B.S. IN BIOMEDICAL ENGINEERING

College of the Sciences and Mathematics

Curriculum

Code	Title	Credits
GENERAL EDUCATION REQUIREMENTS (http://catalog.wcupa.edu/undergraduate/general-education-requirements/)		
Academic Foundations		
First Year Experience requirement		4
English Composition requirement		6-7
Mathematics requirement		3-4
MAT 161	Calculus I	
Interdisciplinary requirement		3
Diverse Communities requirement		3
Ethics requirement		3
Distributed Disciplinary Foundations		
Science requirement		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 requirement		6
PHI 180	Introduction to Ethics	
Arts requirement		3
ADDITIONAL BACCALAUREATE REQUIREMENTS (http://catalog.wcupa.edu/undergraduate/general-education-requirements/)		
University Requirements		
Writing Emphasis requirement		9
Speaking Emphasis requirement		9
Degree Requirements		
Capstone requirement		1-15
MAJOR REQUIREMENTS		
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 BME 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		**126**

[1] This course fulfills the Capstone requirement.

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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	Title	Credits
Year One		
Fall		
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

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		3
Interdisciplinary 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**