Bachelor of Science in Biomedical Engineering

Effective Summer 2020

Semester I Total Credits: 18 Fall	Semester II Total Credits: 17 Spring	Semester III Total Credits: 17 Fall	Semester IV Total Credits: 15 Spring	Semester V Total Credits: 17 Fall	Semester VI Total Credits: 17 Spring	Semester VII Total Credits: 14 Fall	Semester VIII Total Credits: 13 Spring
MAC 2281/2311[1] Calculus I for Eng. (4)	MAC 2282/2312[1] Calculus II for Eng. (4)	MAC 2283/2313[1] Calculus III for Eng (4)	MAP 2302[1] Diff. Equations (3)	Engineering or Science Elective (3)	Engineering or Science Elective (3)	Engineering or Science Elective (3)	Engineering Elective (3)
CHM 1045[1] Gen. Chem. I (3)	PHY 2048[1] Phys. w/ Calc. I (4)	PHY 2049[1] Phys. w/ Calc. II (4)	ESI 3215 Eval of Eng'g Data (3) or (STA 3033) (3)	EGM 3503 Applied Mechanics (4) or EGN 3311 (3) & 3321 (3)	BME 3632 BME Transport (3)	Engineering Elective (3)	Engineering Elective (3)
CHM 1045L[1] Gen. Chem. I Lab (1)	PHY 2048L[1] Phys. w/ Calc. I Lab I (1)	PHY 2049L[1] Phys. w/ Calc. II Lab (1)					
BME 1008C Intro. To BME (2)	CHM 1046[1] Gen. Chem. II (3)	CHM 2210[1] Org. Chem. I (4)	BME 2740 BME Mod. & Sim. (3)	EEL 3110 Circuits Analysis (3)	BME 4503C Med. Inst. Design (4)	BME 4800C Des. Bio. Sys. & Dev. (4)	BME 4930[2] Undergrad Sem. (0)
	CHM 1046L[1] Gen. Chem. II Lab (1)	CHM 2210L[1] Org. Chem. I Lab (1)		EEL 3110L Circuits Analysis Lab (1)			
BSC 2010[1] Gen. Bio. I (3)			Humanities Group Two (3)		BME 4011 Clinical Rotation (1)	BME 4100 Biomaterials (3)	BME 4908 Sr. Des. Project (3)
BSC 2010L[1] Gen. Bio. I Lab (1)	BME 1054L BME Computing (1)	Humanities Group One (3)		BME 3403 Eng. Ana. Bio. Sys. I (3)	BME 3404 Eng. Ana. Bio. Sys. II (3)	BME 4050L BME Lab I (1)	BME 4051L BME Lab II (1)
SLS 1501 First Year Exper. (1)	ENC 1102 Writing & Rhet. II (3)		Social Science Group One (3)	BME 3721 BME Data Eval. Prin. (3)	Social Science Group Two (3)		Art (3)
ENC 1101 Writing & Rhet. I (3)							

[1]Minimum "C" or better in all Common Pre-requisites AND a combined GPA of a 2.5 in all Common Pre-requisites are required for graduation

[2]Student's must confirm attendance to ten BME approved seminars throughout the program in order to graduate

NOTE 1: Any student found to be taking any BME course without its prerequisite or co-requisite will be dropped from the course without a refund.

NOTE 2: Transfer and Change of Major students must have a "C" or better and a combined GPA of a 2.5 in the following courses: MAC 2311, CHM 1045/L, BSC 2010/L, and PHY 2048/L. Students must also have at least a 2.5 overall GPA to transfer or change majors to BME.

For Reference Only!
Total Credits for Major: 128
Check Catalog for complete details

Please see the other side for co-reqs & Pre-reqs for each course

Other Requirements (Must be completed for graduation):

FLENT/FLEX: _____   9 Summer Credit Hours: _____   UCC: _____   2.5 Prerequisite GPA: _____   Total Credits: ____ / 128

GL1: _____   GL2: ____   GRW1: _____   GRW2: ____   Civics Literacy: ____

Revised: March 2020

PREREQUISITES/COREQUISTES

THE COURSES MUST BE COMPLETED WITH COMBINED GPA OF A 2.5

MAC 2311 Calculus I (4)

Prereqs: MAC 1147 OR MAC 1140 & MAC 1114

MAC 2312 Calculus II (4)

Prereq: MAC 2311

MAC 2313 Multivariable Calculus (4)

Prereq: MAC 2312

MAP 2302 Differential Equations (3)

Prereq: MAC 2312

BSC 2010 General Biology I (3)

BSC 2010L General Biology I (1)

PHY 2048 Physics with Calculus I (4)

Prereq: MAC 2311

Coreq: PHY 2048L

PHY 2048L Physics with Calculus I Lab (1)

Coreq: PHY 2048

PHY 2049 Physics with Calculus II (4)

Prereqs: PHY 2048 & MAC 2312

PHY 2049L Physics with Calculus II Lab (1)

Coreq: PHY 2049

CHM 1045 General Chemistry I (3)

Coreq: CHM 1045L

CHM 1045L General Chemistry I Lab (1)

Coreq: CHM 1045

CHM 1046 General Chemistry II (3)

Prereqs: CHM 1045 & CHM 1045L

Coreq: CHM 1046L

CHM 1046L General Chemistry II Lab (1)

Coreq: CHM 1046

CHM 2210 Organic Chemistry I (4)

Prereqs: CHM 1046 & CHM 1046L

Coreq: CHM 2210L

CHM 2210L Organic Chemistry I Lab (1)

Coreq: CHM 2210

* ONLY GRADE "C" OR BETTER WILL BE ACCEPTED FOR THE ABOVE COURSES

GRADE OF "D" OR BETTER WILL BE ACCEPTED FOR BELOW COURSES

BME 1008C Introduction to BME (2)

BME 1054L BME Computing (1)

BME 2740 BME Modeling and Simulation (3)

Prereqs: BSC 2010 & BME 1054L

Coreqs: MAP 2302 & BME 1008C

ESI 3215 Evaluation of Engineering Data I (3)

Prereq: MAC 2312

STA 3033 Probability and Statistics (3)

Prereq: MAC 2312

BME 3721 BME Data Evaluation Principles (3)

*Prereq: STA 3033 **OR** ESI 3215*

BME 3403 Engineering Analysis of Bio Sys I (3)

Prereqs: BME 2740, PHY 2049 & CHM 2210

BME 3404 Engineering Analysis of Bio Sys II (3)

Prereq: BME 3403

EGM 3503 Applied Mechanics (4)

Prereqs: MAC 2312 & PHY 2048

EEL 3110 Circuit Analysis (3)

Prereqs: MAC 2312, PHY 2049, & BME1008C

Coreqs: MAP 2302, EEL 3110L

EEL 3110L Circuit Lab (1)

Prereq: PHY 2049L

Coreq: EEL 3110

BME 3632 BME Transport (3)

Prereqs: BME 2740, EGM 3503, CHM 1046, MAP 2302, PHY 2049 & MAC 2313

BME 4503C Medical Instrumentation (4)

Prereq: EEL 3110

BME 4011 Clinical Rotations for BME (1)

Prereq: BME 3403

BME 4100 Biomaterials (3)

Prereq: EGM 3503

Coreq: BME 3404

BME 4050L BME Lab I (1) (FALL ONLY)

Prereqs: BME 3721 & EEL 3110

Coreq: BME 4100, BME 3632

BME 4051L BME Lab II (1) (SPRING ONLY)

Prereqs: BME 3721 & EEL 3110

Coreq: BME 4100, BME 3632

BME 4800C Design of BME Systems and Devices (3)

Prereqs: BME 3404, BME 4503C, BME 3721 & BME 4011

Coreq: BME 3632

BME 4908 Senior Design Project (3)

Prereqs: BME 4800C

BME 4930 Undergraduate Seminar (0)

*The course is considered PASS or FAIL

**Students must enroll for the course

ENGINEERING ELECTIVES

BME 4562 Biomedical Optics (3) (Fall Only)
Prereqs: PHY 2049 & BME 3403
BME 4531 Medical Imaging (3) (Spring Only)
Prereqs: PHY 2049 & BME 2740
BME 4422 Biophysics of Neural Comp. (3) (Fall Only)
Prereqs: EEL 3110 & EEL 3110L
EEL 3135 Signals & Systems (3) (Varies by Dept.)
*Must email advisor to be enrolled
EEE 4510 Intro to Digital Syst. (3) (Varies by Dept.)
Prereq: EEL 3135
EEL 3657 Control Systems I (3) (Varies by Dept.)
Prereqs: EEL 3110 & EEL 3135
BME 4211 Orthopedic Biomech. (3) (Spring Only)
Prereq: BME 4100
BME 4260 Eng. Hemodynamics (3) (Spring Only)
Prereqs: BME 3632 & BME 3404
EGN 3365 Materials in Eng. (3) (Varies by Dept.)
Prereqs: CHM 1045, MAC 2311 & PHY 2048
EGM 3311 Analysis of Eng. Sys. (3) (Varies by Dept.)
*Must email advisor to be enrolled
EML 4804 Intro. to Mechatronics (3) (Varies by Dept.)
Prereq: EEL 3110 or EEL 3110L
BME 4311 Molecular Engineering (3) (Fall Only)
Prereq: BME 3403
BME 4332 Cell and Tissue Eng. (3) (Fall Only)
Prereqs: MAC 2313, BME 3632 & BME 4100
BME 4230 Biomech of Cardio. Syst (3) (Spring Only)
Prereq: BME 3632, BME 3404, BME 4100

SCIENCE ELECTIVES (ALLOWED 3 MAX)

CHM 2211 Organic Chemistry II (3) (Varies by Dept.)
Prereq: CHM 2210
Coreq: CHM 2211L
CHM 3120 Analytic Chemistry (3) (Varies by Dept.)
Prereqs: CHM 1046 & CHM 1046L
Coreq: CHM 3120L
BCH 3033 General Biochemistry (3) (Varies by Dept.)
Prereqs: CHM 2211 & BSC 2010
CHM 4304 Biological Chemistry I (3) (Varies by Dept.)
Prereqs: CHM 2211 & CHM 2211L
CHM 4307 Biological Chem. II (3) (Varies by Dept.)
Prereq: CHM 4304
PCB 3063 Genetics (3) (Varies by Dept.)
Prereq: BSC 2010
PCB 4023 Cell Biology (3) (Varies by Dept.)
Prereqs: PCB 3063 & CHM 1046
PCB 4233 Immunology (3) (Varies by Dept.)
Prereq: PCB 3063
MCB 3020 General Microbiology (3) (Varies by Dept.)
Prereqs: CHM 2210, CHM 2211, BSC 2010 & BSC 2011
ZOO 3753 Histology (3) (Varies by Dept.)
Prereqs: BSC 2010, CHM 2210 & CHM 2211