Program Learning Outcomes for the BSCS Degree

Upon completing the BSCS degree, students will be able to:

1. Be knowledgeable about algorithms and their use. Students will analyze new problems, choose appropriate algorithms for their solutions, and develop analytical skills in the manipulation of algorithms.
2. Demonstrate the ability to design and implement complex software systems. Students will demonstrate skill in their design and implementation and function effectively in teams.
3. Be knowledgeable about programming languages and their use. Students will demonstrate an understanding of distinguishing and mapping two different programming languages.
4. Demonstrate a deep knowledge in a subarea of Computer Science. Students will be able to explain issues in the selected subarea and demonstrate a depth of knowledge.
5. Communicate effectively to a client and user.

Requirements for the BSCS Degree

For general university requirements, see Graduation Requirements (https://ga.rice.edu/undergraduate-students/academic-policies-procedures/graduation-requirements/). Students pursuing the BSCS degree must complete:

- A minimum of 23-25 courses (84-85 credit hours), depending on course selection, to satisfy the major requirements.
- A minimum of 128-129 credit hours, depending on course selection, to satisfy degree requirements.
- A minimum of 14 courses (51 credit hours) taken at the 300-level or above.

The BSCS degree is designed for students who are interested in an in-depth study of computer science to prepare themselves for a professional career in the computing industry.

The courses listed below satisfy the requirements for this major. In certain instances, courses not on this official list may be substituted upon approval of the major’s academic advisor, or where applicable, the department’s Director of Undergraduate Studies. (Course substitutions must be formally applied and entered into Degree Works by the major’s Official Certifier (https://registrar.rice.edu/facstaff/degreeworks/officialcertifier/).) Students and their academic advisors should identify and clearly document the courses to be taken.

Summary

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Credit Hours Required for the Major in Computer Science</td>
<td>84-85</td>
</tr>
<tr>
<td></td>
<td>Total Credit Hours Required for the BSCS Degree</td>
<td>128-129</td>
</tr>
</tbody>
</table>
### Elective Requirements

Select 2 courses from departmental (COMP) course offerings (a minimum of 3 credit hours each) at the 300-level or above.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP 410</td>
<td>Software Engineering Methodology</td>
<td>3</td>
</tr>
<tr>
<td>COMP 413</td>
<td>Distributed Program Construction</td>
<td>3</td>
</tr>
<tr>
<td>COMP 460</td>
<td>Advanced Computer Game Creation</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 460</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Capstone Requirement

Select 1 course from the following:

- COMP 411: Principles of Programming Languages
- COMP 412: Compiler Construction for Undergraduate Students
- COMP 421: Operating Systems and Concurrent Programming
- ELEC 421: Operating Systems and Concurrent Programming

### Capstone Requirement

In consultation with a major advisor, select additional coursework as required by your major to total a minimum of 11 credit hours.

### Total Credit Hours Required for the Major in Computer Science

<table>
<thead>
<tr>
<th>Description</th>
<th>Minimum Credit Hours</th>
<th>Maximum Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>84-85</td>
<td></td>
</tr>
</tbody>
</table>

### Additional Information

- As noted in [Majors, Minors, and Certificates](https://ga.rice.edu/undergraduate-students/academic-opportunities/majors-minors-certificates/), under Declaring Majors, Minors and Certificates, students may not obtain both a BA and a BS in the same major. Students pursuing the Bachelor of Science in Computer Science (BSCS) Degree may not additionally pursue the BA Degree with a Major in Computer Science.

### Transfer Credit

For Rice University's policy regarding transfer credit, see [Transfer Credit](https://ga.rice.edu/undergraduate-students/academic-policies-procedures/transfer-credit/). Some departments and programs have additional restrictions on transfer credit. The Office of Academic Advising maintains the university's official list of transfer credit advisors on their website: [https://oaa.rice.edu](https://oaa.rice.edu). Students are encouraged to meet with their academic program's transfer credit advisor when considering transfer credit possibilities.

### Departmental Transfer Credit Guidelines

Students pursuing the BSCS degree should be aware of the following departmental transfer credit guidelines:

- Requests for transfer credit will be considered by the program director (and/or the program's official transfer credit advisor) on an individual case-by-case basis.

### Opportunities for the BSCS Degree

#### Academic Honors

The university recognizes academic excellence achieved over an undergraduate's academic history at Rice. For information on university honors, please see [Latin Honors](https://ga.rice.edu/undergraduate-students/academic-distinctions/university/), [summa cum laude](https://ga.rice.edu/undergraduate-students/academic-distinctions/university/), [magna cum laude](https://ga.rice.edu/undergraduate-students/academic-distinctions/university/) and [cum laude](https://ga.rice.edu/undergraduate-students/academic-distinctions/university/). Some departments have department-specific Honors awards or designations.

### Fifth-Year Master's Degree Option for Rice Undergraduate Students

In certain situations and with some terminal master's degree programs, Rice students have the option to pursue a master's degree by adding an additional fifth year to their four years of undergraduate studies.

Advanced Rice undergraduate students in good academic standing typically apply to the master's degree program during their junior or senior year. Upon acceptance, depending on course load, financial aid status, and other variables, they may then start taking some required courses of the master's degree program. A plan of study will need to be approved by the student's undergraduate major advisor and the master's degree program director.

As part of this option and opportunity, Rice undergraduate students:

- must complete the requirements for a bachelor's degree and the master's degree independently of each other (i.e. no course may be counted toward the fulfillment of both degrees).
- should be aware there could be financial aid implications if the conversion of undergraduate coursework to that of graduate level
reduces their earned undergraduate credit for any semester below that of full-time status (12 credit hours).

• more information on this Undergraduate - Graduate Concurrent Enrollment opportunity, including specific information on the registration process can be found here (https://ga.rice.edu/undergraduate-students/academic-opportunities/undergraduate-graduate-concurrent-enrollment/).

Rice undergraduate students completing studies in science and engineering may have the option to pursue the Master of Computer Science (MCS) degree. For additional information, students should contact their undergraduate major advisor and the MCS program director.

Additional Information
For additional information, please see the Computer Science website: https://www.cs.rice.edu/