# BME Curriculum Checklist

**Name/Class:** ______________________  
**Focus Area:** ______________________

## Course Plan for Class of '22 (6.20.18)

<table>
<thead>
<tr>
<th>Credits</th>
<th>Semester</th>
<th><strong>Core Requirements (30)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Required for all BME majors:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Career Exploration in BME:</td>
</tr>
<tr>
<td>0</td>
<td>Fr, Sr,S</td>
<td>580.111 Modeling and Design</td>
</tr>
<tr>
<td>2</td>
<td>F, Fr</td>
<td>580.221 Molecules and Cells</td>
</tr>
<tr>
<td>4</td>
<td>So, F</td>
<td>580.241 Statistical Physics</td>
</tr>
<tr>
<td>2</td>
<td>So, S</td>
<td>580.242 Biological Models and Simulations</td>
</tr>
<tr>
<td>2</td>
<td>So, F</td>
<td>580.243 Linear Signals and Systems</td>
</tr>
<tr>
<td>2</td>
<td>So, S</td>
<td>580.244 Nonlinear Dynamics of Biological Systems</td>
</tr>
<tr>
<td>2</td>
<td>So, S</td>
<td>580.246 Systems and Controls</td>
</tr>
<tr>
<td>2</td>
<td>So, S</td>
<td>580.248 Systems Biology of the Cell</td>
</tr>
<tr>
<td>4</td>
<td>J, F</td>
<td>580.421 Systems Bioengineering I</td>
</tr>
<tr>
<td>2</td>
<td>J, F</td>
<td>580.422 Systems Bioengineering II</td>
</tr>
<tr>
<td>2</td>
<td>J, S</td>
<td>580.422 Systems Bioengineering Lab II</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Physics &amp; Chemistry (18)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Required for all BME majors.</td>
</tr>
<tr>
<td>4</td>
<td>Fr, F</td>
<td>171.101 General Physics for Physical Science Majors I</td>
</tr>
<tr>
<td>1</td>
<td>Fr, F</td>
<td>173.111 General Physics I Lab</td>
</tr>
<tr>
<td>4</td>
<td>Fr, S</td>
<td>171.102 General Physics for Physical Science Majors II</td>
</tr>
<tr>
<td>1</td>
<td>Fr, S</td>
<td>173.112 General Physics II Lab</td>
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<tr>
<td>3</td>
<td>Fr, F</td>
<td>030.101 Introductory Chemistry I</td>
</tr>
<tr>
<td>1</td>
<td>Fr, F</td>
<td>030.101 Introductory Chemistry Lab I</td>
</tr>
<tr>
<td>3</td>
<td>Fr, S</td>
<td>030.101 Introductory Chemistry II</td>
</tr>
<tr>
<td>1</td>
<td>Fr, S</td>
<td>030.101 Introductory Chemistry Lab II</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Mathematics (20)****.</strong></td>
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<tr>
<td></td>
<td></td>
<td>Required for all BME majors.</td>
</tr>
<tr>
<td>4</td>
<td>Fr, F</td>
<td>110.108 Calculus I</td>
</tr>
<tr>
<td>4</td>
<td>Fr, S</td>
<td>110.109 Calculus II</td>
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<tr>
<td>4</td>
<td>So, F</td>
<td>110.202 Calculus III</td>
</tr>
<tr>
<td>4</td>
<td>b4, So, S</td>
<td>533.291 Linear Algebra &amp; Differential Equations</td>
</tr>
<tr>
<td>4</td>
<td>So, S</td>
<td>Advanced Statistics (Prob/Stat is typical)</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td><strong>Computing (3)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>An introductory programming course must be taken (see handbook for approved courses).</td>
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<tr>
<td></td>
<td></td>
<td>500.200 Gateway Computing (or equivalent)</td>
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</tbody>
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## BME Focus Area and Design (27)

At least 21 credits chosen from Focus Area Course Sheets.  
At Least 6 credits chosen from Approved Design Course List.  
*3 credits from the 2nd semester of Design Team, 2nd semester of Indp. Design (580.581), or a 2nd semester of Research may be counted. Research will required an additional approval step.  
*3 or fewer credits can be chosen from the non-ULE list for the focus area course list - research, the first half of Design Team, or 580.580.  
*3 or fewer credits can be chosen from list of 200-level focus area course list (available in certain focus areas).

### Focus Area Total (21)

<table>
<thead>
<tr>
<th>Credits</th>
<th>Semester</th>
<th></th>
</tr>
</thead>
</table>

## Physics & Chemistry (18)

At least 6 credits of courses with the "W" designation must be completed (courses filled into the Electives or Humanities/Social Sciences boxes may be used here).  

### Design Total (6)

<table>
<thead>
<tr>
<th>Credits</th>
<th>Semester</th>
<th></th>
</tr>
</thead>
</table>

## Other Electives (13)

These can be any courses taken at JHU, but are often pre-requisite or courses required for medical school (i.e. Orgo I, Orgo II, and Orgo Lab).

### Other Electives Total (13)

<table>
<thead>
<tr>
<th>Credits</th>
<th>Semester</th>
<th></th>
</tr>
</thead>
</table>

## Humanities/ Social Sciences (18)

At least 1 course must be 300-level.  

### Humanities/ Social Sciences Total (18)

<table>
<thead>
<tr>
<th>Credits</th>
<th>Semester</th>
<th></th>
</tr>
</thead>
</table>

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### Built-In Requirement: Writing Intensive Courses

At least 6 credits of courses with the "W" designation must be completed (courses filled into the Electives or Humanities/Social Sciences boxes may be used here).  

### Built-In Requirement Total (6)

<table>
<thead>
<tr>
<th>Credits</th>
<th>Semester</th>
<th></th>
</tr>
</thead>
</table>

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**TOTAL CREDITS (≥129 needed): ____**

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### Notes:

- Fr = Freshman, So = Sophomore, Jn = Junior, Sn = Senior,  
- F = Fall, S = Spring, by = take before that semester.  
- Semesters that have already been typed in are the recommended ones for that particular course.