WRIGHT STATE UNIVERSITY

Bachelor of Science
Biomedical Engineering
Curriculum B: Pre-med Option

2008-2009

Student's Name _____ UID #_____

First Year			Qtr	Grade	(53 credit hours)	Pre/Co-requisites	Fa	Wi	Sp	Su
BIO	112*	4.0	____	____	Principles of Biology: Cell Biology and Genetics		•	X	a	•
BME	195	2.0	____	____	Fundamentals of Biomedical Engineering		•	•	X	•
CHM	121	3.0	____	____	General Chemistry I	(High School Chemistry or CHM 101,MPL 4, CHM 125c)	X	a	•	a
CHM	125	2.0	____	____	General Chemistry I Lab	(High School Chemistry or CHM 101, MPL 4, CHM 121c)	X	a	•	a
CHM	122	3.0	____	____	General Chemistry II	(CHM 121, CHM 125, CHM 126c)	•	X	a	a
CHM	126	2.0	____	____	General Chemistry II Lab	(CHM 121, CHM 125, CHM 122c)	•	X	a	a
CHM	123	3.0	____	____	General Chemistry III	(CHM 122, CHM 126, CHM 127c)	a	•	X	a
CHM	127	2.0	____	____	General Chemistry III Lab	(CHM 122, CHM 126, CHM 123c)	a	•	X	a
EGR	101	5.0	____	____	Introductory Mathematics for Engineering Applications	(MPL 5 + HS Trig or MTH 131)	X	a	a	•
EGR	190	4.0	____	____	Fundamentals of Engineering and Computer Science	.. (freshmen only, others take ISE 210)	X	a	a	•
ENG	101	4.0	____	____	Academic Writing and Reading		X	a	a	a
ENG	102	4.0	____	____	Writing in Academic Discourse	(C or higher in ENG 101)	a	X	a	a
MTH	229	5.0	____	____	Calculus I	(MTH 131 or MPL 7)	a	X	a	a
MTH	230	5.0	____	____	Calculus II	(MTH 229)	a	a	X	a
PHY	240	4.0	____	____	General Physics I	(EGR 101 or MTH 229, PHY 200c)	a	•	X	•
PHY	200	1.0	____	____	General Physics I Laboratory	(PHY 240c)	a	•	X	•
					Credit Hours Per Quarter in the Model Program		**18**	**18**	**17**	**0**

Second Year			Qtr	Grade	(55 credit hours)	Pre/Co-requisites	Fa	Wi	Sp	Su
ANT	311	5.0	____	____	Human Anatomy & Physiology II	(BIO 112, ANT 311Lc)	•	X	a	•
ANT	312	5.0	____	____	Human Anatomy & Physiology III	(C or higher in ANT 311, ANT 312Lc)	•	•	X	a
CEG	220	4.0	____	____	Introduction to "C" Programming for Engineers	(EGR 101 or MTH 229)	X	a	a	a
CHM	211	4.0	____	____	Organic Chemistry I	(CHM 123, CHM 215c)	X	a	•	•
CHM	215	2.0	____	____	Organic Chemistry I Lab	(CHM 211c)	X	a	•	•
CHM	212	4.0	____	____	Organic Chemistry II	(CHM 211, CHM 216c)	•	X	a	•
CHM	216	2.0	____	____	Organic Chemistry II Lab	(CHM 212c)	•	X	a	•
CHM	213	4.0	____	____	Organic Chemistry III	(CHM 212, CHM 217c)	•	•	X	a
CHM	217	2.0	____	____	Organic Chemistry III Lab	(CHM 213c)	•	•	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, C or higher in ME 212)	a	a	X	a
PHY	242	4.0	____	____	General Physics II	(MTH 230, PHY 240, PHY 202c)	X	a	•	•
PHY	202	1.0	____	____	General Physics II Laboratory	(PHY 242c)	X	a	•	•
PHY	244	5.0	____	____	General Physics III	(MTH 230, PHY 240, PHY 204c)	•	X	a	•
PHY	204	1.0	____	____	General Physics III Laboratory	(PHY 244c)	•	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		**19**	**17**	**19**	**0**

Third Year			Qtr	Grade	(49 credit hours)	Pre/Co-requisites	Fa	Wi	Sp	Su
BME	419	3.0	____	____	Biofluid Mechanics	(ME 212, EGR 101 or MTH 235, BME 428)	•	X	•	•
BME	420	3.0	____	____	Biomedical Heat and Mass Transfer	(BME 419)	•	•	X	•
BME	422**	4.0	____	____	Engineering Biophysics	(EE 321)	•	•	X	•
BME	428	5.0	____	____	Biomechanics and Bioenergetics	(ME 212, ME 213)	X	•	•	•
BME	460	5.0	____	____	Biomedical Electronics	(EE 301, EE 302)	•	X	•	•
BME	463	2.0	____	____	Biomedical Computers	(CEG 220 or EGR 101, EE 301 or EE 301c)	X	•	•	•
BME	464	4.0	____	____	Microprocessors for Biomedical Engineering	(BME 460)	•	•	X	•
EE	301	4.0	____	____	Circuit Analysis I	(EGR 101 or MTH 230, PHY 242, EE 302c)	X	a	a	a
EE	302	1.0	____	____	Circuit Analysis I Laboratory	(EE 301c)	X	a	**a**	a
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 Manufacturing I	(MTH 230 or EGR 101)	a	a	X	•
MTH	231	5.0	____	____	Calculus III	(MTH 230)	X	a	a	a
MTH	235	5.0	____	____	Differential Equations with Matrix Algebra	(MTH 231)	a	X	a	•

Fourth Year			Qtr	Grade	(49 credit hours)	Pre/Co-requisites	Fa	Wi	Sp	Su
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	(ANT 312, BME 460, EE 321)	X	•	•	•
BME	462	4.0			Bioinstrumentation II	(BME 461)	•	X	•	•
BME	491	3.0			Biomedical Engineering Design I	(BME 420, BME 464, 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 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	•
___	___	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)	X	a	a	a
___	___	4.0			General Education select one from Area III	(See GE sec of UG Cat)	a	X	a	a
___	___	4.0			General Education select one from Area 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
___	___	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		**19**	**15**	**15**	**0**

TOTAL PROGRAM CREDIT HOURS **206**

_____ **Meets or exceeds ABET minimum requirement of 37.5% engineering credit hours (77.25 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.

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.

***4**. BIO 112 may also be taken in the Winter of the Second year. In that case, the student will take ANT 311 in the Spring and ANT 312 in the Summer of the Second year.

****5.** Students may substitute BME 470/471 for BME 422/439. If this option is selected, a 4 hr Gen Ed must be moved from Fall of the senior year to Spring of the junior year (replacing BME 422). BME 470 will then be taken in Fall of the senior year (replacing the 4 hr Gen Ed.)