

Biomedical Engineering Major

Major Course Requirements AY 2023-2025

94-96 Program Credit

<p>Support Group (43 cr) MATH 171 Calculus I (5 cr) MATH 172 Calculus II (4 cr) MATH 301 Statistics (3 cr) MATH 371 Differential Equations (3 cr) PHYS 191 University Physics I (5 cr) PHYS 191 University Physics II (5 cr) CHEM 105 General Chemistry I (5 cr) CHEM 106 General Chemistry II (5 cr) BIO 105 Bio Concepts- Unity (4 cr) BIO 211 Human Anatomy (4 cr)</p>	<p>Fundamentals Group (22 cr) EGR 105 Engineering Fundamentals (3 cr) EGR 106 Biomedical Engineering Seminar (1 cr) EGR 242 Programming for Engineers (3cr) EGRT 130 Basic Electrical Circuits I (4 cr) EGRT 131 Basic Electrical Circuits II (4 cr) BIO 212 Human Physiology (4 cr) BIO 323 Molecular & Cell Biology (3cr)</p>
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Advanced Study Group (20-22 cr)

- KIN 410 Applied Biomechanical Principles & Techniques (3 cr)
- EGR 310 Biomedical Materials (3 cr)
- EGR 325 Signals & Systems (3 cr)
- EGR 336 Biomedical Devices (3 cr)
- EGR 354 Medical Imaging (3 cr)
- EGR 392 Biomedical Design Project (3 cr)
- EGR 400 Internship (1-3 cr) or EGR 410 Capstone Project (3 cr)
- EGRT 284 Professional Skills in Engineering (1 cr)

Required Elective (9 cr) – choose from the following

Kinesiology 170 Medical Terminology (1 cr) Kinesiology 380 Running Injuries, Assessment, & Intervention (3 cr) Kinesiology 415 Ergonomics (3 cr) BIO 306 Neurobiology (3 cr) BIO 316 Development and Stem Cells (3 cr) BIO 372 Cancer Biology EGR 110 Engineering Graphics (2-3 cr.) EGR 201 Engineering Mechanics: Statics (3 cr) EGR 202 Engineering Mechanics: Dynamics (3cr) EGR 282 Engineering Economics (3 cr) EGR 282 Engineering Economics (3 cr)	EGRT 105 Fundamentals of Drawing (1-3 cr) EGRT 118 Fluid Control (3 cr) EGRT 232 Semiconductor Devices (3 cr) EGRT 330 Thermodynamics (3 cr) EGRT 333 Linear Circuits (3 cr) EGRT 342 Measurement, Control & Data Acquisition (3 cr) EGRT 357 Internet of Things (3 cr) EGRT 360 Engineering Project Management (3 cr) EGRT 365 Special Topics (3 cr)
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Other Electives (no required credits): EGR 446 Independent Study (1-3 cr)