
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<td>_CS591 Advanced Artificial Intelligence (3)</td>
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<td>_CS605 Research Methods (3)</td>
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<td>_CS609 Advanced Programming Languages (3)</td>
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<td>_CS630 Current Topics in Human Computer Interaction (3)</td>
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**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 Programming (3)
- _CS585 Formal Systems & Modeling (3)
- _CS603 Introduction to Data Analytics (3)
- _CS612 Simulation & Modeling for Computing (3)
- _CS631 Advanced Software Engineering (3)
- _CS632 Emerging & Converging Technologies & Computing (3)
- _CS633 Digital Signal & 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 Information Security & 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

*Elective courses are dependent on the student's advisor's approval.