

MECHANICAL ENGINEERING [BIOMECHANICAL ENGINEERING] (B.S.M.E.)

B.S.M.E. Degree Requirements for a Major in Mechanical Engineering (Biomechanical 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
or EGR 3315	Ethics of International Service	
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
PHY 1420	General Physics I	4
PHY 1430	General Physics II	4
<i>Mechanical Engineering Major (Biomechanical Concentration)</i>		
EGR 1301	Introduction to Engineering	3
EGR 1302	Introduction to Engineering Analysis	3

EGR 2170	Introduction to Computer Aided Design	1
EGR 3380	Engineering Design I	3
ELC 2320	Electric Circuit Theory for non-ECE majors	3
ELC 4335	Systems Modeling and Control	3
ME 2320	Statics	3
ME 2321	Dynamics	3
ME 2345	Thermodynamics	3
ME 3122	Materials and Manufacturing Processes Lab	1
ME 3145	Thermal/Fluids Laboratory	1
ME 3320	Strength of Materials	3
ME 3321	Fluid Mechanics	3
ME 3323	Machine Design	3
ME 3345	Thermodynamics II	3
ME 3420	Instrumentation and Measurements	4
ME 4325	Dynamic Systems	3
ME 4327	Numerical Methods for Engineers	3
ME 4345	Heat Transfer	3
BME 4370	Biomaterials: Form and Function	3
BME 4374	Biomechanics	3
BME 4376	Introduction to the Design and Evaluation of Medical Devices	3
<i>Biomedical Engineering Electives</i>		
Select one course from the following:		3
BME 4357	Cardiovascular Engineering and Instrumentation	
BME 4360	Introduction to Biomedical Engineering	
BME 4396	Special Topics in Biomedical Engineering	
<i>Engineering Electives</i>		
Select one additional course from the Biomedical Engineering Electives list above or choose one course from the following:		3
EGR 3V95	Internship Experience	
EGR 4361	Conventional & Alternative Energy Systems	
EGR 4375	Elements of Nuclear Engineering	
EGR 4396	Special Topics in Engineering	
EGR 4V97	Special Projects in Engineering	
ME 4305	Sustainable Engineering	
ME 4320	Computer-Aided Structural Analysis	
ME 4322	Computer-Aided Engineering and Design	
ME 4323	Mechanical Vibrations	
ME 4324	Introduction to Finite Element Methods	
ME 4330	Introduction to Robotics	
ME 4336	Thermal Systems Design	
ME 4337	Introduction to Computational Fluid Dynamics	
ME 4339	Tribology	
ME 4346	Introduction to Aeronautics	
ME 4347	Analysis and Design of Propulsion Systems	
ME 4350	Aircraft Flight Dynamics and Control	
ME 4356	Introduction to Space Flight	
ME 4360	Renewable Energy Devices	
ME 4377	Solar Energy	
ME 4396	Special Topics in Mechanical Engineering	

ME 4V97	Special Projects in Mechanical Engineering
Total Hours	124