

BIOMEDICAL ENGINEERING CURRICULUM
BACHELOR OF SCIENCE IN BME - BIOMECHANICS TRACK - FALL 2022 AND LATER

NAME:

ID:

EMAIL:

CUMULATIVE GPA:

1st Year (Fall)	Prerequisite	Cr	Semester	1st Year (Spring)	Prerequisite	Cr	Semester
Chem 125 Chem I	None	3		Chem 126 Chem II	MATH 110 or higher and CHEM 125 or CHEM 121	3	
Chem 124 Chem Lab	None	1		BME 101- Freshman Seminar S		0	
ENGL 101	None	3		ENGL 102	ENLG 101	3	
Math 111 Calc I	None	4		Math 112 Calc II	MATH 111	4	
Phys 111 Physics I	coreq: PHYS 111A and MATH 111	3		Phys 121 Physics II	PHYS 111, PHYS 111A, MATH 111 / coreq PHYS 121A, MATH 112	3	
Phys 111A Phys I Lab	coreq: PHYS 111	1		Phys 121A Phys. II Lab	Phys 111A	1	
FED 101	ENGL 101 and (ENGR 101 and MATH 110) or MATH 111	2					
		17				14	
2nd Year (Fall)			Semester	2nd Year (Spring)			
Math 211(13) Calc IIIA	Math 112	3		Math 222 Diff Equations	Math 112	4	
Engr Prob & Stat: Math 279 (333)	Math 112	2		BME 303 - Biological Fundamentals	CHEM 126 or CHEM 121	3	
BME 302 - Mech Fund U	MATH 112, PHYS 121	3		BME 301 - Electrical Fund U	MATH 112, PHYS 121	3	
BME 210 Computing for BMEs	Sophomore standing	3		BME 304 - Material Fundamentals	(CHEM 126 or CHEM 122) and PHYS 111	3	
BME 111 - Intro to Anatomy and	None	3		*Liberal Arts Literacy 3XX	VARIOUS	3	
*Liberal Arts Literacy 2XX	Various	3					
		17				16	
3rd Year (Fall)				3rd Year (Spring)			
MATH 337 Linear Algebra	MATH 112	3		BME 351 - Intro to BioFluid Mech S	BME 302, MECH 236 and (MECH 320 or BME 321)	3	
MECH 236 Dynamics	MECH 234 or MECH 235 with a grade of C or better or MECH 320 and Math 112, Phys 111/111A.	2		BME3 82 Eng Mod Phys Sys	BME 111, BME 301, BME 302 and Math 222	3	
BME 321 Adv Mech for BME	BME302	3		BME384 Biomech Lab	BME 302, MECH 236, BME 321, (MATH 279 or MATH 333), and BME 210		
*Sci or Eng Elective (1)		3		BME 478 Intro CAD for Biomech	BME 302 and (MECH 320 or BME 321)	4	
*Liberal Arts Literacy 3XX	VARIOUS	3		MANAGEMENT GER - IE492	VARIOUS	3	
		14				16	
4th Year (Fall)				4th Year (Spring)			
*Engineering Elective		3		BME 496 Capstone Design II	BME 495	3	
*Sci or Eng Elective (2)		3		Capstone HSS 4XX	Senior Standing	3	
BME383 Meas Lab Phys Sys	BME 302, (BME 210 or BME 310), (MATH 279 or MATH 333)	3		*Engineering Elective		3	
BME451 Biomechanics I F	MECH 236 and BME321	3		BME452 Mech. B&P of Biomat. S	BME 302, BME 304, MATH 222, (MATH 279 or MATH 333), and BME 321.	3	
BME 495 Capstone Design I	BME 372 or MTSE 301 or MTEN 201 or (MECH 236 and MECH 320) or (MECH 236 and BME 321) or BME 386. Restrictions: Senior Standing.	2					
		14				12	
						TOTAL DEGREE CREDITS	120
Additional Coursework	Prerequisite	Cr	Semester	Additional Coursework	Prerequisite	Cr	Semester

All courses are offered Fall and Spring semester unless otherwise labeled: (**F**-Fall only; **S**-Spring only; **U**-also offered in Summer

Students must earn a grade of "C" or better to satisfy most course prerequisites.

*** For Liberal Arts Literacy, Engineering Electives and Sci or Engineering Electives please fill in the course number in the space provided in the Prerequisite column.**

Engineering Elective: Please see the list here <https://biomedical.njit.edu/academics/undergraduate/curriculum.php>

Science Elective: Please see the list here <https://biomedical.njit.edu/academics/undergraduate/curriculum.php>

Liberal Arts Literacy: The BME department recommended electives are ENG340, ENG352, PHIL351, STS221 or STS352 and STS359.