

## BME Major Checklist - Biomechanics

Year	Biomedical Engineering	Prerequisites
	BIOE 1100 (Intro. To BME)	BME major declaration
	BIOE 1397 (Comp. & Prob. Solving)	MATH 1431
	BIOE 3340 (Quantitative Physiology)	BIOL 1161, 1162, 1361, 1362, CHEM 3221, 3331, MATH 3321, MECE 3400, and credit for or concurrent enrollment in CHEE 2331, ECE 2100 & 2300
	BIOE 3350 (Biosensors)	CHEE 2331, ECE 2100/ 2300, and credit for or concurrent enrollment in BIOE 3440
	BIOE 3440 (Biotherm. & Biofluids)	BIOE 3340, ECE 2100, 2300, CHEE 2331, AND MECE 3400
	BIOE 4323 (Tissue Engineering)	BIOE 3440 & MATH 3321
	BIOE 4325 (Engineering Principles applied to Biological Systems)	BIOE 3440
	BIOE 4324 (Advanced Continuum Biomechanics)	Credit for or concurrent enrollment in BIOE 3440
	BIOE 5312 (Computational Fluid Dynamics)	BIOE 3440 and permission from instructor
	BIOE 5455/ 4455 (Bioanalytics I)	BCHS 3304, BIOE 3350, 3440, ENGI 2304, INDE 2333
	BIOE Elective	Varies by course
	BIOE Elective	Varies by course
	BIOE 4334 Capstone Design	ENGI 2304, INDE 2333, and BIOE 5455
Year	Math Courses	Pre-Requisites
	MATH 1431: Calculus 1	Placement Exam
	MATH 1432: Calculus 2	MATH 1431
	MATH 2433: Calculus 3	MATH 1432
	INDE 2333: Engineering Statistics	MATH 1432 & ECE 1331
	MATH 3321: Engineering Math	MATH 1432
Year	Biology	Pre-Requisites
	BIOL 1361 w/ 1161 (Biological Science w/ Lab)	MATH 1310 or equivalent
	BIOL 1362 w/ BIOL 1162	MATH 1310 or equivalent and BIOL 1361/1161
Year	Chemistry	Prerequisites
	CHEM 1331/ 1111 (Chemistry 1/ Fund. Of Chem Lab)	MATH 1330 equivalent & completion of chem placement test or CHEM 1301
	CHEM 1332/ 1112 (Chemistry II and Lab)	MATH 1330 or equivalent & CHEM 1331/1111

	CHEM 3331/ 3221 (Organic Chemistry/ Lab)	CHEM 1332
	CHEE 2331 (Chemical Processes)	BIOE 1397/1331 or ECE 1331, CHEM 1332, MATH 1432, & PHYS 1321
	BCHS 3304 (Biochemistry I)	CHEM 3331/ 3221
<b>Year</b>	<b>Physics</b>	<b>Prerequisites</b>
	PHYS 1321 (University Physics I)	MATH 1432
	PHYS 1322 (University Physics II)	PHYS 1321 & credit for or current enrollment in MATH 2433
<b>Year</b>	<b>Mechanical Engineering</b>	<b>Prerequisites</b>
	MECE 3400 (Intro to Mechanics)	PHYS 1321 & credit for or concurrent enrollment in MATH 3321
<b>Year</b>	<b>Electrical Engineering</b>	<b>Prerequisites</b>
	ECE 2300/ 2100 (Circuit Analysis/ Lab)	ECE 1100 & 1331, ENGL 1304, MATH 1432, PHYS 1321, & credit for or concurrent enrollment in MATH 2433, 3321, & PHYS 1322
<b>Year</b>	<b>Core Curriculum (Not Covered by Major)</b>	<b>Prerequisites</b>
	English 1303 or 1309 (Communication 3 Hrs.)	For 1303 - Score of 240 on the TASP Writing Test
	English 1304 or 1310 (Communication 3 Hrs)	1303 or 1309
	History 1376 or 1377 (American History 3 Hrs.)	NA
	History 1378 (American History 3 Hrs.)	NA
	POLS 1336 (Government 3 Hrs.)	NA
	POLS 1337 (Government 3 Hrs.)	NA
	Humanities - 3 Hrs.	NA
	Visual & Performing Arts (3 Hrs.)	
	ENGI 2304 (Technical Communication)	ENGL 1304 & Completion of one of the following: CHEE, ECE, MECE, INDE, or CIVE 1331
	Social & Behavioral Science (3 Hrs.)	

## Biomedical Engineering – Biomechanics Option Undergraduate Curriculum Flowchart 2012 – 2013

						Sem. Credit Hrs.		
1 <sup>st</sup> Semester (Fall)	ENGL 1303 or ENGL 1309 Fresh. Comp I	BIOE 1100 Intro. To BioE	BIOL 1361 Biological Science	BIOL 1161 Biological Science Lab.	MATH 1431 Calculus I	CHEM 1331 Chemistry I	CHEM 1111 Fund. of Chem Lab.	16
2 <sup>nd</sup> Semester (Spring)	BIOL 1362 Biological Science	BIOL 1162 Biological Science Lab.	BIOE 1397 Comp. and Prob. Solving	PHYS 1321 Univ. Phys. I	MATH 1432 Calculus II	CHEM 1332 Chemistry II	CHEM 1112 Fund. of Chem Lab.	18
3 <sup>rd</sup> Semester (Fall)	ENGL 1304 or ENGL 1310 Fresh. Comp II	POLS 1336 US & Texas Constitutions	PHYS 1322 Univ. Phys. II	MATH 2433 Calculus III	CHEM 3331 Organic Chemistry I	CHEM 3221 Fund. of Org. Chem Lab.	18	
4 <sup>th</sup> Semester (Spring)	MECE 3400 Intro to Mechanics	ECE 2300 Circuit Analysis	ECE 2100 Circuit Analysis Lab.	MATH 3321 Engineering Math	CHEE 2331 Chem. Process.	HIST 1377 US to 1877	17	
5 <sup>th</sup> Semester (Fall)	ENGI 2304 Technical Comm.	BIOE 3340 Quantitative Physiology	INDE 2333 Engr. Statistics	XXXX X3XX Visual and Perf. Arts Core	HIST 1378 US since 1877	15		
6 <sup>th</sup> Semester (Spring)	BIOE 3350 Biosensors	BIOE 3440 Biothermo & Biofluids	BIOE 4324 Adv. Ct. Biomech.	BCHS 3304 Biochem. I	POLS 1337 US Govt.	16		
7 <sup>th</sup> Semester (Fall)	BIOE Elective*	BIOE 4455 Bioanalytics I	BIOE 5312 Comp. Fluid Dynamics	BIOE 4323 Tissue Engr.	16			
8 <sup>th</sup> Semester (Spring)	BIOE Elective*	BIOE 4334^ Capstone Design	BIOE 4325 Bio. Systems	XXXX X3XX Humanities Core	XXXX X3XX Social Science Core	15		
Total Sem. Credit Hrs.						129		