

# BIOMEDICAL ENGINEERING

Louisiana Tech University  
Curriculum as of 2022

Name \_\_\_\_\_

Date \_\_\_\_\_

CWID - - \_\_\_\_\_

Email \_\_\_\_\_@latech.edu

COURSE	PREREQUISITE	SCH	QTR	GRADE		
BIEN 202	MATH 241	1	F	R*		
203	MATH 241	2	Sp	R		
225	BIEN 203, ENGR 221, MATH 244	3	F	R*		
235	MEMT 201o	3	W	R*		
301	BIEN 202, ENGR 222, GPA≥2.0 MATH 241-245	3	W	R*		
321	BIEN 325o	1	W	R		
325	BISC 227, BIEN 225, PHYS 202, GPA > 2.0 MATH 241-245	3	W	R*		
401	BIEN 301, MATH 245	3	Sp	R*		
403	BIEN 401, 425	3	F	R*		
425	BIEN 325, MATH 245, STAT 405	3	Sp	R*		
430	BIEN 235, 301, ENGR 220	3	F	R*		
435	BIEN 403, 430, ENGL 303	1	W	R*		
490	ENGR 220, 221, 222 BIEN 401,425,STAT 405	2	F	R*		
491	BIEN 403, 430, 490, ENGL 303	2	W	R*		
492	BIEN 491, BIEN 435	2	Sp	R*		
BISC 225		3		*		
	BISC 225	3		*		
CHEM 101	CHEM 100 (or by placement)	2		*		
102	CHEM 101	2		*		
103	CHEM 100, 101o	1		*		
104	CHEM 103	1				
COMM 101	FYE 100 o	3				
ENGL 101		3				
102	ENGL 101	3				
303	ENGL 102	3				
ENGR 120	MATH 240o, CHEM 100o	2		*		
121	ENGR 120, MATH 241o, CHEM 101o	2		*		
122	ENGR 121, MATH 242o	2		*		
220	ENGR 122, MATH 242, PHYS 201	3		*		
221	ENGR 122, MATH 242, PHYS 201	3		*		
222	ENGR 122, MATH 242	3		*		
MATH 241	MATH 240	3		*		
242	MATH 241	3		*		
243	MATH 242	3		*		
244	MATH 243	3		*		
245	MATH 244	3		*		
MEEN 215	MEMT 201o	1				
MEMT 201	ENGR 122	2		*		
PHYS 201	MATH 241	3		*		
202	MATH 242, PHYS 201	3		*		
STAT 405	MATH 242	3		*		
<b>ELECTIVES</b>						
Art (ART 290, KINE 280, MUGN 290, or THTR 290)		3				
Directed Elective		3		R		
Directed Elective		3		R		
Directed Elective		3		R		
Directed Elective		3		R		
Humanity		3				
Humanity		3				
Social Science		3				
Social Science		3				
<b>TOTAL SEMESTER HOURS</b>		<b>128</b>				

SUBSTITUTIONS		
COURSE	SCH	GRADE
1		
2		
3		
4		
5		

ADDITIONAL COURSES		
COURSE	SCH	GRADE
1		
2		
3		
4		
5		

GPA
Rubric GPA
MATH 241-244 GPA

NOTES
* requires grade of "C" or higher
o credit or registration in
R course in rubric
1 Directed electives must be selected in consultation with advisor.
2 Petitions must be filed for substitutions.
3 A student must have a minimum 2.0 GPA on all hours pursued in courses designated: BIEN.

ADDITIONAL COMMENTS

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FRESHMAN YEAR								
Fall Quarter		Hr	Winter Quarter		Hr	Spring Quarter		Hr
ENGR 120	* Engineering Problem Solving I	2	ENGR 121	* Engineering Problem Solving II	2	ENGR 122	* Engineering Problem Solving III	2
MATH 240	* Precalculus	3	MATH 241	* Calculus I	3	MATH 242	* Calculus II	3
CHEM 100	* General Chemistry	2	CHEM 101	* General Chemistry	2	CHEM 102	* General Chemistry	2
COMM 101	Principles of Comm Studies	3	CHEM 103	* General Chemistry Lab	1	CHEM 104	* General Chemistry Lab	1
FYE 100	First Year Experience	1	ENGL 101	Freshman Composition I	3	PHYS 201	* Physics for Engr & Sci I	3
		11			11			11

SOPHOMORE YEAR								
Fall Quarter		Hr	Winter Quarter		Hr	Spring Quarter		Hr
BIEN 202	Biomed Principles I	1	BIEN 235	* Biomaterials	3	BIEN 203	* Biomed Principles II	2
ENGR 221‡	* Electrical Engineering & Circuits	3	ENGR 220‡	* Statics & Mechanics of Materials	3	ENGR 222‡	* Thermodynamics	3
MATH 243	* Calculus III	3	MATH 244	* Calculus IV	3	MATH 245	* Differential Equations	3
ENGL 102	* Freshman Composition II	3	MEMT 201	* Engineering Materials	2	BISC 225	* Human Anatomy & Physiology I	3
			MEEN 215	Engineering Materials Lab	1			
		10			12			11

JUNIOR YEAR								
Fall Quarter		Hr	Winter Quarter		Hr	Spring Quarter		Hr
BIEN 225	* Biomedical Signals and Systems	3	BIEN 301	* Fluid Mechanics & Energy Trans	3	BIEN 401	* Biomed Mass Transport	3
PHYS 202	* Physics for Engr & Sci II	3	BIEN 325	* Bioinstrumentation	3	BIEN 425	* Adv Biomed Instrument Systems	3
STAT 405	Statistics	3	BIEN 321	Biomedical Engr Animal Phys La	1	ENGL 303	Technical Writing	3
BISC 227	* Human Anatomy & Physiology II	3		Directed Elective◊	3		Humanity†	3
		12			10			12

SENIOR YEAR								
Fall Quarter		Hr	Winter Quarter		Hr	Spring Quarter		Hr
BIEN 490	Medical Device Design I	2	BIEN 491	* Medical Device Design II	2	BIEN 492	Medical Device Design III	2
BIEN 403	* Physiological Control Systems	3	BIEN 435	Senior Biomed Engineering Lab	1		Fine Arts Appreciation	3
BIEN 430	* Biomechanics	3		Directed Elective◊	3		Social Science**	3
Social Science**		3		Directed Elective◊	3		Directed Elective◊	3
				Humanity†	3			
		11			12			11

Neither MATH 240 nor CHEM 100 count towards the biomedical engineering degree.

\* requires grade of "C" or higher.

Courses in **bold** are typically offered only once per year.

‡ ENGR 220, 221, and 222 can be taken in any sequence. Students must complete ENGR 221 before they can take BIEN 225, and must complete ENGR 222 before they can take BIEN 301.

\*\*Social Science electives can be selected from Anthropology, Criminal Justice, Economics, Geography, International Studies, Political Science, Psychology, and Sociology.

†Humanities electives can be selected from Classical Studies, Communications, Foreign Languages, History, Literature, Philosophy, and Religious Studies.

◊Directed electives chosen in consultation with academic advisor.