## BIOSYSTEMS ENGINEERING, PHD

### Requirements for Students Matriculating in or before Academic Year 2019-2020

Learn more about Graduate College Academic Regulation 7.0 (http://catalog.okstate.edu/graduate-college).

**Total Hours:** 60 Hours

<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></td>
<td>Advanced Math (if the student didn’t take any advanced math in the Master's program)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Hours Subtotal:** 5

### Specialization and Dissertation

Combination of Dissertation and Specialization to total 55 hours.

**Core Courses (By Specialty Area)**

#### Biomechanical Systems
- BAE 5413 Advanced Instrumentation and Control Systems for Biological Applications
- BAE 6540 Prob Farm Power & Mach

#### 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

#### Food Processing
- No Required Core Courses

### Research and Additional Requirements

- BAE 6000 (Offered for variable credit, 1-10 credit hours, maximum of 42 credit hours.)

**Hours Subtotal:** 55

**Total Hours:** 60

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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.

### General Graduate College Requirements

- A minimum Grade-Point-Average of 3.00 is required
- A minimum Grade of "C" is required in all degree applicable courses
- No courses utilizing the Pass-No Pass grading system are permitted
- GRAD 5082 or GRAD 5092 may not be used to meet degree requirements

### Additional Doctor of Philosophy (PhD.) Requirements

- 90 credits beyond the Bachelor’s degree, 60 credits beyond the Master’s degree are required
- At least seventy-five percent of coursework on the Plan of Study must include 5000 and 6000 level courses
- A minimum of 15 hours at the 6000 level with a grade of SR for the doctoral dissertation must be complete. The maximum number of dissertation hours (6000 with a grade of SR) permissible on a Plan of Study must not exceed three-fourths of the total credit hours in the approved graduate degree program
- Credit for all courses on a graduate Plan of Study must have been awarded within 10 years of completion of all degree requirements
- A minimum of 30 in-residence credit hours are required

Non-Course requirements:
- Doctoral Candidacy
- Dissertation Defense
- Dissertation Submission/Approval