BIOENGINEERING

Biomaterials Concentration

2020 – 2021 Curriculum (updated May 2020)

Student: _____
Date: _____
CUID: _____
Advisor: _____

FRESHMAN YEAR

_____ 4 CH 1010 General Chemistry
_____ 3 ENGL 1030 Composition and Rhetoric
_____ 2 ENGR 1020 Engineering Disciplines and Skills
_____ 4 MATH 1060 Calculus of One Variable I
_____ 3 Gen Ed_____
16

_____ 4 CH 1020 General Chemistry
_____ 3 ENGR 1410 Programming and Problem Solving
_____ 4 MATH 1080 Calculus of One Variable II
_____ 3 PHYS 1220 Physics with Calculus I
_____ 3 Gen Ed _____
_____ 1 Biology Requirement_____
18

SOPHOMORE YEAR

_____ 3 BIOE 2010 Intro. to Biomedical Engineering
_____ 3 CH 2010 Survey of Organic Chemistry
_____ 1 CH 2020 Survey of Organic Chemistry Lab
_____ 4 MATH 2060 Calculus of Several Variables
_____ 3 MSE 2100 Introduction to Materials Science
_____ 3 PHYS 2210 Physics with Calculus II
17

_____ 0 BIOE 2000 Bioengineering Professional Development
_____ 3 BIOE 3020 Biomaterials
_____ 3 CE 2010 Statics
_____ 2 ECE 2070 Basic Electrical Engineering
_____ 1 ECE 2080 Basic Electrical Engineering Lab.
_____ 2 ENGR 2080 Engineering Graphics and Machine Design
_____ 4 MATH 2080 Int. to Ordinary Differential Equations
15

JUNIOR YEAR

_____ 4 BIOE 3100 Engineering Analysis of Physiological Processes
_____ 3 BIOE 3200 Biomechanics
_____ 3 BIOE 3210 Biofluid Mechanics
_____ 3 BIOE 3460 Biomolecular Thermodynamics
_____ 3 MATH 3020 Statistics for Science and Engineering
16

_____ 3 BCHM 3010 Molecular Biochemistry *OR*
3 BCHM 3050 Essential Elements of Biochemistry
_____ 0 BIOE 3000 Bioengineering Ethics & Entrepreneurship
_____ 3 BIOE 3470 Transport Processes in Bioengineering
_____ 3 BIOE 3700 Bioinstrumentation and Bioimaging
_____ 3 MSE 3190 Materials Processing
_____ 3 Bioengineering Technical Requirement_____
15

SENIOR YEAR

_____ 3 BIOE 4010 Bioengineering Design Theory
_____ 3 BIOL 4610 Cell Biology
_____ 3 MSE 4150 Polymer Science and Engineering
_____ 3 Gen Ed_____
_____ 3 Bioengineering Technical Requirement_____
15

_____ 1 BIOE 4000 Bioengineering Leadership & MedTech Commercialization
_____ 3 BIOE 4030 Applied Biomedical Design
_____ 3 BIOE 4480 Tissue Engineering
_____ 3 Bioengineering Technical Requirement_____
_____ 3 Bioengineering Technical Requirement_____
_____ 3 Gen Ed_____
16

128 Total Semester Hours

General Education Requirements					
LIT	Non-Lit	SS1	SS2	CCA	STS

Comments: _____

Change of Major Checklist	
Required	Completed
CH 1010	
ENGL 1030	
ENGR 1020	
ENGR 1410	
MATH 1060	
PHYS 1220	
GPA = 3.0; C or better required in each class	

Students should always refer to the Academic Catalog for course descriptions and for course pre-requisites, corequisites, and concurrent enrollment requirements. Academic Catalog can be found here: https://www.clemson.edu/registrar/academic-catalogs/