# Bachelor of Science in Computer Science with a Concentration in Advanced Computing

## MAJOR REQUIREMENTS/COMPUTER SCIENCE: 51 Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS-102: Introduction to Computing and Problem Solving</td>
<td>4.0</td>
</tr>
<tr>
<td>CS-175: Introduction to Computer Science I</td>
<td>4.0</td>
</tr>
<tr>
<td>CS-176: Introduction to Computer Science II</td>
<td>4.0</td>
</tr>
<tr>
<td>CS-202: Discrete Math and Applications</td>
<td>4.0</td>
</tr>
<tr>
<td>CS-268: Computer Architecture I</td>
<td>3.0</td>
</tr>
<tr>
<td>CS-205: Data Structures and Algorithms</td>
<td>4.0</td>
</tr>
<tr>
<td>CS-325: Software Engineering Concepts</td>
<td>3.0</td>
</tr>
<tr>
<td>CS-310: Advanced Object Oriented Programming/Design</td>
<td>4.0</td>
</tr>
<tr>
<td>CS-432: Database Systems</td>
<td>4.0</td>
</tr>
<tr>
<td>CS-438: Operating Systems Analysis</td>
<td>4.0</td>
</tr>
<tr>
<td>CS-490: Senior Project</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Take 6 Credits of Computer Science 200+ level:  

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CS-200+: (See Exceptions*)</td>
<td>6.0</td>
</tr>
</tbody>
</table>

*Except the following courses: CS-288, CS-388, CS-488, CS-212  
CS-222, CS-302, CS-312, CS-316, CS-320, CS-322, and CS-330  

Take 3 Credits of Computer Science 400+ level:  

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS-400+: (Except CS488)</td>
<td>3.0</td>
</tr>
</tbody>
</table>

## REQUIREMENTS OUTSIDE MAJOR: 26 Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA-125: Calculus with Analytic Geometry I</td>
<td>4.0</td>
</tr>
<tr>
<td>MA-126: Calculus with Analytic Geometry II</td>
<td>4.0</td>
</tr>
<tr>
<td>MA-220: Probability and Statistics I</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Take 8 credits from ONE of the Following Groups:  

- CE-111/CE-111L: General Chemistry I/Lab  
- CE-112/CE-112L: General Chemistry II/Lab  

*OR*  

- PH-211/PH-211L: General Physics with Calculus I/Lab  
- PH-212/PH-212L: General Physics with Calculus II/Lab  

*OR*  

- BY-109: Introduction to Biodiversity and Evolution  
- BY-110: Introduction to Cell and Molecular Biology  

Take 4 additional credits (not taken above) from the following courses:  

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BY-109: Introduction to Biodiversity and Evolution</td>
<td>4.0</td>
</tr>
<tr>
<td>BY-111: Anatomy and Physiology I</td>
<td></td>
</tr>
<tr>
<td>BY-223: General Microbiology</td>
<td></td>
</tr>
<tr>
<td>CE-111 and CE-111L: General Chemistry I and Lab</td>
<td></td>
</tr>
<tr>
<td>CE-220 and CE-220L: Environmental Chemistry and Lab</td>
<td></td>
</tr>
<tr>
<td>CE-221 and CE-221L: Quantitative Analysis and Lab</td>
<td></td>
</tr>
<tr>
<td>CE-241 and CE-241L: Organic Chemistry I and Lab</td>
<td></td>
</tr>
<tr>
<td>PH-211 and PH-211L: General Physics with Calculus I and Lab</td>
<td></td>
</tr>
</tbody>
</table>

Take 3 Credits from the following courses:  

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>PH-301, PH-302, BY-201, BY-205, BY-214, BY-220, BY-221, MA-311, MA-318, MA-221, MA-225, or MA-320</td>
<td>3.0</td>
</tr>
</tbody>
</table>

## FREE ELECTIVES: 18 Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18.0</td>
</tr>
</tbody>
</table>
### Bachelor of Science in Computer Science with a Concentration in Advanced Computing

<table>
<thead>
<tr>
<th>General Education Requirements: 33 Credits</th>
<th>Credits</th>
</tr>
</thead>
</table>
| **First Year Seminar** 
FY-101: First Year Seminar | 3.0 |
| **Reading and Writing** 
EN101: College Composition I 
EN102: College Composition II | 3.0 |
| **Mathematics** 
Fulfilled in Outside Major Requirements with MA125 or MA126 | 0.0 |
| **Natural Sciences** 
Fulfilled in Outside Major Requirements with required courses | 0.0 |
| **Literature** 
3 Credits from courses designated with Course*Type: LIT | 3.0 |
| **Aesthetics and Creativity** 
3 Credits from Art, Music, Theatre, or Dance | 3.0 |
| **Technological Literacy** 
Fulfilled in Major Requirements with CS102 | 0.0 |
| **Reasoned Oral Discourse** 
Fulfilled in Outside Major Requirements with CS490 | 0.0 |
| **Historical Perspective** 
3 Credits from courses designated with Course*Type: HS.SV | 3.0 |
| **Social Science** 
3 Credits from courses designated with Course*Type: SS.SV | 3.0 |
| **Historical Perspective/Social Sciences** 
3 Credits from courses designated with Course*Type: HS.SV 
or 3 Credits from courses designated with Course*Type: SS.SV | 3.0 |
| **Interdisciplinary Perspectives** 
3 Credits from courses designated with Course*Type: ISP | 3.0 |
| **Cultural Diversity and Global Understanding** 
3 Credits from courses designated with Course*Type: CD 
and 3 Credits from courses designated with Course*Type: GU 
or 6 Credits from the SAME foreign language | 6.0 |
| **Experiential Education** 
One course designated with Course*Type: EX | 0.0 |
| **Writing Intensive** 
Two courses from Computer Science (CS) designated with Course*Type: WT | 0.0 |

**Minimum Credits for Bachelor of Science in Computer Science with a Concentration in Advanced Computing = 128.0**

**Notes:**
* 58 credits must be completed at the 200 level or higher.