Bachelor of Science
Biomedical Engineering
2005-2006

Curriculum A: Traditional BME Program

Student's Name _____ **SSN**_____

First Year		Qtr	Grd		(51 credit hours)	Fa	Wi	Sp	Su
BIO	112	4.0	____	____	Principles of Biology: Cell Biology and Genetics----------	•	x	•	•
BME	195	2.0	____	____	Fundamentals of Biomedical Engineering ----------	•	•	x	•
CEG	220	4.0	____	____	Introduction to "C" Programming For Engineers ----------(EGR 101 or MTH 229)	a	x	a	a
CHM	121	5.0	____	____	Submicroscopic Chemistry----------(High School Chemistry or CHM 101, MTH 127)	x	a	•	a
CHM	122	5.0	____	____	Macroscopic Chemistry---------- (CHM 121)	•	x	a	a
ENG	101	4.0	____	____	Academic Writing and Reading----------	x	a	a	a
ENG	102	4.0	____	____	Writing in Academic Discourse ----------(ENG 101)	a	x	a	a
EGR	190	4.0	____	____	Fundamentals of Engineering and Computer Science -(freshmen only, others take ISE 210)	x	a	a	•
EGR	101	5.0	____	____	Introductory Mathematics for Engineering Applications---------(MPL 5 + HS Trig or MTH 131)	x	a	a	a
MTH	229	5. 0	____	____	Calculus I ---------- (MTH 131 or MPL 7)	a	a	x	a
PHY	240	4.0	____	____	General Physics I---------- (EGR 101 or MTH 229, PHY 200c)	a	•	x	a
PHY	200	1.0	____	____	General Physics I Laboratory----------(PHY 240c)	a	•	x	a
___	___	4.0	____	____	General Education select one from Area II History---------- (See GE sec of UG Cat)	a	a	x	a
					Credit Hours per Quarter in the Model Program----------	**18**	**17**	**16**	

Second Year		Qtr	Grd		(51 credit hours)	Fa	Wi	Sp	Su
BIO	278	4.5	____	____	Anatomy & Physiology I ----------(BIO 112)	•	x	•	•
BIO	279	4.5	____	____	Anatomy & Physiology II----------(BIO 278)	•	•	x	•
EE	301	4.0	____	____	Circuit Analysis I ----------(EGR 101, PHY 242, EE 302c)	a	a	x	•
EE	302	1.0	____	____	Circuit Analysis I Laboratory ---------- (EE 301c)	a	a	x	•
MTH	230	5.0	____	____	Calculus II ---------- (MTH 229)	x	a	a	a
MTH	231	5.0	____	____	Calculus III ---------- (MTH 230)	a	a	x	a
ME	212	4.0	____	____	Statics ----------(EGR 101 or MTH 231, PHY 240)	x	a	a	a
ME	213	4.0	____	____	Dynamics ---------- (CEG 220, ME 212)	a	x	a	•
PHY	242	4.0	____	____	General Physics II---------- (MTH 230, PHY 240, PHY 202c)	x	a	a	•
PHY	202	1.0	____	____	General Physics II Laboratory---------- (PHY 242c)	x	a	a	•
PHY	244	5.0	____	____	General Physics III---------- (MTH 230, PHY 240, PHY 204c)	a	x	a	•
PHY	204	1.0	____	____	General Physics III Laboratory---------- (PHY 244c)	a	x	a	•
___	___	4.0	____	____	General Education select one from Area II Non-Western World------ (See GE sec of UG Cat)	x	a	a	a
___	___	4.0	____	____	General Education select one from Area III ---------- (See GE sec of UG Cat)	a	x	a	a
					Credit Hours per Quarter in the Model Program----------	**18**	**18.5**	**14.5**	

NOTES:

1. **Use this guide, advisor consultations, and the Undergraduate Catalog to carefully plan a program of study**. Some courses are offered only once or twice a year. Complete mathematics and physics courses early since they are prerequisite to many engineering courses.
2. **In the right hand columns**
   (x) denotes courses in a model program with a non-conflicting schedule for a full-time student;
   (a) denotes courses likely to be available;
   (•) denotes courses normally not available. Check the Class Schedule for current information.
3. **Course numbers in parentheses** denote a prerequisite course except when followed by "c" indicating a co-requisite course.

Third Year	Qtr	Grd			(46 credit hours)	Fa	Wi	Sp	Su
BME	419	3.0	____	____	Biofluid Mechanics ---------- (ME 212, EGR 101 or MTH 233, ME 315)	•	x	•	•
BME	420	3.0	____	____	Biomedical Heat and Mass Transfer ---------- (BME 419)	•	•	x	•
BME	422	4.0	____	____	Engineering Biophysics ---------- (EE 321)	•	•	x	•
BME	460	5.0	____	____	Biomedical Electronics ---------- (EE 301, EE 302)	•	x	•	•
BME	463	2.0	____	____	Biomedical Computers ---------- (CEG 220 or EGR101, EE 301 or EE 301c)	x	•	•	•
BME	464	4.0	____	____	Microprocessors for Biomedical Engineering ---------- (BME 460)	•	•	x	•
EE	321	4.0	____	____	Linear Systems I ---------- (EE 301, EE 302)	a	x	a	a
ISE	301	4.0	____	____	Statistical Methods for Testing, Development and Manuf. I ---------- (MTH 230 or EGR 101)	a	x	a	•
ME	315	4.0	____	____	Thermodynamics I ---------- (PHY 244, MTH 232c)	x	a	a	a
MTH	232	5.0	____	____	Calculus IV ---------- (MTH 231)	x	a	a	a
___	___	4.0	____	____	General Education select one from Area III ---------- (S See GE sec of UG Cat)	a	a	x	a
___	___	4.0	____	____	General Education select one from Area IV ---------- (Se See GE sec of UG Cat)	x	a	a	a
					Credit Hours per Quarter in the Model Program----------	**15**	**16**	**15**	

Fourth Year	Qtr	Grd			(48 credit hours)	Fa	Wi	Sp	Su
BME	428	3.0	____	____	Biomechanics ---------- (ME 212, ME 315)	•	•	x	•
BME	439	4.0	____	____	Biotransport and Artificial Organs ---------- (BME 420, BME 463)	•	x	•	•
BME	440	4.0	____	____	Biomaterials ---------- (ME 213, EE 321, BME 463)	x	•	•	•
BME	461	4.0	____	____	Bioinstrumentation I ---------- (BIO 279, BME 460, EE 321)	x	•	•	•
BME	462	4.0	____	____	Bioinstrumentation II ---------- (BME 461)	•	x	•	•
BME	470	4.0	____	____	Photon Radiation ---------- (BIO 279, PHY 242, PHY 244)	x	•	•	•
BME	471	4.0	____	____	Medical Imaging ---------- (BME 470)	•	x	•	•
BME	491	3.0	____	____	Biomedical Engineering Design I ---------- (BME 420, BME 464, BME 440c, BME 461c)	x	•	•	•
BME	492	1.0	____	____	Biomedical Engineering Design II ---------- (BME 491, BME 402c)	•	x	•	•
BME	402	2.0	____	____	Biomedical Engineering Design II Lab ---------- (BME 440, BME 461, BME 491, BME 492c)	•	x	•	•
BME	493	1.0	____	____	Biomedical Engineering Design III ---------- (BME 492, BME 403c)	•	•	x	•
BME	403	2.0	____	____	Biomedical Engineering Design III Lab ---------- (BME 492, BME 493c)	•	•	x	•
ISE	407	4.0	____	____	Industrial Ergonomics ----------	a	•	x	•
___	___	4.0	____	____	General Education select additional course from Areas II, III and IV (See GE sec of UG Cat)	a	a	x	a
___	___	4.0	____	____	General Education select additional course from Areas II, III and IV (See GE sec of UG Cat)	a	a	x	a
					Credit Hours per Quarter in the Model Program----------	**15**	**15**	**18**	

TOTAL PROGRAM CREDIT HOURS ---------- **196**

_____ **Meets or exceeds ABET minimum requirement of 37.5% engineering credit hours (73.5 credit hours).**

Advisor Initials

General Information:

Two separate curricula are available for the B.S.E. degree in Biomedical Engineering:

1. ***Curriculum A*** prepares the graduate for the engineering industry employment. Graduates are also prepared for graduate training in biomedical engineering or in a traditional engineering area.
2. ***Curriculum B*** also satisfies the admission requirements for medical, osteopathic, dental, or veterinary schools. Graduates are also well prepared to pursue graduate training in engineering or the life sciences.
3. ***Program Planning*** - the student, in cooperation with his/her advisor, should use a Program Guide and the corresponding catalog to plan his/her program. Any problem, which arises in connection with a particular Program Guide, should be referred to the student's advisor.

Revised 5/14/2007