

# BIOMEDICAL ENGINEERING CURRICULUM

BACHELOR OF SCIENCE IN BME - PREHEALTH BIOMATERIALS TRACK - FALL 2019 AND LATER

NAME:

ID:

1st Year (Fall)	Prerequisite	Cr	Semester	1st Year (Spring)	Prerequisite	Cr	Semester
Chem 125 Chem I	None	3		Chem 126 Chem II	Chem 125	3	
Chem 125A Chem Lab	None	0		BME 101- Freshman Seminar <b>S</b>		0	
HUM 101 Writ, Speak, Think I:	None	3		HUM 102	Hum 101	3	
Math 111 Calc I	None	4		Math 112 Calc II	Math 111	4	
Phys 111 Physics I	Phys 111A, Math 111/*	3		Phys 121 Physics II	Phys 111, Phys 121A*, Math	3	
Phys 111A Phys I Lab	Phys 111A*	1		Phys 121A Phys. II Lab	Phys 111A	1	
FED 101	None	2					
		<b>16</b>				<b>15</b>	
2nd Year (Fall)	Prerequisite	Cr	Semester	2nd Year (Spring)	Prerequisite	Cr	Semester
Math 211(13) Calc IIIA	Math 112	3		CHEM244 Organic Chemistry II	CHME243	3	
Engr Prob & Stat: Math 279 (333)	Math 112	2		CHEM244A Orgo Lab **		2	
BME 111 - Intro to Anatomy and Phy	None	3		BME 301 - Electrical Fund <b>U</b>	C in MATH 112, PHYS 121'	3	
BME 304 - Material Fund	C in PHYS 111, CHEM 126	3		BME 302 - Mech Fund <b>U</b>	C in MATH 112, PHYS 121	3	
CHEM 243 Org Chem	CHEM 126	3		R120:102 BioII or R120:201 ***	None	4	
R120:101 BioI or BioI205/206 **	None	4		Liberal Arts Literacy 2XX	VARIOUS	3	
		<b>18</b>				<b>18</b>	
3rd Year (Fall)	Prerequisite	Cr	Semester	3rd Year (Spring)	Prerequisite	Cr	Semester
BME385 Cell & Biomat Lab	C: MATH 112, PHYS 121 BME 304, MATH 279	3		Liberal Arts Literacy 3XX		3	
MTSE301 Princ. Mat. Sci. & Eng.	CHEM126, MATH 112, & PHYS 121	3		BME498 Biomedical Thermo	VARIOUS	3	
CHEM473 Biochemistry1	C in Chem244	3		BME 210 Biomed Computing <b>U</b>	Sophomore standing	3	
Liberal Arts Literacy 3XX	HUM102 or Math 279/333	3		BME382 Eng Mod Phys Sys	BME301,BME302, MATH222, C in BME111	3	
Math 222 Diff Equations	Math 112	4		BME420 Adv. Biomat. Science <b>S</b>	BME 302, BME 304, MATH 222 and ( MTSE 301 or BME 321)	3	
		<b>16</b>				<b>15</b>	
4th Year (Fall)	Prerequisite	Cr	Semester	4th Year (Spring)	Prerequisite	Cr	Semester
BME427 Biotransport <b>F</b>	CHE230 & MATH222	3		BME422 - Biomat. Charact. S	C in MATH112 & PHYS121, BME304 & MTSE301	3	
BME383 Meas Lab Phys Sys <b>U</b>	BME302,BME 210,& MATH 279	3		Engineering Track Elective	VARIOUS	3	
BME 495 Capstone Design I	BME 372 OR MTSE 301 OR (MECH 236 & BME321)	2		BME 496 Capstone Design II	BME 495	3	
BME430 Tissue Engineering	BME302, (BME303 or R120:102), BME 304, MATH 222, MTSE 301	3		Capstone HSS 4XX	Senior Standing	3	
Management GER - IE492	VARIOUS	3		Engineering Track Elective	VARIOUS	3	
		<b>14</b>				<b>15</b>	
All courses are offered Fall and Spring semester unless otherwise label: ( <b>F</b> -Fall only; <b>S</b> -Spring only; <b>U</b> -also offered Summer)					<b>TOTAL CREDITS</b>	<b>127</b>	
Additional Coursework	Prerequisite	Cr	Semester	Additional Coursework	Prerequisite	Cr	Semester

\*\* this course is not required for accredited BME curriculum

\*\*\* lab component of this course not required for accredited BME curriculum

**Engineering Elective:** Technical elective courses with sufficient engineering content: Generally any 300-level or higher courses with prefix BME, ME, CHE, EE, OPSE (excluding MECH320)

**Advanced Science Elective:** Generally any 300-level or higher science course with prefix CS, BIOL, MATH, PHYS, CHEM, IE, MTSE exceptions apply, check with your academic advisor

**Liberal Arts Literacy:** A comprehensive list of 200 level GER courses: [bit.ly/2TL9wXO](http://bit.ly/2TL9wXO) and 300 level: [bit.ly/2WG0mhc](http://bit.ly/2WG0mhc).

The BME department recommends STS221 or STS352 and STS359 for MCAT preparation

\*\*\*Students who score a 5 on the AP Biology exam are recommended to take a higher level Biology sequence: Biol205/206 and Biol201/202, see advisor