COMPUTER SCIENCE

College of Arts and Sciences

167 Petty Building
336-256-1112
www.uncg.edu/cmp (http://www.uncg.edu/cmp)

Stephen R. Tate, Head of Department

Undergraduate

The courses in the Computer Science Department are designed to teach the foundations of computing rather than a particular technology, so that the student is prepared to adapt to changing technology. Students are exposed to various programming languages and computing systems.

The job market in computer science is strong. A student completing a bachelor's degree with a strong academic record can expect job offers as a systems programmer or analyst, applications programmer, systems support staff member, technical staff member, or similar position. The undergraduate curriculum has also been designed to prepare students for graduate studies (master's and doctoral degrees) in computer science. Qualified students who have an interest in research will have opportunities to participate in projects with department faculty during undergraduate or graduate studies.

Graduate

Jing Deng, Director of Graduate Study

About

The Master of Science is designed to build computer science depth and research competence, to prepare students for advanced careers in computing fields. Students completing the M.S. degree are also well-prepared for doctoral study in computer science.

MS students may pursue an optional concentration in Data Science and Big Data, which provides students key knowledge of appropriate theories, algorithms, and technologies, towards development of analytical systems/models for disparate, complex, and small/large scale datasets. Students completing this concentration will have demonstrated skills necessary to tackle a wide variety of data-focused scientific, social, and environmental challenges.

Mission Statement

The Department of Computer Science supports the university mission of being a student-centered research university by fostering discovery and intellectual growth through the traditional activities of education, research, and service, with stated missions in each of these areas.

• Education Mission: To provide excellence in teaching and education, providing rigorous undergraduate and graduate programs that produce graduates who have the theoretical foundation and technical skills to become productive professionals and/or to contribute to research in computer science, and supporting general liberal education through courses for non-majors that promote critical thinking and skills for life in a technical and information-based society.

• Research Mission: To contribute to the creation and dissemination of ideas through research and scholarly activities, such as publication of original research, presentations at scholarly meetings, and participation in externally funded research projects, in the context of a program which values the academic freedom of faculty to set their own research directions in basic or applied research.

• Service Mission: To support the university and computer science profession through participation in activities, committees, and policy making.

Professor
Jing Deng
Fereidoon Sadri
Shanmugathasan Suthaharan
Stephen R Tate

Associate Professor
Lixin Fu
Nancy L Green

Assistant Professor
Minjeong Kim
Prashanti Manda
Somya Darsan Mohanty

Visiting Assistant Professor
Nathaniel Brian Kell

Senior Lecturer
Mark V Armstrong

Lecturer
Chandana Ariyawansa
Siobahn C Day
Ike I Quigley

Graduate-level faculty

• Computer Science, B.S. (https://catalog.uncg.edu/arts-sciences/computer-science/computer-science-bs)

• Computer Science Undergraduate Minor (https://catalog.uncg.edu/arts-sciences/computer-science/computer-science-minor)

• Computer Science, M.S. (https://catalog.uncg.edu/arts-sciences/computer-science/computer-science-ms)

Computer Science Disciplinary Honors Requirements

12 credit hours as outlined below.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>CSC 471</td>
<td>Principles of Database Systems</td>
<td>1</td>
</tr>
<tr>
<td>CSC 521</td>
<td>Computer Graphics</td>
<td>1</td>
</tr>
<tr>
<td>CSC 522</td>
<td>Digital Image Processing</td>
<td>1</td>
</tr>
<tr>
<td>CSC 523</td>
<td>Numerical Analysis and Computing</td>
<td>1</td>
</tr>
<tr>
<td>CSC 524</td>
<td>Numerical Analysis and Computing</td>
<td>1</td>
</tr>
<tr>
<td>CSC 526</td>
<td>Bioinformatics</td>
<td>1</td>
</tr>
<tr>
<td>CSC 529</td>
<td>Artificial Intelligence</td>
<td>1</td>
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<tr>
<td>CSC 539</td>
<td>Introduction to Compiler Design</td>
<td>1</td>
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<tr>
<td>CSC 540</td>
<td>Human-Computer Interface Development</td>
<td>1</td>
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<tr>
<td>CSC 550</td>
<td>Combinatorics on Words</td>
<td>1</td>
</tr>
<tr>
<td>CSC 555</td>
<td>Algorithm Analysis and Design</td>
<td>1</td>
</tr>
<tr>
<td>CSC 561</td>
<td>Principles of Computer Architecture</td>
<td>1</td>
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Select 6 credits of the following:
<table>
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<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>CSC 567</td>
<td>Principles of Computer Networks</td>
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<tr>
<td>CSC 568</td>
<td>Principles of Wireless Networks</td>
</tr>
<tr>
<td>CSC 580</td>
<td>Cryptography and Security in Computing</td>
</tr>
<tr>
<td>CSC 583</td>
<td>Firewall Architecture and Computer Security</td>
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**Required in the order detailed below:** 6

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<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>CSC 493</td>
<td>Honors Work in Computer Science *</td>
</tr>
<tr>
<td>HSS 490</td>
<td>Senior Honors Project **</td>
</tr>
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* Taken first in the sequence.
** Taken second in the sequence.

**Qualifications**

- At least a 3.30 overall GPA at graduation
- A grade of B or higher in all course work used to satisfy the Honors requirements in Computer Science
- A declared Computer Science major

**Recognition**

The designation “Completed Disciplinary Honors in Computer Science” and the title of the Senior Honors Project will be printed on the student’s academic transcript.

**Honors Advisor**

Contact the Department of Computer Science for further information and guidance about Honors in Computer Science.