

Bachelor of Science in Biomedical Engineering

Effective Fall 2025

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: 14 Spring	Semester VII Total Credits: 17 Fall	Semester VIII Total Credits: 13 Spring
MAC 2281/2311¹ Calculus I for Eng. (4)	MAC 2282/2312¹ Calculus II for Eng. (4)	MAC 2283/2313¹ Calculus III for Eng (4)	MAP 2302¹ Diff. Equations (3)	EGM 3503 Applied Mechanics (4) or EGN 3311 (3) & 3321 (3)	Engineering or Science Elective (3)	Engineering or Science Elective (3)	Engineering Elective (3)
CHM 1045¹ Gen. Chem. I (3)	PHY 2048¹ Phys. w/ Calc. I (4)	PHY 2049¹ Phys. w/ Calc. II (4)	BME 2740 BME Mod. & Sim. (3)	EEL 3110C Circuits Analysis and lab (4)	BME 3632 BME Transport (3)	Engineering Elective (3)	Engineering Elective (3)
CHM 1045L¹ Gen. Chem. I Lab (1)	PHY 2048L¹ Phys. w/ Calc. I Lab I (1)	PHY 2049L¹ Phys. w/ Calc. II Lab (1)	ESI 3215 Eval of Eng'g Data (3) or (STA 3033) (3)	BME 3403 Eng. Ana. Bio. Sys. I (3)	BME 4503C Med. Inst. Design (4)	BME 4800C Des. Bio. Sys. & Dev. (4)	BME 4930² Undergrad Sem. (0)
BME 1008C Intro. To BME (2)	CHM 1046¹ Gen. Chem. II (3)	CHM 2210¹ Org. Chem. I (4)	Social Science Group One (3)	BME 3721 BME Data Eval. Prin. (3)	BME 4011 Clinical Rotation (1)	BME 4100 Biomaterials (3)	BME 4908 Sr. Des. Project (3)
BSC 2010¹ Gen. Bio. I (3)	CHM 1046L¹ Gen. Chem. II Lab (1)	CHM 2210L¹ Org. Chem. I Lab (1)	Humanities Group One (3)	Humanities Group Two (3)	BME 3404 Eng. Ana. Bio. Sys. II (3)	BME 4050L BME Lab I (1)	BME 4051L BME Lab II (1)
BSC 2010L¹ Gen. Bio. I Lab (1)	BME 1054L BME Computing (1)	ENC 1102 Writing & Rhet. II (3)					
SLS 1501 First Year Exper. (1)	BME 2810 Intro. to BME Design (3)					Social Science Group Two (3)	SPC 2608 (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: ____ Student Choice: ____ GRW1: ____ GRW2: ____ Civics Literacy: ____

Revised: Fall 2025

PREREQUISITES/COREQUISTES

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 2810 Intro. to BME Design (3)

Prereq: 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 2049/L

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

EML 4561 Intro. to Electr. Pckgng (3) (Varies by Dept.)

Prereq: EEL 3110C

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