

BIOMEDICAL ENGINEERING SCIENCE ELECTIVES - FALL 2006*

Below are 5 lists of Technical Elective Areas, it is recommended that students meet with a Biomedical Engineering Faculty to plan their Electives.

<u>Biomaterials</u>			<u>Biomechanics - Solid Mechanics</u>		
BE4100/5100	Cell & Tissue Mechanics	3	BE4100/5100	Cell & Tissue Mechanics	3
BE4300	Advanced Polymeric Biomaterials	3	BE4300	Advanced Polymeric Biomaterials	3
BE4660	Active Implantable Devices	3 on demand	BE4940	Intro to Tissue Engineering	3
BE4800	Biomaterials Interfaces	3 on demand	MEEM2500	Integrated Design and Manufacturing	4
BE4940	Intro to Tissue Engineering	3	MEEM2700	Dynamics	3
MY3100	Materials Processing I	4	MEEM3700	Mechanical Vibrations	3
MY3110	Materials Processing II	4	MEEM4150	Intermediate Mechanics of Materials	3
MY3200	Materials Characterization I	4	MEEM4170	Failure of Material in Mechanics	3
MY3210	Materials Characterization II	4	MEEM4180	Engineering Biomechanics	3
MY3400	Mechanical Properties of Materials	3	MEEM5110	Fund of Mechanics/Elasticity	3
MY4140	Science of Ceramic Materials	3	MEEM5150	Advanced Mechanics of Material	3
MY4150	Composite Materials	2	MEEM5160	Experimental Stress Analysis	3
MY4160	Corrosion and Environmental Effects	2	MEEM5170	Finite Element and Variational Methods in Engineering	3
MY4200	Scanning Electron Microscopy	2	MY3400	Mechanical Properties of Materials	2
MY4240	Introduction to MEMS	4	MY4150	Composite Materials	
MY4710	Materials science of Electronic Devices	3			
MY4800	Materials & Process Selection	3			
CM/CH4610	Intro to Polymer Science	3	<u>Biomechanics - Thermal Sciences</u>		
CM/CH4620	Polymer Chemistry	3	BE4400	Bioheat and Mass Transfer	3
CM4650	Polymer Rheology	3	MEEM3210	Fluid Mechanics	3
MEEM4635	Design with Plastics	3	MEEM4210	Computational Methods in Thermal Science	3
MEEM4640	Micromanufacturing Processes	3			
<u>Bioinstrumentation</u>			<u>General</u>		
BE4660	Active Implantable Devices	3 on demand	BE4000	Independent Study (requires departmental approval)	**
BE4700	Biosensors	3 on demand	BE5750	Nanotechnology for Biomedicine	2
MY4240	Intro to MEMS	4	EE3160	Linear Systems and Controls	3
MY4710	Materials science of Electronic Devices	3	MEEM3501	Product Realization I	3
EE2150	Intro to Signal Processing	3	MEEM3502	Product Realization II	3
EE3140	Electromagnetics	3	MEEM4403	Computer Aided Design Methods	4
EE3170	Microcontroller Applications	3	UN2600	Fundamentals of Nanoscale Science and Engineering	2
EE3221	Introduction to Motor Drives	3	MEEM4990	Human Factors in Engineering	3
EE4232	Electronic Applications	3			
EE4257	Digital Image Processing	3			
EE4261	Classical Control Systems	3			
EE4262	Digital and Non-linear Control	3			
EE4272	Computer Networks	3			
EET3353	Sensors, Data Acquisition and Control	3			
CS4321	Introduction to Algorithms	3			
CS4711	Introduction to Software Engineering	3			

NOTES:

* Some courses have prerequisites. It is your responsibility to take the prerequisites or contact the department offering the course to get it waived.

** No more than 6 credits allowed under technical and science electives combined.

BIOMEDICAL ENGINEERING SCIENCE ELECTIVES - FALL 2006*

BE4000	Independent study (requires departmental approval)	**	CH2400	Principles of Organic Chemistry	4
BE4210	Exercise Physiology	3	CH2410	Organic Chemistry I	3
BE4200	Biology for Engineers II	3	CH2411	Organic Chemistry Lab I	1
			CH2420	Organic Chemistry II	3
BL2100	Principles of Biochemistry	3	CH2421	Organic Chemistry Lab II	2
BL2200	Genetics	3	CH3510	Physical chemistry I	3
BL2940	Human Nutrition	3	CH3511	Physical Chemistry Lab I	2
BL3970	Current Health Issues	3	CH3520	Physical Chemistry II	3
BL3640	General Immunology	3	CH3521	Physical Chemistry Lab II	2
BL4380	Cardiopulmonary Physiology	3			
BL4010	Biochemistry	3	MA4515	Intro to Partial Differential Equations	3
BL4020	Biochemistry	3			
BL4320	Histology	3	PH2200	University Physics II	3