

BIOMEDICAL ENGINEERING CURRICULUM

BACHELOR OF SCIENCE IN BME - PREHEALTH BIOMATERIALS TRACK - FALL 2017 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	
BME 111 - Intro to Phys	None	3		Chem 124 Chem Lab	Chem 126	1	
Writ, Speak, Think I: HUM 101	None	3		FED 101	None	2	
Math 111 Calc I	None	4		Wri, Speak, Think II: HUM 102	Hum 101	3	
Phys 111 Physics I	Phys 111A, Math 111	3		Math 112 Calc II	Math 111	4	
Phys 111A Phys I Lab	Phys 111A*	1		Phys 121 Physics II	Phys 111, Phys 121A*, Math	3	
BME 101- Freshman Seminar F		0		Phys 121A Phys. II Lab	Phys 111A	1	
		17				17	
2nd Year (Fall)	Prerequisite	Cr	Semester	2nd Year (Spring)	Prerequisite	Cr	Semester
Math 211(13) Calc IIIA	Math 112	3		Math 222 Diff Equations	Math 112	4	
Engr Prob & Stat: Math 279 (333)	Math 112	2		CHEM244 Organic Chemistry II	CHME243	3	
BME 301 - Electrical Fund U	C in MATH 112, PHYS 121	3		BME 302 - Mech Fund U	C in MATH 112, PHYS 121	3	
BME 304 - Material Fund	C in BME 111, CHEM 126	3		R120:102 BioII	None	4	
CHEM 243 Org Chem	CHEM 126	3		Liberal Arts Literacy 2XX	None	3	
R120:101 Biol	None	4		CHEM244A Orgo Lab		2	
		18				19	
3rd Year (Fall)	Prerequisite	Cr	Semester	3rd Year (Spring)	Prerequisite	Cr	Semester
MATH 337 Linear Algebra	MATH 112	3		Liberal Arts Literacy 3XX	VARIOUS	3	
CS101 or CS115 or BIOINF 135	None	3		CHE230 Chem. Eng. Thermo		3	
CHE210 Chemical Proc. Calc. I	CHEM 126	2		BME 310 Biomed Computing U	C in BME111, BME 301, CS101	3	
MTSE301 Princ. Mat. Sci. & Eng.	CHEM126, MATH 112, & PHYS 121	3		BME382 Eng Mod Phys Sys	BME301, BME302, MATH222, C in BME111	3	
CHEM473 Biochemistry I	C in Chem244	3		BME385 Cell & Biomat Lab	C: MATH 112, PHYS 121 BME 304, MATH 279	3	
Liberal Arts Literacy 3XX	HUM102 or Math 279/333	3		BME420 Adv. Biomat. Science S	BME 302, BME 304, MATH 222 and (MTSE 301 or BME 321)	3	
		17				18	
4th Year (Fall)	Prerequisite	Cr	Semester	4th Year (Spring)	Prerequisite	Cr	Semester
Engineering Track Elective	VARIOUS	3		BME422 - Biomat. Charact. S	C in MATH112 & PHYS121, BME304 & MTSE301	3	
BME383 Meas Lab Phys Sys U	BME302, BME 310, & MATH 279	3		BME427 Biotransport s	CHE230 & MATH222	3	
BME 495 Capstone Design I	BME 372 OR MTSE 301 OR (MECH 236 & BME321)	3		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					
		15				12	
All courses are offered Fall and Spring semester unless otherwise labeled: (F -Fall only; S -Spring only; U -also offered Summer)						132	
Additional Coursework	Prerequisite	Cr	Semester	Additional Coursework	Prerequisite	Cr	Semester

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, MATH, PHYS, CHEM, IE, MTSE **exceptions apply, check with your academic advisor

Liberal Arts Literacy: Courses to be included have the prefix Com, Eng, Hist, Lit, Phil, STS, and Thtr. The BME dept recommends **STS221 or STS352 and STS359 for MCAT preparation**

**R120:101 and Chem 244A are not required for a B.S. in BME, these are courses only required for Medical School Admissions

***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*