B.S. IN BIOMEDICAL ENGINEERING

College of the Sciences and Mathematics

Curriculum

Code	Title	Credits
GENERAL EDUC. catalog.wcupa.edu/u requirements/)	ATION REQUIREMENTS (http:// indergraduate/general-education-	
Academic Foundatio	ons	
First Year Experience	e requirement	4
English Composition	n requirement	6-7
Mathematics require	ment	3-4
MAT 161	Calculus I	
Interdisciplinary requ	irement	3
Diverse Communitie	s requirement	3
Ethics requirement	1	3
Distributed Discipli	nary Foundations	
Science requirement	5	6-8
BIO 110	General Biology I	
CHE 103 & CRL 103	General Chemistry I and General Chemistry I Lab	
Behavioral & Social	Science requirement	6
ECO 112	Principles of Economics (Micro)	
Humanities requirem	nent	6
PHI 180	Introduction to Ethics	
Arts requirement		3
ADDITIONAL BA REQUIREMENTS undergraduate/gene University Requirem	ACCALAUREATE 6 (http://catalog.wcupa.edu/ eral-education-requirements/) ments	
Writing Emphasis re	quirement	9
Speaking Emphasis 1	requirement	9
Degree Requiremen	ts	
Capstone requirement	it	1-15
MAJOR REQUIRI	EMENTS	
Required Courses		
BME 110	Introduction to Biomedical Engineering	3
BME 120	Introduction to Computer Aided Engineering Design	3
PHY 170	Physics I	4
BME 320	Biostatistics for Engineers	3
BME 460	Biomedical Device Design	3
PHY 180	Physics II	4
BME 220	Statics	3
BME 230	Dynamics	3
CHE 230	Introduction to Organic and Biological Chemistry	3
BIO 265	Anatomy and Physiology for Engineers	4
BME 310	Engineering Thermodynamics	3
BME 315	Biomedical Engineering Laboratory I	2
BME 325	Biomedical Engineering Laboratory II	2
BME 335	Biomaterials	3
BME 345	Biotransport Phenomena	4
BME 355	Biomedical Instrumentation	3

BME 365	Biomechanics for Engineers	3	
BME 410	Senior Design I	3	
BME 450	Regulatory and GMP	3	
Major Electives			
Select 9 credit of BM	IE electives.	9	
Related Cognates			
MAT 162	Calculus II	4	
MAT 261	Calculus III	4	
MAT 315	Differential Equations and Linear Algebra	3	
CHE 104	General Chemistry II	3	
CRL 104	General Chemistry II Lab	1	
Capstone Requirement			
BME 420	Senior Design II ¹	3	
Total Minimum Credits Required			

¹ This course fulfills the Capstone requirement.

Sample Course Plan

To track their individual degree progress, students are advised to access their Degree Progress Report (DPR) via myWCU regularly. For more information, visit wcupa.edu/DegreeProgressReport (http://wcupa.edu/degreeprogressreport/).

The following is a sample suggested course sequence for this program; course offerings and availability are not guaranteed. Students should consult their academic advisor with any questions.

Course Year One Fall	Title	Credits
BME 110	Introduction to Biomedical Engineering	3
MAT 161	Calculus I	4
CHE 103	General Chemistry I	3
WRT 120 or WRT 123	Effective Writing I or Effective Writing with Supplemental Writing Workshop	3-4
FYE 100X	First Year Experience	4
	Credits	17-18
Spring		
BME 120	Introduction to Computer Aided Engineering Design	3
MAT 162	Calculus II	4
CRL 103	General Chemistry I Lab	1
CHE 104	General Chemistry II	3
PHY 170	Physics I	4
	Credits	15
Year Two Fall		
BME 220	Statics	3
MAT 261	Calculus III	4
BIO 110	General Biology I	4
PHY 180	Physics II	4
CRL 104	General Chemistry II Lab	1
	Credits	16
Spring		
BME 230	Dynamics	3
MAT 315	Differential Equations and Linear Algebra	3

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BIO 265	Anatomy and Physiology for Engineers	4
ECO 112	Principles of Economics (Micro)	3
WRT 2XX	200-Level WRT Course	3
	Credits	16
Year Three		
Fall		
BME 310	Engineering Thermodynamics	3
BME 315	Biomedical Engineering Laboratory I	2
BME 320	Biostatistics for Engineers	3
BME 335	Biomaterials	3
CHE 230	Introduction to Organic and Biological Chemistry	3
PHI 180	Introduction to Ethics	3
	Credits	17
Spring		
BME 325	Biomedical Engineering Laboratory II	2
BME 345	Biotransport Phenomena	4
BME 355	Biomedical Instrumentation	3
BME 365	Biomechanics for Engineers	3
Humanities	Gen Ed	3
	Credits	15
Year Four		
Fall		
BME 410	Senior Design I	3
BME 460	Biomedical Device Design	3
BME 455	Bioprocess Engineering	3
Arts Gen Ed	l	3
Interdisciplin	nary Gen Ed	3
	Credits	15
Spring		
BME 420	Senior Design II	3
BME 450	Regulatory and GMP	3
BME 465	Cell and Tissue Engineering	3
BME 470	Artificial Organs and Cryobiology Fundamentals	3
Behavioral & Social Science Gen Ed		3
	Credits	15
	Total Credits	126-127