

# BIOMEDICAL ENGINEERING (INSTRUMENTATION, SIGNALS AND IMAGING TRACK), BS

## Bachelor of Science in Biomedical Engineering, Instrumentation, Signals, and Imaging (480004BS)

This option of the undergraduate program in Biomedical Engineering follows the instrumentation, signals and imaging 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.

1st Year		
Fall Semester		Hours
3150:151	Principles of Chemistry I <sup>1</sup>	3
3150:152	Principles of Chemistry I Laboratory	1
3300:111	English Composition I <sup>1,2</sup>	3
3450:221	Analytic Geometry-Calculus I <sup>1</sup>	4
4800:101	Tools for Biomedical Engineering	3
Hours		14
Spring Semester		
3150:153	Principles of Chemistry II <sup>1</sup>	3
3450:222	Analytic Geometry-Calculus II <sup>1</sup>	4
3650:291	Elementary Classical Physics I <sup>1</sup>	4
4800:111	Introduction to Biomedical Engineering Design	3
	Second Writing Course <sup>1,3</sup>	3
Hours		17
2nd Year		
Fall Semester		Hours
3100:200	Human Anatomy & Physiology I	3
3100:201	Human Anatomy & Physiology Laboratory I	1
3450:223	Analytic Geometry-Calculus III <sup>1</sup>	4
3650:292	Elementary Classical Physics II <sup>1</sup>	4
4400:231	Circuits I	3
4400:230	Circuits I Laboratory	1
4800:201	Biomedical Engineering Sophomore Seminar	1
Hours		17
Spring Semester		
3100:202	Human Anatomy & Physiology II	3

3100:203	Human Anatomy & Physiology Laboratory II	1
3450:335	Introduction to Ordinary Differential Equations	3
4400:332	Circuits II	3
4400:330	Circuits II Laboratory	1
4450:220	Digital Logic Design	4
4800:220	Biomedical Computing	3
Hours		18
3rd Year		
Fall Semester		
3600:120	Introduction to Ethics	3
4300:201	Statics <sup>1</sup>	3
4400:340	Signals & Systems	4
4400:360	Physical Electronics	3
4800:305	Introduction to Biophysical Measurements	4
Hours		17
Spring Semester		
4800:310	Modeling & Simulation of Biomedical Systems	3
4600:203	Dynamics	3
	Biomedical Engineering Elective <sup>5</sup>	3
	General Education or Honors Distribution <sup>4</sup>	3
	General Education or Honors Distribution <sup>4</sup>	3
Hours		15
Summer Semester		
3470:461	Applied Statistics	4
4600:305	Thermal Science	2
	General Education or Honors Distribution <sup>4</sup>	3
Hours		9
4th Year		
Fall Semester		
4800:325	Design of Medical Devices	3
4800:420	Biomedical Signal & Image Processing	3
4800:491	Biomedical Engineering Design I	2
	Biomedical Engineering Elective <sup>5</sup>	3
	General Education or Honors Distribution <sup>4</sup>	3
Hours		14
Spring Semester		
4800:300	Biomaterials	3
4800:430	Design of Medical Imaging Systems	3
4800:492	Biomedical Engineering Design II	2
	Biomedical Engineering Elective <sup>5</sup>	3
	General Education or Honors Distribution <sup>4</sup>	3
Hours		18
Total Hours		139

<sup>1</sup> Honors sections may be available; check the schedule of classes.

<sup>2</sup> 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.

<sup>3</sup> Check General Education Program or Honors Distribution to find courses that satisfy the second writing course requirement.

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<sup>4</sup> 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.

<sup>5</sup> 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.