

# GENERAL CURRICULUM IN BIOMEDICAL ENGINEERING

This is the default curriculum required for students who do not declare a concentration.

CE 207 or EE 321	Mechanics of Materials II <sup>1</sup> Electronics	2-3
ME 228	Engineering Design Communication	2
Approved Technical Electives		12
BMED 355	Electrical Engineering Concepts for Biomedical Engineering	
BMED/CE/ME 404	Applied Finite Element Analysis	
BMED 422	Medical Device Evaluation and the FDA Approval Process	
BMED 432	Micro/Nano System Design	
BMED 434/ MATE 430	Micro/Nano Fabrication	
BMED 435	Microfabrication Laboratory	
BMED 436	Characterization of Micro/Nano Scale Structures	
BMED 445	Biopotential Instrumentation	
BMED 450	Contemporary Issues in Biomedical Engineering	
BMED 459	Senior Thesis	
BMED 510	Principles of Tissue Engineering	
BMED 515	Introduction to Biomedical Imaging	
BMED 525	Skeletal Tissue Mechanics	
BMED/MATE 530	Biomaterials	
BMED 535	Bioseparations and Clinical Diagnostics	
BMED 550	Current and Evolving Topics in Biomedical Engineering	
IME 420	Simulation	
IME 430	Quality Engineering	
IME 435	Reliability for Design and Testing	
IME 527	Design of Experiments	
MATE 380	Thermodynamics and Physical Chemistry	
MATE 401	Materials Characterization Techniques	
MATE 410	Nanoscale Engineering	
MATE 425	Corrosion Engineering	
MATE/CHEM 446	Surface Chemistry of Materials	
ME 305	Introduction to Mechatronics	
ME 326	Intermediate Dynamics	
ME 403	Access by Design: Introduction to Rehabilitation Engineering	
Approved Support Electives		12
BIO 232	Human Anatomy and Physiology II	
BIO 302	Human Genetics	
BIO 303	Survey of Genetics	
BIO 351	Principles of Genetics	

BIO/CHEM 441	Bioinformatics Applications
BIO 452	Cell Biology
BUS 310	Introduction to Entrepreneurship
CHEM 216	Organic Chemistry I
CHEM 217 & CHEM 220	Organic Chemistry II and Organic Chemistry Laboratory For Life Sciences II
CHEM 218 & CHEM 223	Organic Chemistry III and Organic Chemistry Laboratory for Life Sciences III
CHEM 312	Organic Chemistry: Fundamentals and Applications
CHEM 314	Biochemistry: Fundamentals and Applications
IME 327	Test Design and Analysis in Manufacturing Engineering
MATE 215	Materials Laboratory I
MATE 222	Materials Selection Life Cycle
MATH 344	Linear Analysis II
MCRO 224	General Microbiology I

**Total units** **28-29**

<sup>1</sup> For students following the General Curriculum or Mechanical Design Concentration in BS Biomedical Engineering, CE 208 (5) may substitute for both CE 204 (3) and CE 207 (2).