School of Engineering and Engineering Technology

Mechanical Engineering, B.S.

MECHANICAL ENGINEERING - Optional Biomechanics Focus (MEGR/BSME)

2026-27

COURSE SEQUENCE

Note: The standard Mechanical Engineering course sequence, including the optional Aerospace Focus, are on a separate course sequence sheet.

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 Engr Practice I (Fall Only)
____	LETU	1101	1	Cornerstones of Life and Learning
____	MATH	1903	3	Calculus I [1]

Second Semester - Spring				
		17		
____	ENGL	1023	3	English Composition II
____	ENGR	1311	1	Manufacturing Processes Lab
____	ENGR	1523	3	Intro to Engr 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)
____	THEO	2043	3	Biblical Theology for Life

Third Semester - Fall				
		17		
____	COSC	1503	3	Intro to Computing
____	ENGR	2704	4	Proj. Mgmt, Design & Entrepren
____	MATH	2023	3	Calculus III
____	MEGR	2013	3	Statics [1]
____	PHYS	2021	1	University Physics II Lab (Fall Only)
____	PHYS	2023	3	University Physics II (Fall Only)

Fourth Semester - Spring				
		18		
____	COMM	1113	3	Introduction to Speech Communication
____	ENGR	2053	3	Introduction to Electric Circuits [2]
____	ENGR	2401	1	Sophomore Engineering Seminar (Spring Only)
____	MATH	2203	3	Differential Equations
____	MEGR	2023	3	Dynamics [1]
____	MEGR	2122	2	Fund.of Instrumentation w/ Lab
____	MEGR	3323	3	Mechanics of Materials

Fifth Semester - Fall				
		16		
____	BIBL	_____	3	Biblical Engagement Elective [3]
____	BIOL	2011	1	Human A & P I Lab (Fall Only)
____	BIOL	2013	3	Human A & P I (Fall Only)
____	MATH	3403	3	Statistics
____	MEGR	4443	3	Machine Design (Fall Only)
____	MEGR	3713	3	Thermodynamics

Sixth Semester - Spring				
		15		
____	MATH	2303	3	Linear Algebra
____	ENGR	2013	3	Materials Engineering
____	MEGR	3133	3	Mechanical Test Methods w/ Lab (Spring Only)
____	MEGR	3513	3	Fluid Mechanics
_____			3	Civic Engagement Elective [3]

Seventh Semester - Fall				
		14		
____	ENGR	4813	3	Senior Design I
____	BEGR	3614	4	Muscular Skeletal Biomechanics (Fall Only)
____	MEGR	4723	3	Heat Transfer (Fall Only)
____	BEGR	3811	1	Jr. Biomedical Engr. Research (Fall Only)
____	MEGR	4423	3	Mechanical Vibrations (Fall Only)[4]

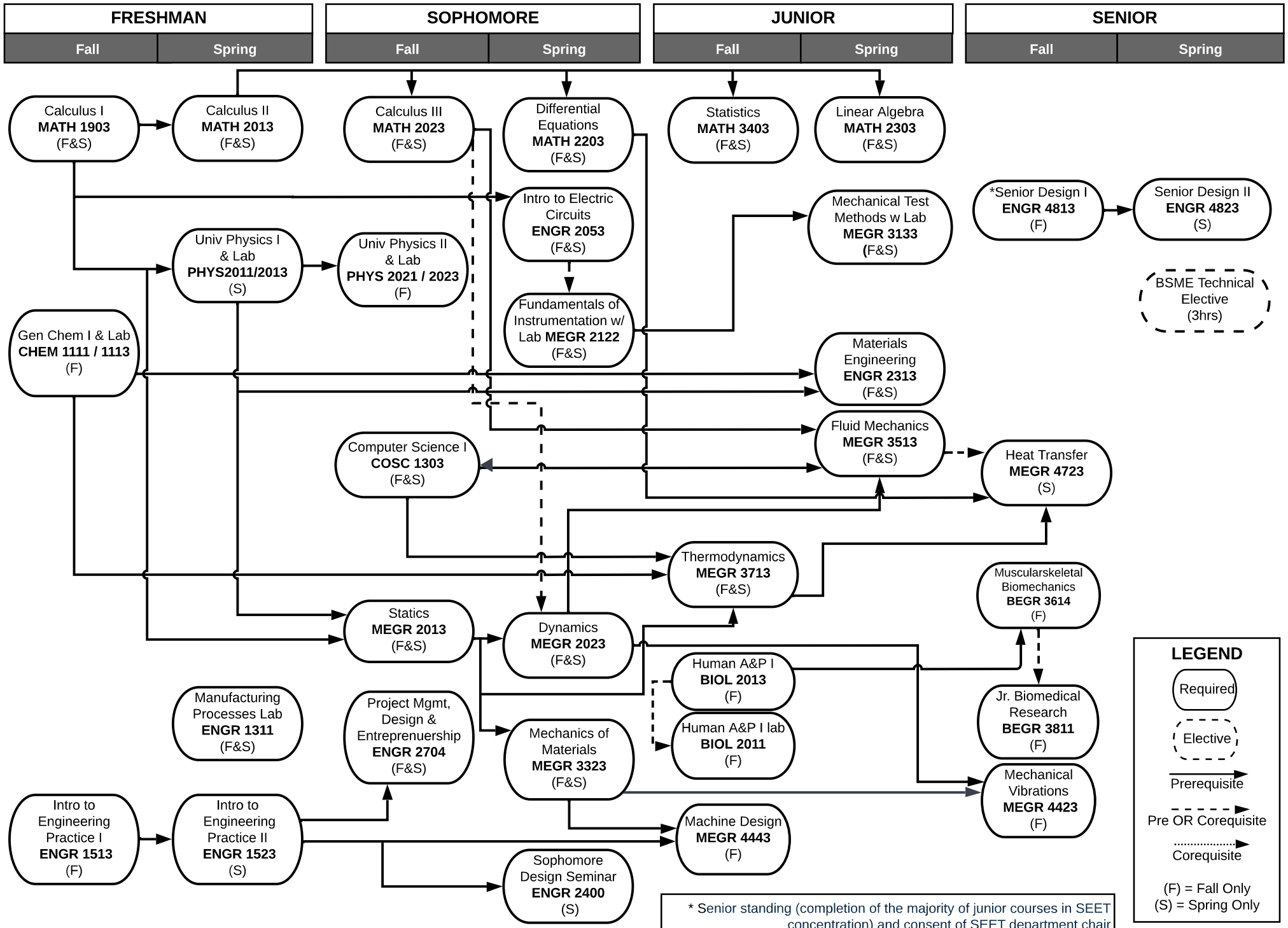
Eighth Semester - Spring				
		15		
____	ENGR	4823	3	Senior Design II
____	MEGR	_____	3	BSME Technical Elective [3]
____	THEO	_____	3	Theological Engagement Elective [3]
_____			3	Humanites and Fine Arts Elective [3]
_____			3	Civic Engagement Elective [3]

TOTAL HOURS 129

1. Minimum grade of C is required.
2. EEGR 2053 may be subtituted for ENGR 2053
3. See approved list available in Engineering Office or LETU Website
4. EEGR 3523 Mechatronics may be substituted for MEGR 4423 Mechanical Vibrations - pre-requisite is EEGR 3213 Digital Electronics

rev 9/29/2026

BSME **Technical Course Sequence - Mechanical Engineering (Optional Biomechanics Focus)** **2026-2027**



School of Engineering and Engineering Technology

Mechanical Engineering, B.S.

Mechanical Engineering – Biomechanics Focus

(MEGR/BSME)

2026-27

APPROVED ELECTIVES LIST

Note: Students must check that they meet any specified prerequisites for their selected electives.

GENERAL EDUCATION, THEOLOGY, AND VOCATION ELECTIVES

BIBLICAL ENGAGEMENT ELECTIVES:

Any BIBL numbered 2000 or above

CIVIC ENGAGEMENT ELECTIVES:

Any ECON, HIST, INTL, POLS, or CRIJ

HUMANITIES AND FINE ARTS ELECTIVES (Formerly Ingenuity Electives):

Cross-Cultural (CCLT 3203 only)
Fine Arts (HUMA)
Literature (All ENGL 2000-level or above courses **except** ENGL 2603, ENGL 3213, ENGL 3223, ENGL 3931, ENGL 4923, and ENGL 4933)
Philosophy (PHIL)
Music (MUSIC)
Foreign Language

THEOLOGICAL ENGAGEMENT ELECTIVES:

2000-level or above BIBL
CCLT 3103 – Cultural Anthropology
CCLT 3203 – Religions of the World
CCLT 4103 – Biblical & Strategic Paradigms for Missions
CMIN 3303 – Evangelism and Discipleship
CMIN 3403 – Ministry of Teaching
THEO 3003 – History of the Church
THEO 3063 – Christian Ethics
THEO 3103 – Christian Doctrine
THEO 3133 – The History of Christian Thought
THEO 3203 – Christian Apologetics
THEO 4941-4993 – Special Topics classes that engage Theology and specific disciplines.

MATH ELECTIVES:

MATH 3603 Mathematical Modeling
MATH 3703 Abstract Algebra
MATH 3903 History of Math
MATH 4203 Probability Theory
MATH 4253 Operations Research
MATH 4303 College Geometry
MATH 4403 Numerical Analysis (Spring only)
MATH 4653 Actuarial Mathematics
MATH 4953 ST: Complex Variables
MATH 4933 ST: Time Series Analysis
MATH 4953 Complex Variables
MATH 4963 ST: Number Theory

Note: MATH 3503 Mathematical Concepts is NOT an approved MATH elective

BSME Technical Electives (Offered by ME Department):

MEGR 4213 Experimental Mechanics of Composite Materials
MEGR 4233 Aerospace Propulsion Systems (Fall)
MEGR 4243 Applied Aerodynamics (Fall)
MEGR 4313 Aircraft Dynamics and Control (Spring)
MEGR 4643 Compressible Flow (Spring)
MEGR 4953 ST:Advanced Mechanics of Materials (Spring)
MEGR 4713 Applied Thermodynamics (Fall)
MEGR 5000+ courses (Applies to 4+1 Grad Program Students)

Note: If the Technical Elective you desire to take is not listed on the Course Schedule in a given semester, then it is not being offered that semester.

Note: Alternative or additional Special Topics (ST) offered based on demand and Faculty availability

BSME Technical Electives (Outside of Mechanical Engineering - please check pre-requsites):

BEGR 3614 Muscular Skeletal Biomechanics (Fall)
BEGR 4213 Biological Control Systems (Spring)
CEGR 3313 Structural Analysis (Fall)
EEGR 3523 Mechatronics (Spring)
ENGR 4983 Failure Analysis and Prevention
MCHR 4413 Robotics (Spring)
MJEG 3213 Thermodynamics, Kinetics, and Structure of Materials (Fall)
MJEG 3314 Materials Science of Joining (Spring)
MJEG 3413 Design Topics in Materials Joining (Spring)
MJEG 4313 Nondestructive Evaluation (Fall)

For review of other possible courses, please contact ME Dept. Chair.

STEM Electives:

3000+ BEGR, BIOL, BUSI, CEGR, CHEM, DSTC, EEGR, EETC, ENGR, EVGR, GETC MATH, MCHR, MJEG, MJTC, PHYS

2000+ COSC
AERO 3153 Aviation Safety Factors

Note: All BSME Technical Electives can be used as a STEM Elective, but the converse is NOT true.

Examples of Engineering Technology courses acceptable as STEM Electives:
DSTC 3433 Solids Modeling (Fall and Spring)
EETC 3433 Instrumentation and Controls (Spring)
GETC 3323 Modern Manufacturing Methods (Spring)

Examples of Engineering Technology courses NOT ACCEPTABLE as STEM Electives:
(Due to overlapping content with required BSME Courses)
METC 3503 Thermodynamics and Heat Transfer
METC 4433 Elements of Machine Design
METC 4513 Fluid Mechanics
Similar courses with significant overlapping content upon review of ME Dept. Chair