**COMPUTER SCIENCE MAJOR**

**Requirements**

The computer science major may be taken toward either the Bachelor of Arts (B.A.) or the Bachelor of Science (B.S.) degree awards. The B.A. degree in computer science requires a total of 14 courses, and the B.S. degree in computer science requires a total of 16 courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CISC 1400</td>
<td>Discrete Structures</td>
<td>4</td>
</tr>
<tr>
<td>CISC 2100</td>
<td>Discrete Structures II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CISC 2110</td>
<td>and Discrete Structures II Lab</td>
<td>1</td>
</tr>
<tr>
<td>CISC 1600</td>
<td>Computer Science I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CISC 1610</td>
<td>and Computer Science I Lab</td>
<td></td>
</tr>
<tr>
<td>CISC 2000</td>
<td>Computer Science II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CISC 2010</td>
<td>and Computer Science II Lab</td>
<td></td>
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<tr>
<td>CISC 2200</td>
<td>Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>CISC 3500</td>
<td>Database Systems</td>
<td>4</td>
</tr>
<tr>
<td>CISC 3593</td>
<td>Computer Organization</td>
<td>4</td>
</tr>
<tr>
<td>CISC 3595</td>
<td>Operating Systems</td>
<td>4</td>
</tr>
<tr>
<td>CISC 4080</td>
<td>Computer Algorithms</td>
<td>4</td>
</tr>
<tr>
<td>CISC 4090</td>
<td>Theory of Computation</td>
<td>4</td>
</tr>
<tr>
<td>CISC 4615</td>
<td>Data Communications and Networks</td>
<td>4</td>
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</tbody>
</table>

For the Bachelor of Arts degree

Select two electives

For the Bachelor of Science degree

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CISC 4631</td>
<td>Data Mining</td>
<td></td>
</tr>
<tr>
<td>MATH 1206</td>
<td>Calculus I</td>
<td>1,4</td>
</tr>
</tbody>
</table>
| Select three electives

1. For students entering prior to Fall 2015 (class of 2020 or earlier), CISC 4700 Network and Client Server is required instead of CISC 2100 Discrete Structures II.
2. Elective courses are selected from department courses (which may include some graduate courses) or in cognate areas in consultation with a department adviser. One elective CISC course must be numbered 2000 or above, while the remaining elective must be numbered 3000 or above. The following courses may not count toward this requirement: CISC 4001 Computers and Robots in Film, CISC 4650 Cyberspace: Issues and Ethics, and CISC 4660 Minds, Machines, and Society.
3. Required for students entering in Fall 2017 (class of 2022) and later.
4. MATH 12AB Transfer Calculus AB and MATH 12BC Transfer Calculus BC (transfer credit from AP Calculus AB or AP Calculus BC) also fulfill this requirement.

**Mathematics courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1206</td>
<td>Calculus I</td>
<td>1</td>
</tr>
<tr>
<td>MATH 1207</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2001</td>
<td>Discrete Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2004</td>
<td>Multivariable Calculus I</td>
<td>4</td>
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</tbody>
</table>

**Physics courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 1701</td>
<td>Physics I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 1702</td>
<td>Physics II</td>
<td>3</td>
</tr>
</tbody>
</table>

These courses only fulfill Fordham University’s requirements to earn the B.S. in Computer Science for 3-2 students. Additional Columbia requirements need to be fulfilled for acceptance into Columbia’s Computer Science or Computer Engineering Track. Consult the 3-2 Program Director for additional guidance.

**Availability**

The major in computer science is available at Fordham College at Rose Hill and Fordham College at Lincoln Center. Students in Fordham School of Professional and Continuing Studies may major in computer science only if their schedules are sufficiently flexible to permit them to take day courses at the Rose Hill or Lincoln Center campuses.

**Fordham College at Rose Hill students:** The requirements above are in addition to those of the Core Curriculum.

**Fordham College at Lincoln Center students:** The requirements above are in addition to those of the Core Curriculum.

**Professional and Continuing Studies students:** The requirements above are in addition to those of the PCS Core Curriculum.

**3-2 Engineering Program**

Computer Science majors pursuing the Cooperative Program in Engineering have a slightly different set of requirements to fulfill to complete their major in computer science. All courses are required.