

**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	Chem 125 Chem 121 and MATH 110 or higher	3	
Chem 124 Chem Lab	None	1		BME 101- Freshman Seminar <b>S</b>		0	
ENGL 101	None	3		ENGL 102	Hum 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 121A*, Math 112*	3	
Phys 111A Phys I Lab	coreq: PHYS 111	1		Phys 121A Phys. II Lab	Phys 111A	1	
FED 101	coreq: HUM 101, (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	C in CHEM 126 or CHEM 122	3	
BME 302 - Mech Fund <b>U</b>	C in MATH 112, PHYS 121	3		BME 301 - Electrical Fund <b>U</b>	C in MATH 112, PHYS 121	3	
BME 210 Computing for BMEs	Sophomore standing	3		BME 304 - Material Fundamentals	C in PHYS111 and CHEM126 or CHEM 122	3	
BME 111 - Intro to Anatomy and	None	3		*Liberal Arts Literacy 3XX	VARIOUS	3	
*Liberal Arts Literacy 2XX	Hum 102	3					
		17				16	
3rd Year (Fall)				3rd Year (Spring)			
MATH 337 Linear Algebra	MATH 112	3		BME351 - Intro to BioFluid Mech <b>S</b>	BME 302, MECH 236 and ( MECH 320 OR BME 321)	3	
MECH 236 Dynamics	MECH 234 or MECH 235, C in MECH 320 and MATH 112	2		BME382 Eng Mod Phys Sys	C in BME 111, BME 301, BME 302 and Math 222	3	
BME 321 Adv Mech for BME	C in BME302	3		BME384 Biomech Lab	BME 302, MECH 236, BME 321, (MATH 279 or MATH 333), (CS 101 or BNEO 135 or CS 115 or BME 210)	3	
*Sci or Eng Elective (1)		3		BME478 Intro CAD for Biomech	BME302 and (MECH 320 OR BME 321)	4	
*Liberal Arts Literacy 3XX	VARIOUS	3		MANAGEMENT (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	BME302, BME 210, & MATH 279 or 333	3		*Engineering Elective		3	
BME451 Biomechanics I <b>F</b>	MECH 236 and BME321	3		BME452 Mech. B&P of Biomat. <b>S</b>	BME302,304,321; MATH222, (MATH 279 or MATH 333)	3	
BME 495 Capstone Design I	BME 372 OR MTSE 301 OR (MECH 236 & BME321) or BME 386	2					
		14				12	
						<b>TOTAL DEGREE CREDITS</b>	<b>120</b>
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 Summer)

\* 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 approved electives are ENG340, ENG352, PHIL351, STS221 or STS352 and STS359