Biomedical Engineering Department

Nine or ten technical elective units required (depends on your start date; check your STARS). Select all technical elective units from one of the following four areas of specialization:

Bioelectronics/Computers

Course	*Course Title*	*Typical Term*	*Units*	*Pre-req Co-req* (Recommended)*
BME 201	Biomedical Engineering Practice	Sp	2	Freshmen/Sophomores only
BME 416	Development and Reg of Medical Products	Sp	3	Junior standing
BME 430	Principles & Applications of Systems Biology	Fa	3	BME 210
BME 451	Fundamentals of Biomedical Microdevices	Fa	3	EE 202L*
BME 452	Introduction to Biomimetic Neural Engineering	Fa	3	EE 202L*
BME 453	Engineering Biomedical Innovations	Sp	3	BME 405*
CSCI 445	Introduction to Robotics	FaSp	4	CSCI 101 or C Programming
EE 109L	Introduction to Embedded Systems	FaSp	3	(C or C++ Programming)
EE 209	Foundations of Digital Systems Design	FaSp	4	EE 109
EE 338	Physical Electronics	FaSp	3	EE 202 and PHYS 152
EE 348L	Electronic Circuits	FaSp	4	EE 338*
EE 352L	Computer Organization & Architecture	FaSp	3	CSCI 104 or Instructor Approv.
EE 354L	Introduction to Digital Circuits	FaSp	4	EE 101 or EE 209
EE 454L	Intro to System on a Chip	Fa	4	EE 354
EE 483	Introduction to Digital Signal Processing	FaSp	3	EE 301
ENGR 345	Principles & Practice of Global Innovation	Sp	3	(CHEM 105a, MASC 110)
ITP 308	Computer-Aided Design for Bio-Mech Systems	Sp	3	None

Biomechanics

AME 201	Statics	FaSp	3	MATH 125
AME 204	Strength of Materials	FaSp	3	AME 201 or CE 205
AME 301	Dynamics	FaSp	3	AME 201 or CE 205
AME 302	Design of Dynamic Systems	FaSP	3	MATH 245 (AME 301, AME 309)
AME 308 or	Computer Aided Analysis for Design	FaSp	3	AME 204, AME 301*
ITP 308	Computer-Aided Design for Bio-Mech Systems	Sp	3	None
AME 309	Dynamics of Fluids	FaSp	4	MATH 245, (AME 310)
BME 201	Biomedical Engineering Practice	Sp	2	Freshmen/Sophomores only
BME 404	Biomechanics	Fa	3	PHYS 151L, MATH 245 (AME 201)
BME 412	Fundamentals of Craniofacial Biotechnology	Sp	3	Enroll in DENT 412
BME 414	Rehabilitation Engineering	Sp	3	(AME 201)
BME 416	Development and Reg of Medical Products	Sp	3	Junior standing
BME 453	Engineering Biomedical Innovations	Sp	3	BME 405*
MASC 310	Materials Behavior & Processing	Fa	3	None

Biochemical Engineering

BME 201	Biomedical Engineering Practice	Sp	2	Freshmen/Sophomores only
BME 412	Fundamentals of Craniofacial Biotechnology	Sp	3	Enroll in DENT 412
BME 414	Rehabilitation Engineering	Sp	3	(AME 201)
BME 430	Principles & Applications of Systems Biology	Fa	3	BME 210 or Matlab Programming
BME 453	Engineering Biomedical Innovations	Sp	3	BME 405*
CHE 330	Chemical Engineering Thermodynamics	Fa	3	MATH 226*
CHE 350	Introduction to Separation Processes	Sp	3	CHEM 105b (CHE 330)
CHE 460L	Chemical Process Dynamics and Control	Sp	3	CHE 120, MATH 245*
CHE 489	Biochemical Engineering	Sp	3	CHE 330, BISC 320
ENGR 305	Engineering Biology Matters	FaSp	3	(CHEM 105a, MASC 110)
ITP 308	Computer-Aided Design for Bio-Mech Systems	Sp	3	None
MASC 310	Materials Behavior and Processing	Fa	3	None