### BS in Computer Science - Software Entrepreneurship Applied Option
#### SAMPLE CURRICULUM 2021-2022

#### FIRST YEAR

<table>
<thead>
<tr>
<th>FALL</th>
<th>WINTER</th>
<th>SPRING</th>
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</table>
| ENGR 100 (3 cr)  
Creative Code: Designing Apps for Everyone  
(Taught Fall) | ENGR 102 (3 cr)  
Virtual Architecture: Designing & Sustainable & Scalable Software Systems  
(Taught Winter & Summer) | ENGR 103 (3 cr)  
Hack the Planet: Introduction to Software Engineering |
| MTH 111 (4 cr)  
College Algebra  
(Taught Fall, Winter & Summer) | MTH 112 (4 cr)  
Elementary Functions  
(Taught Winter & Summer) | MTH 231 (4 cr)  
Discrete Math  
Preq: MTH 112 |
| WR 121 (4 cr)  
English Composition  
(Taught Fall, Winter, Spring) | WR 222 (3 cr)  
English Composition  
(Taught Winter & Spring) | WR 327 (3 cr)  
Technical Writing  
Preq: WR 121 |
| PERSPECTIVE  
Physical Science  
(see bacc core guide) | PERSPECTIVE  
Additional Science  
(Physical or Biological)  
(see bacc core guide) | COMM 111 (3 cr)  
Public Speaking  
(Taught Fall, Winter)  
or  
COMM 114 (3 cr)  
Argument & Critical Discourse  
(Taught Spring) |
| HHS 231 (2 cr)  
Lifetime Fitness for Health  
(Taught Fall, Winter, Spring)  
&  
HHS 241 or PAC (1 cr)  
(All) |  |  |

#### SECOND YEAR

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<tr>
<th>FALL</th>
<th>WINTER</th>
<th>SPRING</th>
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</table>
| CS 261 (4 cr)  
Data Structures  
Preq: ENGR 102 | CS 290 (4 cr)  
Web Development  
Preq: CS 162 or CS 165 | CS 340 (4 cr)  
Introduction to Databases  
Preq: CS 101 or computer literacy |
| CS 261 & MTH 231 or CS 225 | CS 325 (4 cr)  
Analysis of Algorithms  
Preq: CS 261 & MTH 231 or CS 225 | CS 391 (3 cr)  
Social and Ethical Issues in CS  
SYNTHESIS  
Science, Technology & Society  
Preq: CS 101 or computer literacy |
| ST 314 (3 cr)  
Intro to Statistics for Engineers  
Preq: MTH 252 | PERSPECTIVE  
Social Processes & Institutions  
(Taught Fall, Winter) | PERSPECTIVE  
Literature & Arts  
(see bacc core guide) |
| CS 162 (4 cr)  
Intro to Computer Science II | MTH 252 (4 cr)  
Integral Calculus  
Preq: MTH 251 |  |
| OFFERED FALL 2022 | MTH 251 (4 cr)  
Differential Calculus  
(Taught Fall & Summer)  
Preq: MTH 112 |  |

#### NOTES:
- Shaded courses are part of the CS Applied Option’s requirements and electives.
### THREE YEAR

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<tr>
<th>FALL</th>
<th>WINTER</th>
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<tbody>
<tr>
<td>CS 361 (4 cr) Software Engineering I</td>
<td>CS 362 (4 cr) Software Engineering II</td>
<td>CS 381 (4 cr) Programming Language Fundamentals</td>
</tr>
<tr>
<td>Preq: CS 261</td>
<td>Preq: CS 261 (CS 361 recommended, not required)</td>
<td>Preq: CS 261 &amp; MTH 231 or CS 225</td>
</tr>
<tr>
<td>CS 344 (4 cr) Operating Systems I</td>
<td>CS 444 (4 cr) Operating Systems II</td>
<td>CS 461 (3 cr) Senior Software Engineering Project (WIC)</td>
</tr>
<tr>
<td>Applied Option Elective: BA 352 (4 cr) Managing Individual &amp; Team Performance (Taught Fall &amp; Spring) or BA 351 online</td>
<td>Preq: CS 352 (4 cr) Introduction to Usability Engineering</td>
<td>CS 462 (3 cr) Senior Software Engineering Project (WIC)</td>
</tr>
<tr>
<td>Preq: CS 161 or CS 165</td>
<td>Preq: CS 161 or CS 165</td>
<td>Preq: CS 362, CS 461</td>
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<tr>
<td>PERSPECTIVE Western Culture (see bacc core guide)</td>
<td>PERSPECTIVE Cultural Diversity (see bacc core guide)</td>
<td>Applied Option Elective: CS 493 (4 cr) Cloud Application Development</td>
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<td>PERSPECTIVE Difference, Power &amp; Discrimination (see bacc core guide)</td>
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<td>Preq: CS 290, CS 340, &amp; CS 372</td>
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<tr>
<td>Applied Option Elective: BA 315 (4 cr) Accounting for Decision Making</td>
<td>CS 492 (4 cr) Mobile Software Development</td>
<td>Preq: BA 315, ECON 201</td>
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<tr>
<td>Preq: Junior Standing</td>
<td>Preq: CS 344</td>
<td>SYNTHESIS Contemporary Global Issues (see bacc core guide)</td>
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### FOURTH YEAR

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<tr>
<th>FALL</th>
<th>WINTER</th>
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<tbody>
<tr>
<td>CS 461 (3 cr) Senior Software Engineering Project (WIC)</td>
<td>CS 462 (3 cr) Senior Software Engineering Project (WIC)</td>
<td>CS 463 (2 cr) Senior Software Engineering Project</td>
</tr>
<tr>
<td>Preq: Co-requisite: CS 461</td>
<td>Preq: CS 290, CS 340, &amp; CS 372</td>
<td>Preq: BA 315, ECON 201</td>
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<tr>
<td>CS 478 (4 cr) Network Security</td>
<td>CS 472 (4 cr) Upper Division Restricted Elective</td>
<td>CS 434 (4 cr) Machine Learning &amp; Data Mining (prev: CS 325)</td>
</tr>
<tr>
<td>Preq: CS 372</td>
<td>Preq: CS 261, CS 271, C programming, &amp; Unix</td>
<td>Preq: WS 434, ECON 201</td>
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<tr>
<td>PERSPECTIVE Upper Division Restricted Elective</td>
<td>Upper Division Restricted Elective</td>
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### NOTES:
- Courses may not be offered in the term shown in future years. Students should check with their advisor about upcoming changes.
- Restricted Electives (RE): Required to complete two upper division restricted electives. Students should check with their advisor on upper division restricted elective course offerings.