

Biomedical Engineering Course Plan

Catalog Year 2022-2023

Legend

*** Major Requirement**

Must be taken to fulfill major requirements.

† Major Elective

Must be taken to fulfill major requirements, or replaced with an equivalent course.

‡ Gen-Ed Requirement

Must be taken to fulfill general education requirements.

§ Elective

Can be chosen from a selection of courses.

See MyGFU for detailed academic requirements.

First Year

Fall Semester

Engineering Principles I (ENGR 151) *	3 credits
General Chemistry (CHEM 211) *	4 credits
Calculus I (MATH 201) *	4 credits
The Bible (THEO 101) ‡	3 credits
Caring for Words (WRIT 111) ‡	3 credits
Semester Total	17 credits
Cumulative Total	17 credits

Spring Semester

Engineering Principles II (ENGR 152) *	3 credits
General Physics with Calculus (PHYS 211) *	4 credits
Calculus II (MATH 202) *	4 credits
Christianity (THEO 102) ‡	3 credits
Communication in Society (COMM 111) ‡	3 credits
Semester Total	17 credits
Cumulative Total	34 credits

Second Year

Fall Semester

Biomaterials (ENGB 285) *	3 credits
Statics (ENGM 211) *	3 credits
Human Anatomy & Physiology I (BIOL 221) *	4 credits
General Physics with Calculus II (PHYS 212) *	4 credits
Calculus III (MATH 301) *	3 credits
Semester Total	17 credits
Cumulative Total	51 credits

Spring Semester

Circuits & Instrumentation (ENGE 260) *	4 credits
Dynamics (ENGM 212) *	3 credits
Human Anatomy & Physiology II (BIOL 222) *	4 credits
Differential Equations w/ Linear Algebra (MATH 311) *	4 credits
Semester Total	15 credits
Cumulative Total	66 credits

Third Year

Fall Semester

Servant Engineering I (ENGR 381) *	2 credits
Mechanics of Materials (ENGM 320) *	3 credits
Mechanics of Biomaterials Lab (ENGB 485) *	1 credits
Biotransport (ENGB 330) *	3 credits
Engineering Statistics (MATH 330) *	3 credits
The Modern and Postmodern World (HIST 111) ‡	3 credits
Semester Total	15 credits
Cumulative Total	81 credits

Spring Semester

Servant Engineering II (ENGR 382) *	2 credits
Finite Elements & Computer Model (ENGM 360) *	3 credits
Biosignal Analysis (ENGB 350) *	3 credits
Biosignal Analysis Lab (ENGB 351) *	1 credits
Materials and Processes in Manufacturing (ENGM 220) *	3 credits
Justice (SSCI 100 Justice) ‡	3 credits
Semester Total	15 credits
Cumulative Total	96 credits

Fourth Year

Fall Semester

Senior Design I (ENGR 481) *	1 credits
Engineering Senior Seminar (ENGR 490) *	1 credits
Control Systems Engineering (ENGM 480) *	3 credits
Biomechanics (ENGB 420) *	3 credits
Design of Medical Devices (ENGB 410) *	3 credits
Ethics (THEO 380) ‡	3 credits
Personhood (PSYC 100) ‡	3 credits
Semester Total	17 credits
Cumulative Total	113 credits

Spring Semester

Senior Design II (ENGR 482) *	3 credits
Bio-MEMs and Tissue Engineering (ENGB 470) *	3 credits
Principles of Economics (ECON 200) *	3 credits
Faith and Story (LITR 111) ‡	3 credits
Art and Global Culture (ARTP/V 120) ‡	3 credits
Semester Total	15 credits
Cumulative Total	128 credits