Bachelor of Science in Biomedical Engineering *2018-2019*

Suggested Plan of Study – Freshman Admission

Course	CR	Course	Offered	Alt courses/Prerequisites and Corequisites
Term 1		*Fall*		
BME1008	1	Introduction to Biomedical Engineering	F, S	
BSC2010	**3**	**Integrated Principles of Biology 1**	F, S, Su	
BSC2010L	1	Integrated Principles of Biology 1 Lab	F, S, Su	Alt course: BSC2044L/ISC2400L (X-Lab 1)
CHM2045	**3**	**General Chemistry**	F, S, Su	Alt course: CHM2047/CHM2095
CHM2045L	1	General Chemistry Laboratory	F, S, Su	Alt course: CHM2047L/CHM2054L/ISC2400L (X-Lab 1)
IUF1000	3	What is the Good Life	F, S, Su	
MAC2311	**4**	**Analytic Geometry and Calculus 1**	F, S, Su	Alt course: Calculus AB or Calculus BC with a score of 3 or higher on AP exam
Term Credit	16			
Term 2		*Spring*		
CHM2046	**3**	**General Chemistry 2**	F, S, Su	Alt course: CHM2047/CHM2051/CHM2096
CHM2046L	1	General Chemistry 2 Lab	F, S, Su	Alt course: CHM2047L/CHM2054L/ISC2401L (X-Lab 2)
ENC1101	3	Expository and Argumentative Writing	F, S, Su	
MAC2312	**4**	**Analytic Geometry and Calculus 2**	F, S, Su	Prereq: MAC2311 or MAC3472 with min grade of C
PHY2048	**3**	**Physics with Calculus 1**	F, S, Su	Alt course: PHY2060
PHY2048L	1	Lab for Physics with Calculus 1	F, S, Su	Alt course: PHY2053L/PHY2064L/ISC2400L (X-Lab 1)
Term Credits	15			
Term 3		*Fall*		
CHM3217	4	Organic Chemistry/Biochemistry 1	F, S, Su	Alt course: CHM2210+CHM2211; Prereq: CHM2046, CHM2047 or CHM2051; CHM2046L or CHM2047L
COP2271	2	Computer Programming for Engineers (Matlab or C++)	F, S, Su	Alt course: COP3275/COP3502/others (with approval)
COP2271L	1	Computer Programming for Engineers Lab (same language)	F, S, Su	Alt course: COP3275/COP3502/others (with approval)
MAC2313	**4**	**Analytic Geometry and Calculus 3**	F, S, Su	Prereq: MAC2312, MAC2512 or MAC3473 with min grades of C
PHY2049	**3**	**Physics with Calculus 2**	F, S, Su	Alt course: PHY2061; Prereq: PHY2048
PHY2049L	1	Lab for Physics with Calculus 2	F, S, Su	Alt course: PHY2054L/PHY2064L/ISC2401L (X-Lab 2)
Term Credits	15			
Term 4		*Spring*		
BME3053C	2	Computer Applications for BME	F, S	Prereq: COP2271 and COP2271L or equivalent and MAC2312 with min grades of C
BME3060	**3**	**Biomedical Fundamentals**	F, S	Prereq: CHM2046 or CHM2096 and MAC2313 with min grades of C; Coreq: PHY2049, MAP2302, and BME1008
EEL3003	3	Elements of Electrical Engineering	F, S, Su	Prereq: MAC2313 and PHY2049
ENC3246	3	Professional Communication for Engineers	F, S, Su	Prereq: ENC1101 or ENC1102
MAP2302	**3**	**Elementary Differential Equations**	F, S, Su	Prereq: MAC2312, MAC2512 or MAC3473 with min grades of C
PCB3713C	**4**	**Cellular and Systems Physiology** (offered F beginning Fall 2020)	F, S	Prereq: BSC2010 and CHM2046, CHM2047, or CHM2096 and PHY2048 or PHY2060 with min grades of C; Coreq: PHY2049 or PHY2061
Term Credits	18			
Lower Div	**64**			

NOTE: BME is a limited access program. **Bold** courses are critical tracking and must be completed with a min 2.8 CT GPA, grade C or better, no more than 2 attempts.

Course	CR	Course	Offered	Alt courses/Prerequisites and Corequisites
Term 5		*Fall*		
BME3101	3	Biomedical Materials	F, S	Prereq: BME3060 with min grade of C and CHM3217 or CHM2210 and CHM2211
BME3508	3	Biosignals and Systems	F, S	Prereq: EEL3003 or EEL3111C and MAC2313 with min grades of C
BME4311	3	Molecular Biomedical Engineering	F, S	Prereq: BSC2010, CHM3217 or CHM2210, and PCB3713C with min grades of C
BME4503	3	Biomedical Instrumentation	F, S	Prereq: MAC2313, MAP2302, PHY2049, and EEL3003 or EEL3111C with min grades of C; Coreq: BME3508
BME4503L	1	Biomedical Instrumentation Lab	F, S	Prereq: MAC2313, MAP2302, PHY2049, and EEL3003 or EEL3111C with min grades of C; Coreq: BME3508 and BME4503
EGM2511	3	Engineering Mechanics: Statics	F, S, Su	Prereq: PHY2048; Coreq: MAC2313
Term Credits	16			
Term 6		*Spring*		
BME3012	3	Clinically-Inspired Engineering Design	F, S	Prereq: BME3060, PCB3713C, and ENC3246 with min grades of C and junior standing; Coreq: BME3101 and EGM2511
BME3323L	3	Cellular Engineering Lab	F, S	Prereq: PCB3713C or instructor permission; Coreq: BME4311 or instructor permission
BME4632	3	Biomedical Transport Phenomena	F, S	Prereq: BME3060 with min grade of C
BME Elective	3		Varies	
GenEd_S	3	State Core (Social and Behavioral Science)	F, S, Su	
STA3032	3	Engineering Statistics	F, S, Su	Prereq: MAC2311
Term Credits	18			
Term 7		*Fall*		
BME4409	3	Quantitative Physiology	F, S	Prereq: BME3060, PCB3713C, BME3508, and BME3053C with min grades of C
BME4531	3	Medical Imaging	F	Prereq: MAC2313, MAP2302, BME3508, BME3053C, and PHY2049 with min grades of C
BME4882	3	Senior Design, Professionalism and Ethics 1	F	Prereq: BME3012 and senior standing
BME Electives	6		Varies	
GenEd_S	3	State Core (Social and Behavioral Science)	F, S, Su	
Term Credits	18			
Term 8		*Spring*		
BME4621	3	Biomedical Thermodynamics and Kinetics	S	Prereq: CHM3217 or CHM2210 and CHM2211 with min grades of C, BME3060 and BME4311
BME4883	3	Senior Design, Professionalism and Ethics 2	S	Prereq: BME4882 and senior standing
BME Electives	6		Varies	
GedEd_H	3	State Core (Humanities)	F, S, Su	
Term Credits	15			
Upper Div	**67**			
BSBME	**131**			

BME Electives: A total of 15 credits of 3000/4000-level courses (9 credits of engineering electives, which must be selected from an approved list, and 6 credits technical electives, which must be 2000 level or higher with a letter grade assignment – S/U grades are not allowable).