

BSE ENGINEERING (BIOMEDICAL CONCENTRATION)

B.S.E. Requirements for a Major in Engineering (Biomedical Concentration)

Code	Title	Hours
Required Courses		
Minimum 124 hours including the following:		
<i>Literature and Writing</i>		
ENG 1310	Research Writing: Writing and Academic Inquiry Seminars	3
GTX 2301	Intellectual Traditions of the Ancient World : Literature and Thought	3
or GTX 2302	Medieval Intellectual Traditions: Literature and Thought in Context	
PWR 3300	Technical Writing	3
<i>Religion</i>		
REL 1310	The Christian Scriptures	3
REL 1350	The Christian Heritage	3
<i>Foreign Language and Culture</i>		
Select 3 hours from the Foreign Language and Culture Distribution List for ECS Majors. Second-level proficiency must be reached if a foreign language is chosen.		3
<i>Other Requirements</i>		
PSC 1387	The U.S. Constitution, Its Interpretation, and the American Political Experience	3
or ENG 2301	British Literature	
EGR 2108	Engineering Economics	1
EGR 3305	Social and Ethical Issues in Engineering	3
EGR 1101	Engineering New Student Experience	1
Lifetime Fitness: Any two LF 11XX courses. ECS 2101 and select leadership courses may fulfill one of the Lifetime Fitness requirements.		2
Chapel: Two Semesters		0
<i>Mathematics and Basic Sciences</i>		
CHE 1301	Basic Principles of Modern Chemistry I	3
MTH 1321	Calculus I	3
MTH 1322	Calculus II	3
MTH 2311	Linear Algebra	3
MTH 2321	Calculus III	3
MTH 3325	Ordinary Differential Equations	3
STA 3381	Probability and Statistics	3
One additional "3000" or "4000" level approved math or science class		3
PHY 1420	General Physics I	4
PHY 1430	General Physics II	4
<i>Engineering Major (Biomedical)</i>		
EGR 1301	Introduction to Engineering	3
EGR 1302	Introduction to Engineering Analysis	3
EGR 3380	Engineering Design I	3

EGR 4390	Engineering Design II	3
ME 2345	Thermodynamics	3
ME 2320	Statics	3
ME 2321	Dynamics	3
ME 3420	Instrumentation and Measurements	4
ELC 2330 & ELC 2130	Electrical Circuit Theory and Electrical Circuit Laboratory	4
ELC 3335	Signals and Systems	3
Select one of the following:		4
ELC 2337 & ELC 2137	Digital Logic Design and Digital Logic Design Laboratory	
CSI 1401	Introduction to Programming I	
CSI 1430	Introduction to Computer Science I with Laboratory	
<i>Engineering Electives (Biomedical)</i>		
ME 3320	Strength of Materials	3
ME 3322	Mechanical Engineering Materials and Manufacturing Processes	3
ELC 4351	Digital Signal Processing	3
<i>Concentration Requirements (Biomedical)</i>		
CHE 1341 or CHE 4341	Introductory Organic Biochemistry General Biochemistry	3
HP 1420 or BIO 4432	Human Anatomy General Human Anatomy	4
PUBH 3350 or BIO 3322	Human Physiology for Allied Health Professionals Human Physiology	3
BME Elective 1 - Select one of the following:		3
BME 4357	Cardiovascular Engineering and Instrumentation	
BME 4370	Biomaterials: Form and Function	
BME 4374	Biomechanics	
BME 4376	Introduction to the Design and Evaluation of Medical Devices	
BME Elective 2 - Select one of the following:		3
BME 4353	Image Formation and Processing	
BME 4372	Bioinstrumentation	
BME 4378	Introduction to Biosensors	
BME Elective 3 - Select one of the following:		3
BME 4396	Special Topics in Biomedical Engineering	
BME 4V97	Special Projects in Biomedical Engineering	
EGR 3V95	Internship Experience	
Any course not taken to fulfill BME Elective 1 or BME Elective 2.		
A grade of "C" or better in all of the Engineering hours counted towards the major.		
Total Hours		124