# BIOMEDICAL ENGINEERING (BIOMATERIALS AND TISSUE TRACK), BS

## Bachelor of Science in Biomedical Engineering, Biomaterials and Tissues (480006BS)

This option of the undergraduate program in Biomedical Engineering follows the biomaterials and tissues track and does not include a cooperative education component.

The following information has official approval of the **Department of Biomedical Engineering** and **The College of Engineering and Polymer Science**, but is intended only as a supplemental guide. Official degree requirements are established at the time of transfer and admission to the degree-granting college. Students should refer to the Degree Progress Report (DPR) which is definitive for graduation requirements. *Completion of this degree within the identified time frame below is contingent upon many factors, including but not limited to: class availability, total number of required credits, work schedule, finances, family, course drops/withdrawals, successfully passing courses, prerequisites, among others.* The transfer process is completed through an appointment with your academic advisor.

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|---|---|---|
| **1st Year** | | |
| **Fall Semester** | | **Hours** |
| 3150:151 | Principles of Chemistry I [1] | 3 |
| 3150:152 | Principles of Chemistry I Laboratory | 1 |
| 3300:111 | English Composition I [1,2] | 3 |
| 3450:221 | Analytic Geometry-Calculus I [1] | 4 |
| 4800:101 | Tools for Biomedical Engineering | 3 |
| | Hours | 14 |
| **Spring Semester** | | |
| 3150:153 | Principles of Chemistry II [1] | 3 |
| 3450:222 | Analytic Geometry-Calculus II [1] | 4 |
| 3650:291 | Elementary Classical Physics I [1] | 4 |
| 4800:111 | Introduction to Biomedical Engineering Design | 3 |
| | Second Writing Course [1,3] | 3 |
| | Hours | 17 |
| **2nd Year** | | |
| **Fall Semester** | | |
| 3100:200 | Human Anatomy & Physiology I | 3 |
| 3100:201 | Human Anatomy & Physiology Laboratory I | 1 |
| 3450:223 | Analytic Geometry-Calculus III [1] | 4 |
| 3650:292 | Elementary Classical Physics II [1] | 4 |
| 4300:201 | Statics [1] | 3 |
| 4800:201 | Biomedical Engineering Sophmore Seminar | 1 |
| | Hours | 16 |
| **Spring Semester** | | |
| 3100:202 | Human Anatomy & Physiology II | 3 |
| 3100:203 | Human Anatomy & Physiology Laboratory II | 1 |
| 3150:154 | Qualitative Analysis | 2 |
| 3450:335 | Introduction to Ordinary Differential Equations | 3 |
| 4300:202 | Introduction to Mechanics of Solids | 3 |
| 4600:203 | Dynamics [1] | 3 |
| | Hours | 15 |
| **3rd Year** | | |
| **Fall Semester** | | |
| 3150:263 | Organic Chemistry Lecture I | 3 |
| 3150:265 | Organic Chemistry Laboratory I | 2 |
| 3600:120 | Introduction to Ethics | 3 |
| 4800:362 | Transport Fundamentals for Biomedical Engineering | 3 |
| 4800:365 | Mechanics of Biological Tissues | 3 |
| | Hours | 14 |
| **Spring Semester** | | |
| 4400:307 | Basic Electrical Engineering | 4 |
| 4600:300 | Thermodynamics I | 3 |
| 4800:220 | Biomedical Computing | 3 |
| 4800:300 | Biomaterials | 3 |
| 4800:401 | Introduction to Biomaterials Laboratory | 2 |
| | General Education or Honors Distribution [4] | 3 |
| | Hours | 18 |
| **Summer Semester** | | |
| 3470:461 | Applied Statistics | 4 |
| | General Education or Honors Distribution [4] | 3 |
| | Hours | 7 |
| **4th Year** | | |
| **Fall Semester** | | |
| 4800:305 | Introduction to Biophysical Measurements | 4 |
| 4800:440 | Advanced Biomaterials | 3 |
| 4800:491 | Biomedical Engineering Design I | 2 |
| | Biomedical Engineering Elective [5] | 3 |
| | General Education or Honors Distribution [4] | 3 |
| | Hours | 15 |
| **Spring Semester** | | |
| 4800:492 | Biomedical Engineering Design II | 2 |
| | Biomedical Engineering Elective [5] | 3 |
| | Biomedical Engineering Elective [5] | 3 |
| | General Education or Honors Distribution [4] | 3 |
| | General Education or Honors Distribution [4] | 3 |
| | General Electives | 4 |
| | Hours | 18 |
| | Total Hours | 134 |

1. Honors sections may be available; check the schedule of classes.
2. The Biomedical Engineering Department recommends that English Composition I be used to satisfy writing course requirement but other choices are available. See the General Education Program for details.
3. Check General Education Program or Honors Distribution to find courses that satisfy the second writing course requirement.

[4] Credit hours shown for General Education or Honors Distribution are general guidelines only. These courses should be chosen in accordance with the appropriate General Education curriculum guide (for non-honors students) or Honors Distribution (for honors students). Honors students must also ensure that their course selections meet additional requirements not shown on this curriculum guide.

[5] Biomedical Engineering Electives must include a minimum of 3 credits from Biomedical Engineering (4800). All other electives may be chosen from a list of Approved Electives.