BACHELOR OF ARTS WITH A MAJOR IN COMPUTER SCIENCE

Bachelor of Arts Degree Program
The bachelor of arts with a major in computer science degree program provides a broad-based liberal arts curriculum for students who wish to augment technical knowledge with humanities, social sciences, business, communication, or management skills. Foundation courses focus on mathematics, science, software design and programming, computer systems and architecture, and algorithm design. Additional breadth or depth is afforded by selection of technical track courses that build on the foundations to provide in-depth exposure to a specific field in computer science. The program is designed for those with interests in two or more disciplines; students complete a second major or two minors in another academic department.

The minimum number of credits required for the major in computer science is 120; the credit total depends on the second major or minors chosen by the student. Students interested in pursuing a computer science major with preparation for application to medical school can also choose the medical preparation option. Students select a technical track in which at least three technical track elective courses are selected in consultation with the advisor.

Additional information about the Bachelor of Arts with a major in computer science is available on the program website (http://www.cs.seas.gwu.edu/bachelor-arts-program).

Second Major in Computer Science
Students who are not enrolled in the School of Engineering and Applied Science (SEAS), who are enrolled in a bachelor of arts program and wish to declare a second major in computer science, must apply and be admitted to the computer science program.

Criteria for admission
To be considered for admission to the second major in computer science, a student must satisfy the following criteria:

- Take CSCI 1111 Introduction to Software Development or CSCI 1011 Introduction to Programming with Java or CSCI 1121 Introduction to C Programming and receive a minimum grade of B or receive a grade of B or above in CSCI 1112 Algorithms and Data Structures; and receive a minimum grade of B- in MATH 1220 Calculus with Precalculus I and MATH 1221 Calculus with Precalculus II or in MATH 1231 Single-Variable Calculus I.
- A minimum overall grade-point average of 3.0 at the time of application to the major.

Application Deadline
The application is due no later than the start of the 5th semester of study at GW or completion of the 60th credit, whichever comes first. Contact the School of Engineering and Applied Science Undergraduate Advising Office (https://www.seas.gwu.edu/academic-advising) for specific application deadlines.

Credits in residence requirement
- For a second major, at least 24 credits in computer science courses must be completed in SEAS.

Graduation grade-point average criteria
- To satisfactorily complete a second major in computer science, a student must have a minimum grade-point average of 2.2 in all the computer science courses. See the department website (http://www.seas.gwu.edu/department-computer-science) for more information about curriculum requirements for the second major in computer science.

REQUIREMENTS

Recommended program of study

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>First semester</td>
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<tr>
<td>CSCI 1010</td>
<td>Computer Science Orientation</td>
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<tr>
<td>CSCI 1111</td>
<td>Introduction to Software Development</td>
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<tr>
<td>SEAS 1001</td>
<td>Engineering Orientation</td>
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<td>UW 1020</td>
<td>University Writing</td>
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<tr>
<td>Math requirement *</td>
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<tr>
<td>Social and behavioral sciences elective **</td>
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| Second semester                                    |
| CSCI 1112 | Algorithms and Data Structures       |         |
| CSCI 1311 | Discrete Structures I                |         |
| Math requirement *                                 |
| Science requirement *                              |
| Social and behavioral sciences elective **         |

| Third semester                                     |
| CSCI 2113 | Software Engineering                 |         |
| CSCI 2461 | Computer Architecture I              |         |
| Science requirement *                              |
| Humanities elective †                              |

One of the following to fulfill the statistics requirement:

APSC 3115 | Engineering Analysis III             |
CSCI 3362  Probability for Computer Science
CSCI 4341  Continuous Algorithms
STAT 1051  Introduction to Business and Economic Statistics
STAT 1053  Introduction to Statistics in Social Science

**Fourth semester**

CSCI 2501  Ethical Issues in Computing
CSCI 2541W  Database Systems and Team Projects
Humanities elective †
Second major elective
Science requirement *
Unrestricted elective

**Fifth semester**

One of the following Computer Science restricted electives:

CSCI 3212  Algorithms
CSCI 3313  Foundations of Computing
CSCI 3411  Operating Systems
CSCI 4223  Principles of Programming Languages
Creative arts elective
Second major electives (9 credits)

**Sixth semester**

Technical track elective
Humanities elective †
Foreign languages and culture elective
Second major electives (6 credits)

**Seventh semester**

One of the following Computer Science restricted electives: (if not taken above)

Technical track elective
Foreign languages and culture elective
Second major electives (6 credits)

**Eighth semester**

Technical track elective

*Course satisfies the university general education requirement in math, science, and writing. UW 1020 must be completed prior to any writing course in the major, including CSCI 2441W or CSCI 2541W.

**At least two social and behavioral sciences courses must be selected from the University General Education Requirement list (http://bulletin.gwu.edu/university-regulations/general-education); the remaining course must be selected from either the University General Education Requirement list or the SEAS General Education Requirement list (http://www.seas.gwu.edu/sites/www.seas.gwu.edu/files/downloads/HSS%20Form%20Fall%202015%20Admits%201_0.pdf).

†At least one humanities course must be selected from the University General Education Requirement list; the remaining courses must be selected from either the University General Education Requirement list or the SEAS General Education Requirement list.