null
Select 6 credits from the Related Electives department list  
Select 6 credits from Medical Imaging and Device Option department list  

Biomaterials Option (24 credits)  

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BME 443</td>
<td>Biomedical Materials</td>
<td>3</td>
</tr>
<tr>
<td>BME 446</td>
<td>Polymers in Biomedical Engineering</td>
<td>3</td>
</tr>
<tr>
<td>MATSE 201</td>
<td>Introduction to Materials Science</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional Courses  

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BME 408</td>
<td>Solid Mechanics of Biological Materials</td>
<td>3</td>
</tr>
<tr>
<td>or BME 409</td>
<td>Biofluid Mechanics</td>
<td></td>
</tr>
<tr>
<td>or BME 413</td>
<td>Mass Transport in Biological Systems</td>
<td></td>
</tr>
<tr>
<td>CHEM 202</td>
<td>Fundamentals of Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>or CHEM 210</td>
<td>Organic Chemistry I</td>
<td></td>
</tr>
</tbody>
</table>

Supporting Courses and Related Areas  

Select 3 credits from Related Electives department list  
Select 6 credits from Biomaterials Option department list  

Biomechanics Option (24 credits)  

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<td>3</td>
</tr>
<tr>
<td>BME 409</td>
<td>Polymers in Biomedical Engineering</td>
<td>3</td>
</tr>
<tr>
<td>EMCH 212</td>
<td>Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>EMCH 315</td>
<td>Mechanical Response of Engineering Materials</td>
<td>2</td>
</tr>
<tr>
<td>EMCH 316</td>
<td>Experimental Determination of Mechanical Response of Materials</td>
<td>1</td>
</tr>
</tbody>
</table>

Supporting Courses and Related Areas  

Select 9 credits from Biomechanics Option department list  
Select 3 credits from Related Electives department list  

General Education  

Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (https://bulletins.psu.edu/undergraduate/general-education/baccalaureate-degree-general-education-program/) section of the Bulletin and consult your academic adviser.

The Keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

Foundations (grade of C or better is required and Inter-Domain courses do not meet this requirement.)  

- Quantification (GQ): 6 credits  
- Writing and Speaking (GWS): 9 credits  

Breadth in the Knowledge Domains (Inter-Domain courses do not meet this requirement.)  

- Arts (GA): 3 credits  
- Health and Wellness (GHW): 3 credits  
- Humanities (GH): 3 credits  
- Social and Behavioral Sciences (GS): 3 credits  
- Natural Sciences (GN): 3 credits

Integrative Studies  

- Inter-Domain Courses (Inter-Domain): 6 credits

Exploration  

- GN, may be completed with Inter-Domain courses: 3 credits  
- GA, GH, GN, GS, Inter-Domain courses. This may include 3 credits of World Language course work beyond the 12th credit level or the requirements for the student’s degree program, whichever is higher: 6 credits

University Degree Requirements  

First Year Engagement  

All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3 credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience.

First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

Cultures Requirement  

6 credits are required and may satisfy other requirements  

- United States Cultures: 3 credits  
- International Cultures: 3 credits

Writing Across the Curriculum  

3 credits required from the college of graduation and likely prescribed as part of major requirements.

Total Minimum Credits  

A minimum of 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 credits. Students should consult with their college or department adviser for information on specific credit requirements.

Quality of Work  

Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

Limitations on Source and Time for Credit Acquisition  

The college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80)). For more information, check the Suggested Academic Plan for your intended program.