Doctor of Philosophy in Bioengineering
Track: Biomedical Product Design and Development

Students entering FA14 to present

Track Co-Directors: Lisa Friis, Ph.D. (lfriis@ku.edu) and Sara Wilson, Ph.D. (sewilson@ku.edu)

### CORE 6 hours required

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>CPE 756</td>
<td>Intro to Bioengineering (3)</td>
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<tr>
<td>BIOE 800</td>
<td>Bioengineering Colloquium (.5) (2 total hours req)</td>
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<tr>
<td>BIOE 801</td>
<td>Responsible Conduct of Research in Engineering (1)</td>
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### DEPTH 16 hours required

1. **Courses required for track (3 courses minimum)**
   - ME 765  Biomaterials (3)
   - ME 760  Biomedical Product Design (3)
   - BIOE 802 Internship or Clinical Preceptorship (3)

2. **Statistics (1 course minimum)**
   - Choose appropriate courses with advisor from master list.

3. **Design (1 course minimum)**
   - Choose appropriate courses with advisor from the following list:
     - ME 696  Design for Manufacturability (3)
     - ME 796  Systems Design and Analysis (3-5)
     - ME 708  Microcontroller Applications (2-3)
     - ME 808  Advanced Microprocessor Applications (3)
     - EECS 747 Mobile Robotics (3)
     - AE 721/722 Aircraft Design Lab I&II (4)
     - EECS 721 Antennas (3)
     - or other Design course(s) as approved by committee

4. **Technology Evaluation Elective (1 course/experience minimum, 1 cr hour)**
   - Choose appropriate courses with advisor from the following list:
     - ENTR 750  New Venture Creation (4)
     - BIOE 860  Advanced Engineering Problems - Technology Evaluation (1)
     - or other Technology Evaluation experience as approved by the track director

### BREADTH 20 hours minimum

- Choose appropriate courses from the Master Breadth Course List in the following categories.
  1. Math, Statistics, Numerical Methods (1 course minimum)
  2. Advanced Engineering (700 or above) (1 course minimum)
  3. Pharmaceutical & Life Sciences (1 course minimum)
  4. Management & Business (0 required, 1 course max)

- ENTR 750 New Venture Creation / Business Plan Development (4) - if Tech Eval, 3 hours could count as breadth or any upper level business courses as approved by committee

### RESEARCH 18 hours minimum - 24 hours maximum

- BIOE 999  Independent Investigation (Dissertation)

These hours are taken under your advisor/committee chair.

**MINIMUM HOURS REQUIRED FOR DEGREE: 60**