

CURRICULUM IN BIOMEDICAL ENGINEERING & TEXTILE ENGINEERING: guidelines
(Degrees Earned: B.S. in Biomedical Engineering and Engineering and B.S. in Textile Engineering)

FRESHMAN YEAR	<u>credits</u>	<u>credits</u>
CH 101	Gen. Chem I 3	CH 221 Organic Chem I 3
CH 102 Gen. Chem I Lab	1	CH 222 Organic Chem Lab
ENG 101 Acad. Writing and Research	4	TE 105 TE Mat. Sys.
MA 141 Analy. Geom. & Calc. I	4	MA 241 Analy. Geom. & Calc. II
E 115 Intro computing environment	1	PY 205 Physics for Engr. & Sci.'s I
EC 205 Fund of Econ (HSS)	3	TE 110 Comp Mod Engr
E 101 Intro to engineering & Prob Sol	<u>1</u>	
	17	
		17

SOPHOMORE YEAR	<u>credits</u>	<u>credits</u>
PY 208 Phy. For Engr. and Sci.s II	4	BME 204 Biomed. Measurements
MA 242 Calculus III	4	TE 201 Textile Engineering Science
TE 200 Polymer Science & Engineering	3	TE 205 Analog Dig. Circ
MSE/BME 203 Intro Mat. Sci. Biomat.	3	BME 252 Eng. Design I
MAE 206 Engineering Statics	<u>3</u>	BIO 183 Intro. Biology II
or CE 214 Engr Statics	15	16

JUNIOR YEAR	<u>credits</u>	<i>(Study abroad option)</i>	<u>credits</u>
MA 341 Applied Diff. Equations	3	GEP Requirement	3
PE 1XX Fitness and Wellness	1	GEP Requirement	2-3
TE 301 <i>Engr Tex Struc I</i>	3	GEP Requirement	3
TE 303 <i>Thermodynamics for TEs</i>	3	GEP Requirement	<u>3</u>
MAE 208 Engin. Dynamics	<u>3</u>		11-12
or CE 215 Eng. Mech. – Dynamics			

SENIOR YEAR	<u>credits</u>	<u>credits</u>
BME 301 Human Phys. Eng. I	3	TE 302 Textile Mfg. Processes II
MAE 314 Solid Mechanics	3	BME 302 Human Phys. Eng. II
or CE 313 Mech of Solids		BME 352 Eng. Design II
ST 370 Prob. & Statistics For Engrs.	3	ENG 331 or 333 Adv. Writ. Spkg.
BME 311 Linear Systems in BME	3	PCC 471 Biopolymers

PE XXX	1	15
TE 463 Polymer Engineering	<u>3</u>	

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FIFTH YEAR	<u>credits</u>		<u>credits</u>
TE 401 or BME 451 Senior Design I	4 (3)	TE 402 or BME 452 Senior Design II	4 (3)
TE 466 Poly. Biomat. Eng.	3	TE 404 Six Sigma Quality	3
GEP Requirement	3	TE 424 Tex. Engr. Qual. Impr. Lab	1
GEP Requirement	<u>3</u>	TE/BME 467 Mech. of Tiss. Impl.	<u>3</u>
	13 (12)		11 (10)

Minimum total hours required for graduation – 149

Students graduating from this curriculum must demonstrate 102- level competency in a foreign language. A grade of C- or higher is required for: 101, C101, C102, ENG 101, MA 141, MA 241, PY 205. To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at: <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>. The following course substitutions apply to the TE degree: CH 221 for PCC 203, and BME 252 for GC 120. BME 252 is considered equivalent to GC120, so students may select any other course on the visual and performing arts list. The following course substitutions apply to the BME degree: TE 205 for BME 210, TE 303 for MAE 301, and TE 404 for BME Elective, and TE 110 for BME 201 (note: students will be required to use MATLAB skills that are NOT covered in TE 110 in future BME courses – there will be a series of online tutorials available). TE 466 and TE/BME 467 satisfy the TE Product Engineering restricted engineering electives. Students may select either the TE or BME senior design sequence, but must do a project that has a biomedical focus.