MINOR IN COMPUTER SCIENCE

This minor, offered by the Department of Computer Science, is for students in other GW schools as well as other majors within the School of Engineering and Applied Science. The curriculum consists of two segments: core courses and electives whose purpose is to provide the student with depth in an area of computer science. The total number of credits for the minor is 18.

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

- A minimum grade of B or above in CSCI 1111 Introduction to Software Development, CSCI 1011 Introduction to Programming with Java, or CSCI 1121 Introduction to C Programming; and a B- or above in MATH 1220 Calculus with Precalculus I and MATH 1221 Calculus with Precalculus II or a B- in MATH 1231 Single-Variable Calculus I;
- A minimum overall grade-point average of 3.0 at the time of application to the minor.
- 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 Department of Computer Science (https://www.cs.seas.gwu.edu) for current application deadlines for the minor in computer science.

Credits in residence requirement:
- For students pursuing a minor, at least 15 credits in computer science courses must be completed at GW.

Graduation grade-point average criteria:
- To satisfactorily complete a minor in computer science, a student must have a minimum grade-point average of 2.2 in all the computer science courses.

REQUIREMENTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td><strong>Required</strong></td>
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<tr>
<td>CSCI 1111</td>
<td>Introduction to Software Development</td>
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<tr>
<td>CSCI 1112</td>
<td>Algorithms and Data Structures</td>
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<tr>
<td>CSCI 1311</td>
<td>Discrete Structures I</td>
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<tr>
<td>CSCI 2113</td>
<td>Software Engineering</td>
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<tr>
<td><strong>Electives</strong></td>
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Choose at least two Computer Science elective courses that either require CSCI 2113 as a prerequisite or have CSCI 2113 in the prerequisite chain. Possible electives include:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>CSCI 2461</td>
<td>Computer Architecture I</td>
</tr>
<tr>
<td>CSCI 3212</td>
<td>Algorithms</td>
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<tr>
<td>CSCI 3221</td>
<td>Programming Languages</td>
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<tr>
<td>CSCI 3313</td>
<td>Foundations of Computing</td>
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<tr>
<td>CSCI 3410</td>
<td>Systems Programming</td>
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<tr>
<td>CSCI 3411</td>
<td>Operating Systems</td>
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<tr>
<td>CSCI 4223</td>
<td>Principles of Programming Languages</td>
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<tr>
<td>CSCI 4235</td>
<td>Development of Open-Source Software</td>
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<tr>
<td>CSCI 4237</td>
<td>Software Design for Handheld Devices</td>
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<tr>
<td>CSCI 4331</td>
<td>Cryptography</td>
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<tr>
<td>CSCI 4341</td>
<td>Continuous Algorithms</td>
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<tr>
<td>CSCI 4342</td>
<td>Computational Linear Algebra and Applications</td>
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<tr>
<td>CSCI 4346</td>
<td>Machine Learning</td>
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<tr>
<td>CSCI 4415</td>
<td>Real-Time and Embedded Systems</td>
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<tr>
<td>CSCI 4431</td>
<td>Computer Networks I</td>
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<tr>
<td>CSCI 4511</td>
<td>Artificial Intelligence Algorithms</td>
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<tr>
<td>CSCI 4525</td>
<td>Autonomous Robotics: Manipulation</td>
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<tr>
<td>CSCI 4527</td>
<td>Introduction to Computer Vision</td>
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<tr>
<td>CSCI 4531</td>
<td>Computer Security</td>
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<tr>
<td>CSCI 4541</td>
<td>Network Security</td>
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<tr>
<td>CSCI 4554</td>
<td>Computer Graphics I</td>
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<tr>
<td>CSCI 4561</td>
<td>Design of User-Interface Programs</td>
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<td>CSCI 4572</td>
<td>Computational Biology</td>
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<td>CSCI 4577</td>
<td>Biomedical Computing</td>
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Other electives may be substituted with the approval of the minor advisor.