

School of Engineering and Engineering Technology
ELECTRICAL & COMPUTER ENGINEERING, B.S.
BIOMEDICAL CONCENTRATION
ECEN.BIOM/ECBM
2025-26
SUGGESTED COURSE SEQUENCE

First Semester - Fall			
17 Hours			
___	BIBL	1033	3 Biblical Literature
___	CHEM	1111	1 General Chemistry I Lab
___	CHEM	1113	3 General Chemistry I
___	ENGL	1013	3 English Composition I
___	ENGR	1513	3 Intro to Engineering Practice I (Fall only)
___	LETU	1101	1 Cornerstones of Life & Learning
___	MATH	1903	3 Calculus I ⁽¹⁾

Second Semester - Spring			
17 Hours			
___	COMM	1113	3 Intro to Speech Communication
___	ENGL	1023	3 English Composition II
___	ENGR	1311	1 Manufacturing Processes Lab
___	ENGR	1523	3 Intro to Engineering Practice II (Spring only)
___	MATH	2013	3 Calculus II ⁽¹⁾
___	PHYS	2011	1 University Physics I Lab (Spring only)
___	PHYS	2013	3 University Physics I (Spring only)

Third Semester - Fall			
15 Hours			
___	BIOL	2011	1 Human Anatomy & Physiol. I Lab (Fall only)
___	BIOL	2013	3 Hum. Anatomy & Physiol. I (Fall only)
___	COSC	1303	3 Computer Science I
___	EEGR	2051	1 Circuits & Measurements Lab ⁽¹⁾
___	EEGR	2053	3 Electric Circuits ⁽¹⁾
___	ENGR	2704	4 Project Mgmt, Design & Entrepren

Fourth Semester - Spring			
16 Hours			
___	BIOL	2021	1 Human Anatomy & Physiol. II Lab (Spring only)
___	BIOL	2023	3 Hum. Anatomy & Physiol. II (Spring only)
___	EEGR	2163	3 Advanced Circuits (Spring only) ⁽¹⁾
___	ENGR	2023	3 Intro to Mechanics ⁽¹⁾
___	ENGR	2400	0 Sophomore Design Seminar (Spring only)
___	MATH	2203	3 Differential Equations
___	THEO	2043	3 Biblical Theology for the Christian Life

Fifth Semester - Fall			
15 Hours			
___	BEGR	3133	3 Bioinstrumentation (Fall only)
___	BEGR	3614	4 Musculoskeletal Biomechanics (Fall only)
___	BEGR	3811	1 Jr Biomedical Engr. Research I (Fall only)
___	EEGR	3213	3 Digital Electronics
___	PHYS	2021	1 University Physics II Lab (Fall only)
___	PHYS	2023	3 University Physics II (Fall only)

Sixth Semester - Spring			
17 Hours			
___	BEGR	3423	3 Biosignal Analysis (Spring only)
___	BEGR	4213	3 Biological Control Systems (Spring only)
___	BEGR	3822	2 Jr Biomedical Engr. Research II (Spring only)
___	BUSI	3023	3 Entrepreneurship for Engineers ⁽³⁾
___	EEGR	3233	3 Intro to Microcontrollers (Spring only) ⁽²⁾
___	MATH	3403	3 Statistics

Seventh Semester - Fall			
15 Hours			
___	BIBL		3 Biblical Engagement Elective
___	ENGR	4813	3 Senior Design I (Fall only)
___			3 Civic Engagement Elective
___			3 Math Elective ⁽⁴⁾
___			3 Technical Elective ⁽⁵⁾

Eighth Semester - Spring			
15 Hours			
___	ENGR	4823	3 Senior Design II (Spring only)
___	MATH	2003	3 Discrete Mathematics
___	THEO		3 Theological Engagement Elective
___			3 Civic Engagement Elective
___			3 Humanities & Fine Arts Elective

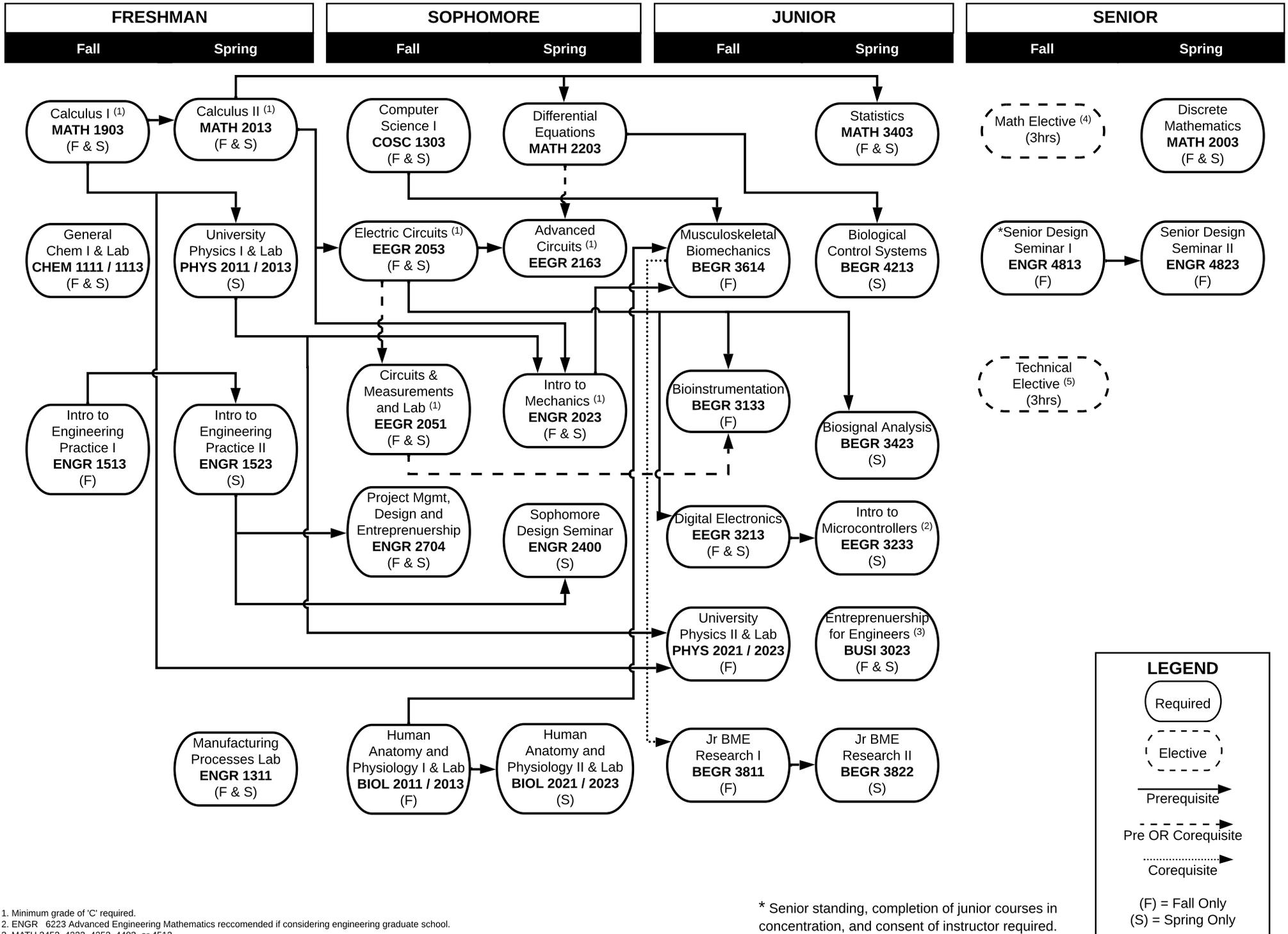
TOTAL HOURS 127

rev 4/22/2025

- 1: Minimum grade of 'C' required.
- 2: EEGR 4233 Introduction to Microprocessors and Microcomputers (Fall) may be substituted for EEGR 3233.
- 3: ENGR 6223 Advanced Engineering Mathematics recommended if considering engineering graduate school.
- 4: MATH 2303 or 4403.
- 5: Any 3000+ BEGR, EEGR, ENGR, MEGR, MJEG, COSC course, or one of the courses listed below:
 - COSC 2103 Computer Science II
 - DSTC 3433 Solid Modeling
 - EEGR 3243 Electronics and Lab
 - EEGR 3523 Mechatronics
 - EEGR 4900-4993 Special Topics Course (available courses will vary by semester)
 - ENGR 2313 Materials Engineering
 - ENGR 4951 Junior Design Project I (1 hour)
 - ENGR 4952 Junior Design Project II (2 hours)
 - MCHR 4413 Robotics

Special topics courses offered by the School of Engineering will be evaluated on a course-by-course basis as to their suitability for the Technical Elective credit. Students should discuss eligibility of the course before enrolling.

NOTE: Not all of the courses listed above are 3 credit hours. It is up to you as the student to ensure you have at least 3 hours total credit for your technical electives.



1. Minimum grade of 'C' required.
 2. ENGR 6223 Advanced Engineering Mathematics recommended if considering engineering graduate school.
 3. MATH 3453, 4233, 4253, 4403, or 4513
 4. COSC 3303 Computer Architecture (Spring only) or COSC 3503 Operating Systems (Spring only) may be substituted for COSC 3603
 5. Any 3000+ BEGR, EEGR, ENGR, MEGR, MJEG, COSC course, or one of the courses listed on the approved elective list.

* Senior standing, completion of junior courses in concentration, and consent of instructor required.