

B.S. in BIOMEDICAL ENGINEERING
Suggested 4-Year Academic Flowchart

Updated 7/2/2019

FRESHMAN			SOPHOMORE			JUNIOR			SENIOR		
Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring
Introduction to the Biomedical Engineering Major BMED 101 (1)	Introduction to Biomedical Engineering Analysis BMED 102 (1) (BMED 101; MATH 141)		General Curriculum Engineering Design Communication ME 228 (2)¹	Introduction to Biomedical Engineering Design BMED 212 (3) (MATH 143)	General Curriculum Approved Support Elective (4)³	Biomedical Engineering Measurement and Analysis BMED 310 (4) (EE 201; CPE/CSC 101, CSC 231, 232, or 234)	Biomechanics BMED 410 (4) (CE 204 or 208; ME 212; BMED 310†)	Engineering Physiology BMED 460 (4) (BMED 310; BIO 231 232; or graduate standing)	Biomedical Engineering Transport BMED 425 (4) (ME 302; ME 341)	Biomedical Modeling and Simulation BMED 430 (2) (BMED 310)	General Curriculum Approved Technical Elective (300/400 level) (4)⁴
Calculus I MATH 141 (4) * [B1]	Calculus II MATH 142 (4) (MATH 141 w/min C-; [B1])	Calculus III MATH 143 (4) (MATH 142 w/min C-; [Add'l Area B])	Calculus IV MATH 241 (4) (MATH 143)	Linear Analysis I MATH 244 (4) (MATH 143)	Electric Circuit Theory EE 201 (3) (MATH 244; PHYS 133)	General Curriculum Mechanics of Materials II CE 207 (2)² (CE 204) or Electronics EE 321 (3)² (EE 201 or BRAE 216)	Principles of Biomaterials Design BMED 420 (4) (CE 204 or 208; MATE 210; BMED 310†)	General Curriculum Approved Support Elective (4)³	Biomedical Engineering Design I BMED 455 (4)⁵ (BMED 410)	Biomedical Engineering Design II: Senior Project BMED 456 (4)⁵ (BMED 455)	General Curriculum Approved Technical Elective (300/400 level) (4)⁴
	General Physics IA PHYS 141 (4) (MATH 141 w/min C-; MATH 142† or 182†) [Add'l Area B]	General Physics II PHYS 132 (4) (PHYS 131 or 141 or HNRS 131)	General Physics III PHYS 133 (4) (PHYS 131, HNRS 131, or PHYS 141; MATH 142, Recom: MATH 241)	Engineering Statics ME 211 (3) (MATH 241†; PHYS 131 or 141)	Engineering Dynamics ME 212 (3) (MATH 241; ME 211 or ARCE 211)	Materials Engineering MATE 210 (3) (CHEM 111 or 124 or 127, Recom: Concur MATE 215)	Choose one: Human Anatomy & Physiology I or II BIO 231 (5) or BIO 232 (5) (BIO 111 or 161; CHEM 110, 111, 124, 127, or PSC 102)	General Curriculum Approved Technical Elective (300/400 level) (4)⁴	Bioelectronics & Instrumentation BMED 440 (4) (BMED 310; EE 201)	Contemporary Issues in BMED BMED 450 (4) (Sr Standing)	
General Chemistry for Physical Science and Engineering I CHEM 124 (4) * [B3/B4]	General Chemistry for Physical Science and Engineering II CHEM 125 (4) (CHEM 124)	GE (4) **	Introduction to Cell & Molecular Biology BIO 161 (4) (Recom: CHEM 110, 111, 124, or 127) [B2/B4]	Programming for Engineering Students CSC 231 (2) (MATH 142; PHYS 121 or 131 or 141)	Mechanics of Materials I CE 204 (3) (ME 211)	Statistical Methods for Engineers STAT 312 (4) (MATH 142) [B6]	Thermodynamics I ME 302 (3) (ME 212; PHYS 132)	Fluid Mechanics ME 341 (3) (MATH 242 or 244; ME 212)	General Curriculum Approved Support Elective (4)³		GE (4) **
Expository Writing ENGL 133 or 134 (4)** [A1] Can be taken anytime during Freshman Year	Oral Communication COMS 101 or 102 (4)** [A2] Can be taken anytime during Freshman Year			GE (4) **	GE (4) **	GE (4) **				GE (4) **	GE (4) **
GE (4) **	Technical Writing for Engineers (Completion of GE A1 with a C- or better in Freshman Year) Can be taken anytime between Winter of Freshman and Winter of Sophomore Years		ENGL 149 (4) [A3] Recommended: Completion of GE A2 in Sophomore Years			Graduation Writing Requirement (Students can attempt to fulfill the requirement after completing the requirement before the senior year)		GWR* (Students can attempt to fulfill the requirement after completing the requirement before the senior year)		GE (4) **	GE (4) **
17	17	16	14	16	17	17-18	16	15	16	14	16
										TOTAL: 191-192	



Summer:
CEA Barcelona, Spain

Fall - Spring:
CSU IP Queretaro, Mexico



Summer:
TECNUN, Spain
CEA Barcelona, Spain



Summer:
Munich, Germany
TECNUN, Spain



Fall:
CEA Madrid, Spain
CEA Paris, France



Fall:
CEA Madrid, Spain
TECNUN, Spain



Spring:
Munich, Germany



Fall:
KTH, Sweden
Chalmers, Sweden
TECNUN, Spain



Spring:
Munich, Germany