

Bachelor of Science in Biomedical Engineering

Effective Fall 23

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)	BME 2740 BME Mod. & Sim. (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)	ESI 3215 Eval of Eng'g Data (3) or (STA 3033) (3)	EEL 3110C Circuits Analysis and lab (4)	BME 4503C Med. Inst. Design (4)	BME 4800C Des. Bio. Sys. & Dev. (4)	BME 4930 ² Undergrad Sem. (0)
BME 1008C Intro. To BME (2)	CHM 1046 ¹ Gen. Chem. II (3)	CHM 2210 ¹ Org. Chem. I (4)	Humanities Group Two (3)	BME 3403 Eng. Ana. Bio. Sys. I (3)	BME 4011 Clinical Rotation (1)	BME 4100 Biomaterials (3)	BME 4908 Sr. Des. Project (3)
BSC 2010 ¹ Gen. Bio. I (3)	CHM 1046L ¹ Gen. Chem. II Lab (1)	CHM 2210L ¹ Org. Chem. I Lab (1)	Social Science Group One (3)	BME 3721 BME Data Eval. Prin. (3)	BME 3404 Eng. Ana. Bio. Sys. II (3)	BME 4050L BME Lab I (1)	BME 4051L BME Lab II (1)
BSC 2010L ¹ Gen. Bio. I Lab (1)	BME 1054L BME Computing (1)	Humanities Group One (3)					
SLS 1501 First Year Exper. (1)	ENC 1102 Writing & Rhet. II (3)				Social Science Group Two (3)		Art (3)
ENC 1101 Writing & Rhet. I (3)							

¹Minimum "C" or better in all Common Pre-requisites

²Student'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 in the following courses: MAC 2311, CHM 1045/L, BSC 2010/L, and PHY 2048/L. Students must also have at least a 2.0 overall GPA to transfer or change majors to BME.

NOTE 3: Academic Progression Standards - Students who do not pass common prereqs after 2 attempts will be advised to change their major into an area where they can be successful. Drops after the add/drop period, which result in a DR grade, are considered an attempt in the course and count as an unsuccessful enrollment.

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: _____ Civics Literacy Exam: _____ Total Credits: _____ / 128
GL1: _____ GL2: _____ GRW1: _____ GRW2: _____ Civics Literacy: _____

Revised: Fall 2023

PREREQUISITES/COREQUISITES

THE COURSES MUST BE COMPLETED WITH COMBINED GPA OF A 2.0

- 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
- ESI 3215 Evaluation of Engineering Data I (3)**
Prereq: MAC 2312
- STA 3033 Probability and Statistics (3)**
Prereq: MAC 2312

* 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)**
Prereq: BSC 2010 & BME 1054L
Coreqs: MAP 2302 & BME 1008C
- BME 3721 BME Data Evaluation Principles (3)**
Prereq: STA 3033 OR ESI 3215
- BME 3403 Engineering Analysis of Bio Sys I (3)**
Prereqs: PHY 2049 & CHM 2210
Coreq: BME 2740
- BME 3404 Engineering Analysis of Bio Sys II (3)**
Prereq: BME 3403
- EGM 3503 Applied Mechanics (4)**
Prereqs: MAC 2312 & PHY 2048
- EEL 3110C Circuit Analysis & Lab (4)**
Prereqs: MAC 2312, PHY 2049L
Coreqs: MAP 2302 & BME 1008C
- 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 3110C
- 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) (SUMMER & FALL ONLY)**
Prereqs: BME 3721 & EEL 3110C
Coreqs: BME 4100, BME 3632
- BME 4051L BME Lab II (1) (SPRING ONLY)**
Prereqs: BME 3721 & EEL 3110C
Coreqs: 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)**
Prereq: 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)**
Prereq: EEL 3110C
- EEL 3135 Signals & Systems (3) (Varies by Dept.)**
Prereq: BME 2740
Coreq: MAP 2302
- EEE 4510 Intro to Digital Syst. (3) (Varies by Dept.)**
Prereq: EEL 3135
- EEL 3657 Control Systems I (3) (Varies by Dept.)**
Prereqs: EEL 3110C & EEL 3135
- EEE 4393C Wearable Electronics (3) (Fall Only)**
Prereq: EEL 3110C
- 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.)**
Prereqs: MAC 2312 & BME 2740
- EML 4804 Intro. to Mechatronics (3) (Varies by Dept.)**
Prereq: EEL 3110C
- EML 3036 Sim. Soft. of Eng. Sys. (3) (Varies by Dept.)**
With permission of the instructor
- 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.)**
Prereqs: 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