# 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>CS102: Introduction to Computing and Problem Solving</td>
<td>4.0</td>
</tr>
<tr>
<td>CS175: Introduction to Computer Science I</td>
<td>4.0</td>
</tr>
<tr>
<td>CS176: Introduction to Computer Science II</td>
<td>4.0</td>
</tr>
<tr>
<td>CS202: Discrete Math and Applications</td>
<td>4.0</td>
</tr>
<tr>
<td>CS286: Computer Architecture I</td>
<td>3.0</td>
</tr>
<tr>
<td>CS305: Data Structures and Algorithms</td>
<td>4.0</td>
</tr>
<tr>
<td>CS325: Software Engineering Concepts</td>
<td>3.0</td>
</tr>
<tr>
<td>CS310: Advanced Object Oriented Programming/Design</td>
<td>4.0</td>
</tr>
<tr>
<td>CS432: Database Systems</td>
<td>4.0</td>
</tr>
<tr>
<td>CS438: Operating Systems Analysis</td>
<td>4.0</td>
</tr>
<tr>
<td>CS490: Senior Project</td>
<td>4.0</td>
</tr>
</tbody>
</table>

6 credits of CS Electives from 200+ level

CS200+: *(See Exceptions)* 3.0

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*Except the following courses: CS288, CS388, CS488, CS212, CS222, CS302, CS312, CS316, CS320, CS322, and CS330

3 credits of CS Electives from 400+ level

CS400+: *(Except CS488)* 3.0

## REQUIREMENTS OUTSIDE MAJOR: 26 Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA125: Calculus with Analytic Geometry I</td>
<td>4.0</td>
</tr>
<tr>
<td>MA126: Calculus with Analytic Geometry II</td>
<td>4.0</td>
</tr>
<tr>
<td>MA319: Probability and Statistics I</td>
<td>3.0</td>
</tr>
</tbody>
</table>

8 credits from subjects BY, CE, PH

Take one Group:

CE111/CE111L: General Chemistry I/Lab AND

CE112/CE112L: General Chemistry II/Lab

or

PH211/PH211L: General Physics with Calculus I/Lab AND

PH212/PH212L: General Physics with Calculus II/Lab

or

BY109: Introduction to Biodiversity and Evolution AND

BY110: Introduction to Cell and Molecular Biology

Select 4 additional credits (not taken above) from among:

BY109, BY111, BY223, CE111 and CE111L, CE220 and CE220L, CE221 and CE221L, CE241 and CE241L, or PH211 and PH211L

3 credits from among:

PH301, PH302, BY201, BY205, BY214, BY220, BY221, MA211, MA221, MA225, or MA320 3.0

## FREE ELECTIVES: Credits

18.0
## Bachelor of Science in Computer Science with a Concentration in Advanced Computing

### GENERAL EDUCATION REQUIREMENTS: 33 Credits

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

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.