



**TEMPLE UNIVERSITY - COLLEGE OF ENGINEERING**  
**BACHELOR OF SCIENCE IN BIOENGINEERING (BSBioE)**

***Biomaterials Pathway***  
**PROGRAM OUTLINE 2015-2016**

Grade	Credits	First Semester		Grade	Credits	Second Semester	
	3	ENGR 1101	Intro to Engineering and Engineering Technology		4	MATH 1042	Calculus II
	4	MATH 1041	Calculus I [GQ]		4	PHYS 1061	Elementary Classical Physics I [GS]
	3	CHEM 1031	General Chemistry I		2	BIOE 2001	Frontiers of Bioengineering
	1	CHEM 1033	General Chemistry Lab I		3	IH 0851	Mosaic I [GY]
	4	ENG 0802	Analytical Reading and Writing [GW]		3	CHEM 1032	General Chemistry II
					1	CHEM 1034	General Chemistry Lab II
<b>Total:</b>	<b>15</b>			<b>Total:</b>	<b>17</b>		
Grade	Credits	Third Semester		Grade	Credits	Fourth Semester	
	4	MATH 2043	Calculus III		3	MATH 3041	Differential Equations
	4	PHYS 1062	Elementary Classical Physics II [GS]		3	ENGR 3571	Classical & Statistical Thermodynamics
	3	CHEM 2201	Organic Chemistry I		3	BIOE 2101	Eng. Principles of Physiological Systems w/Lab
	1	CHEM 2203	Organic Chemistry Lab I		3	ENGR 2196	Technical Communications [WI]
	4	BIOL 2112	Introduction to Biology II		3	CHEM 2202	Organic Chemistry II
					1	CHEM 2204	Organic Chemistry Lab II
<b>Total:</b>	<b>16</b>			<b>Total:</b>	<b>16</b>		
Grade	Credits	Fifth Semester		Grade	Credits	Sixth Semester	
	2	BIOE 3001	Research Design and Methods		3	BIOE 3102	BioE Lab 2: Biomaterials
	3	BIOE 3101	BioE Lab #1: Bioelectrical Engineering		3	GenEd 08xx	Human Behavior [GB]
	2	BIOE 3201	Biomedical Instrumentation		1	ENGR 4169	Engineering Seminar
	3	<b>BIOE 3511</b>	<b>Interactions of Biomaterials w/ Living systems or other BioE Elective</b>		3	<b>BIOE 3302</b>	<b>Drug Delivery or other BioE Elective</b>
	3	Elective	Free Elective		4	<b>BIOE 2312</b>	<b>Mechanics for Bioengineering I or other BioE Elective</b>
	3	IH 0852	Mosaic II [GZ]				
<b>Total:</b>	<b>16</b>			<b>Total:</b>	<b>14</b>		
Grade	Credits	Seventh Semester		Grade	Credits	Eighth Semester	
	1	ENGR 4196	Senior Design Project I [WI] <sup>1</sup>		3	ENGR 4296	Senior Design Project II [WI]
	3	BIOE 4101	BioE Lab 3: Biomechanics		3	GenEd 08xx	Race & Diversity [GD]
	3	Elective	Free Elective		2	BIOE 4311	The Entrepreneurial Bioengineer
	3	Gen Ed xxxx	World Society [GG]		3	BIOE 4411	Capstone: Biomaterials
	3	Elective	Technical Elective (Approved Math, Science or Engineering Course)		3	Gen Ed xxxx	U.S. Society (GU)
	3	GenEd 08xx	Arts [GA]				
<b>Total:</b>	<b>16</b>			<b>Total:</b>	<b>12</b>		

**Total: 124**

<sup>1</sup> Students must complete the following courses before registering for ENGR 4196 – Senior Design I: **BIOE 3101, BIOE 3001, BIOE 3201, and BIOE 3102**. Although students may be permitted to take one of the courses listed above concurrently, it is strongly recommend that these courses be completed before registering for ENGR 4196.

**\*\*Recommended BioE Electives: BioE 2312, 3302, & 3511 (other options: BioE 3331, 3312, 3301, 4333, 4441, 4461, or 4370)**