

BIOMEDICAL ENGINEERING CURRICULUM

BACHELOR OF SCIENCE IN BME - MEDICAL DEVICE & IMAGING 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 125A Chem Laboratory	None	1		BME 101- Freshman Seminar S		0	
ENGL 101	None	3		ENGL 102	ENGL 101	3	
Math 111 Calc I	None	4		Math 112 Calc II	MATH 111	4	
Phys 111 Physics I	coreq PHYS 111A, MATH 111	3		Phys 121 Physics II	PHYS 111, PHYS 111A, MATH 111 / coreq PHYS 121A	3	
Phys 111A Phys I Lab	coreq PHYS 111A	1		Phys 121A Phys. II Lab	MATH 112 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)			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		BME 303 - Biological Fundamentals	CHEM 126 or CHEM 121	3	
BME 301 - Electrical Fund U	MATH 112, PHYS 121	3		BME 302 - Mech 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 Phys	None	3		*Liberal Arts Literacy 3XX	VARIOUS	3	
*Liberal Arts Literacy 2XX	VARIOUS	3					
		17				16	
3rd Year (Fall)			Semester	3rd Year (Spring)			Semester
MATH 337 Linear Algebra	MATH 112	3		BME 372 Electronics Med Devices S	BME 211 and BME 301	3	
BME 333 Biomed Signals & Sys. F	BME 301, MATH222, (BME210 or BME310)	3		BME 383 Meas Lab Phys Sys U	BME 302, (BME 210 or BME 310), (MATH 279 or 333)	3	
BME 382 Eng Mod Phys Sys	BME111, BME301, BME302, MATH 222	3		*Engineering Elective (1)		3	
BME 386 Medical Device Lab F	BME210 and BME301	3		*Engineering Elective (2)		3	
*Liberal Arts Literacy 3XX	VARIOUS	3		Management GER - IE492	JUNIOR STANDING	3	
		15				15	
4th Year (Fall)			Semester	4th Year (Spring)			Semester
BME 495 Capstone Design I	BME 372 or MTSE 301 or MFEN 201 or (MECH 236 and MECH 320) or (MECH 236 and BME 321) or BME 386. Restrictions: Senior Standing.	2		BME 496 Capstone Design II	BME 495	3	
*Engineering Elective (3)		3		Capstone HSS 4XX	Senior Standing	3	
*Sci or Eng Elective (1)		3		BME 472 FDA Regulation of Medical Devices	BME 301.	3	
*Sci or Eng Elective (2)		3		*Sci or Eng Elective (3)		3	
BME 471 Med Imaging & Analysis	BME 301, (BME 210 or BME 310).	3				12	
		14					
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.