# BIOSYSTEMS ENGINEERING, PHD

**Requirements for Students Matriculating in or before Academic Year 2023-2024.** Learn more about Graduate College Academic Regulation 7.0 (http://catalog.okstate.edu/graduate-college/#70).

**Total Hours:** 60

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAE 5501</td>
<td>Seminar</td>
<td>1</td>
</tr>
<tr>
<td>BAE 6101</td>
<td>Teaching Practicum in Biosystems Engineering</td>
<td>1</td>
</tr>
<tr>
<td>Advanced Math (if advanced math was not completed in Master’s program)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Hours Subtotal:** 5

**Specialization and Dissertation**

Combination of Dissertation and Specialization to total 55 hours.

**55**

**Core Courses (By Specialty Area)**

**Machine Systems**

BAE 5413 Advanced Instrumentation and Control Systems for Biological Applications

**Environment and Natural Resources**

BAE 6313 Stochastic Methods in Hydrology
BAE 6333 Fluvial Hydraulics
BAE 6343 Ground Water Contaminant Transport
BAE 6520 Problems in Soil and Water Engineering

**Bioprocessing and Biotechnology**

BAE 5213 Renewable Energy Engineering
BAE 5283 Advanced Bioprocess Engineering
BAE 5413 Advanced Instrumentation and Control Systems for Biological Applications

**CHE 5123** Advanced Chemical Reaction Engineering
CHE 5373 Process Simulation
CHE 5743 Chemical Engineering Process Modeling

**STAT 5303** Experimental Designs

**Research and Additional Requirements**

BAE 6000 Doctoral Research and Dissertation

**Hours Subtotal:** 55

**Total Hours:** 60

1. Prerequisites: BAE 4313 or CIVEN 5843 and STAT 4053.
2. Prerequisites: ENGSC 3233 or equivalent.
3. Prerequisites: AGRON 5583 or CIVEN 5913.
4. Prerequisites: CHEM 1515, BAE 4313 or equivalent.