### BIOMATERIALS & BIOMECHANICS
**Bachelor of Science in Biomedical Engineering**

**Semester I / Fall**
- Total Credits: 18

**MAC 2281/2311**
Calculus I for Eng. (4)

**CHM 1045**
Gen. Chem. I (3)

**BME 1008C**
Intro. To BME (2)

**BSC 2010**
Gen. Bio I (3)

**SLS 1501**
First Year Exper. (1)

**ENC 1101**
Writing & Rhet. I (3)

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**Semester II / Spring**
- Total Credits: 17

**MAC 2282/2312**
Calculus II for Eng. (4)

**PHY 2048**
Physics I w/ Calc. (4)

**CHM 1046**
Gen. Chem. II Lab (1)

**BME 1054L**
BME Computing (1)

**ENC 1102**
Writing & Rhet II (3)

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**Semester III / Fall**
- Total Credits: 17

**MAC 2283/2313**
Calculus III for Eng (4)

**PHY 2049**
Phys. w/ Calc. II (4)

**CHM 2210**
Org. Chem. I (4)

**BME 1054**
BME Computing (1)

**Social Science**
Group One (3)

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**Semester IV / Spring**
- Total Credits: 15

**MAP 2302**
Diff. Equations (3)

**CHM 2210L**
Org. Chem. I Lab (1)

**Humanities**
Group Two (3)

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**Semester V / Fall**
- Total Credits: 17

**EGM 3503**
Applied Mechanics (4)

**PHY 2049L**
Phys. w/ Calc. Lab I (1)

**CHM 2210L**
Org. Chem. I Lab (1)

**Social Science**
Group Two (3)

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**Semester VI / Spring**
- Total Credits: 17

**UCC**
Art (3)

**BME 4260**
Eng. Hemodynamics (3)

**CHM 1045L**
Gen. Chem. I Lab (1)

**BME 4211**
Orthopedic Biomech. (3)

**SLS 1501**
First Year Exper. (1)

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**Semester VII / Fall**
- Total Credits: 14

**EGN 3365**
Materials in Eng. (3)

**BME 4050L**
BME Lab I (1)

**BME 4050**
BME Lab II (1)

**BME 4051L**
BME Lab II (1)

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**Semester VIII / Spring**
- Total Credits: 13

**EMG 3311**
Analysis of Eng. Syst. (3)

**BME 4230**
Biomach. of Cardio Syst. (3)

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**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:** ______

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**For Reference Only**
- Check Catalog for complete details
- Total Credits for Major: 128
- Please see next page for co-reqs & pre-reqs for each course

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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 Students 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.
COURSES MUST BE COMPLETED WITH COMBINED GPA OF 2.5
ONLY "C" OR BETTER WILL BE ACCEPTED FOR THESE COURSES

MAC 2311 Calculus I (4)
Precepts: MAC 1147 OR MAC 1140 & MAC 1114
MAC 2312 Calculus II (4)
Precept: MAC 2311
MAC 2313 Multivariable Calculus (4)
Precept: MAC 2312
MAP 2302 Differential Equations (3)
Precept: MAC 2312
BSC 2010 General Biology (3)
BSC 2010L General Biology I (1)
PHY 2048 Physics with Calculus I (4)
Precept: MAC 2311
Coreq: PHY 2048L
PHY 2048L Physics with Calculus I Lab (1)
Coreq: PHY 2048
PHY 2049 Physics with Calculus II (4)
Precepts: 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 1046 General Chemistry II (3)
Coreq: CHM 1045
CHM 2210 Organic Chemistry I (4)
Precepts: CHM 1046 & CHM 1046L
Coreq: CHM 2210L
CHM 2210L Organic Chemistry I Lab (1)
Coreq: CHM 2210

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

BME 100BC Introduction to BME (2)
Precepts: PHY 2049 & BME 3403
BME 1054L BME Computing (1)
BME 2740 BME Modeling and Simulation (3)
Precepts: BSC 2010 & BME 1054L
Coreq: MAP 2302 & BME 100BC
ESI 3215 Evaluation of Engineering Data I (3)
Precept: MAC 2312
STA 3033 Probability and Statistics (3)
Precept: MAC 2312
BME 3721 BME Data Evaluation Principles (3)
Precept: STA 3033 OR ESI 3215
BME 3403 Engineering Analysis of Bio Sys I (3)
Precepts: PHY 2049 & CHM 2210, BME 2740
BME 3404 Engineering Analysis of Bio Sys II (3)
Precept: BME 3403
EGM 3503 Applied Mechanics (4)
Precepts: MAC 2312 & PHY 2048
EEL 3110C Circuit Analysis & Lab (4)
Precepts: MAC 2312, PHY 2049, PHY 2049L & BME 100BC
Precept: MAP 2302
BME 3632 BME Transport (3)
Precepts: BME 2740, EGM 3503, CHM 1046, MAP 2302,
PHY 2049 & MAC 2313
BME 4503C Medical Instrumentation (4)
Precept: EEL 3110C
BME 4011 Clinical Rotations for BME (1)
Precept: BME 3403
BME 4100 Biomaterials (3)
Precept: EGM 3503
BME 4050L BME Lab I (1) [Fall Only]
Precepts: BME 3721 & EEL 3110C
Coreq: BME 4000, BME 3632
BME 4051L BME Lab II (1) [Spring Only]
Precepts: BME 3721 & EEL 3110C
Coreq: BME 4000, BME 3632
BME 4800 Design of BME Systems and Devices (3)
Precepts: BME 3404, BME 4503C, BME 3721 & BME 4011
Coreq: BME 3632
BME 4908 Senior Design Project (3)
Precepts: BME 4050C
BME 4930 Undergraduate Seminar (0)
*The course is considered NSG or NSL
**Students must enroll for the course

ENGINEERING ELECTIVES

BME 4502 Biomedical Optics (3) [Fall Only]
Precepts: PHY 2049 & BME 3403
BME 4531 Medical Imaging (3) [Spring Only]
Precepts: PHY 2049 & BME 2740
BME 4622 Biophysics of Neural Comp. (3) [Fall Only]
Precepts: EEL 3110C
EEL 3135 Signals & Systems (3) [Varies by Dept.]*Must email advisor to be enrolled
ECE 4510 Intro to Digital Syst. (3) [Varies by Dept.] (Varies by Dept.)
ECE 3135
ECE 3657 Control Systems I (3) [Varies by Dept.]
Precepts: EEL 3110C & EEL 3135
BME 4211 Orthopedic Biomech. (3) [Spring Only]
BME 4260 Eng. Hemodynamics (3) [Spring Only]
Precepts: BME 3632 & BME 3404
EGN 3365 Materials in Eng. (3) [Varies by Dept.]
Precepts: CHM 1045, MAC 2313 & PHY 2048
EGM 3311 Analysis of Eng. Sys. (3) [Varies by Dept.]*Must email advisor to be enrolled
EME 4804 Intro. to Mechatronics (3) [Varies by Dept.]
Precepts: EEL 3110C
BME 4311 Molecular Engineering (3) [Fall Only]
Precept: BME 3403
BME 4332 Cell and Tissue Eng. (3) [Fall Only]
Precepts: MAC 2313, BME 3632 & BME 4100
BME 4230 Biomechan of Cardio. Syst (3) [Spring Only]
Precepts: BME 3632, BME 3404, BME 4100

SCIENCE ELECTIVES (ALLOWED 3 MAX)

CHM 2211 Organic Chemistry III (3) [Varies by Dept.]
Precepts: CHM 2210, | Coreq: CHM 221L
CHM 3120 Analytic Chemistry (3) [Varies by Dept.]
Precepts: CHM 1046 & CHM 1046L | Coreq: CHM 3120L
BCN 3033 General Biochemistry (3) [Varies by Dept.]
Precepts: CHM 2211 & BSC 2010L
CHM 4304 Biological Chemistry I (3) [Varies by Dept.]
Precepts: CHM 2211 & CHM 2211L
CHM 4307 Biological Chemistry II (3) [Varies by Dept.]
Precepts: CHM 4304
PCB 3636 Genetics (3) [Varies by Dept.]
Precepts: BSC 2010
PCB 4023 Cell Biology (3) [Varies by Dept.]
Precepts: PCB 3063 & CHM 1046
PCB 4233 Immunology (3) [Varies by Dept.]
Precepts: PCB 3063
MCB 3020 General Microbiology (3) [Varies by Dept.]
Precepts: CHM 2210, CHM 2211, BSC 2010 & BSC 211L
ZOO 3753 Histology (3) [Varies by Dept.]
Precepts: BSC 2010, CHM 2210 & CHM 2211

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Revised: July 2021