



# Bachelor of Science Biomedical Engineering 2003-2004

Curriculum B: Premedical Program

Student's Name \_\_\_\_\_ SSN \_\_\_\_\_

First Year	Qtr	Grd	(54 credit hours)		Fa	Wi	Sp	Su	
BIO	112	4.0	___	___	Biology-----	•	x	•	•
CEG	220	4.0	___	___	Introduction to C Programming For Engineers----- (MTH 229c)	a	a	x	a
CHM	121	5.0	___	___	Submicroscopic Chemistry----- (High School Chemistry or CHM 101)	x	a	•	a
CHM	122	5.0	___	___	Macroscopic Chemistry----- (CHM 121)	•	x	a	a
CHM	123	5.0	___	___	Reaction Dynamics----- (CHM 122)	•	•	x	•
EGR	190	4.0	___	___	Fundamentals of Engineering-----	x	a	a	•
ENG	101	4.0	___	___	Freshman Composition-----	x	a	a	a
ENG	102	4.0	___	___	Freshman Composition----- (ENG 101)	a	a	x	a
HST	___	4.0	___	___	History-----	a	x	a	a
MTH	229	5.0	___	___	Calculus I----- (either MTH 130 and MTH 131 or MTH 134)	x	a	a	a
MTH	230	5.0	___	___	Calculus II----- (MTH 229)	a	x	a	a
MTH	231	5.0	___	___	Calculus III----- (MTH 230)	a	a	x	a
<b>Credit Hours Per Quarter in the Model Program -----</b>					<b>18</b>	<b>18</b>	<b>18</b>		

Second Year	Qtr	Grd	(50 credit hours)		Fa	Wi	Sp	Su	
BIO	278	4.5	___	___	Biology----- (BIO 112)	•	x	•	•
BIO	279	4.5	___	___	Biology----- (BIO 278)	•	•	x	•
BME	195	2.0	___	___	Fundamentals of Biomedical Engineering-----	•	x	•	•
CHM	211	4.0	___	___	Organic Chemistry I----- (CHM 123, CHM 215c)	x	•	a	•
CHM	215	2.0	___	___	Organic Chemistry Lab----- (CHM 211c)	x	•	a	a
CHM	212	4.0	___	___	Organic Chemistry II----- (CHM 211, CHM 216c)	•	x	•	a
CHM	216	2.0	___	___	Organic Chemistry Lab----- (CHM 212c)	•	x	•	a
CHM	213	4.0	___	___	Organic Chemistry III----- (CHM 212, CHM 217c)	•	•	x	•
CHM	217	2.0	___	___	Organic Chemistry Lab----- (CHM 213c)	•	•	x	•
MTH	233	5.0	___	___	Differential Equations----- (MTH 231)	x	a	a	a
PHY	240	4.0	___	___	Physics I----- (MTH 229, PHY 200c)	x	•	a	a
PHY	200	1.0	___	___	Physics I Laboratory----- (PHY 240c)	x	•	a	•
PHY	242	4.0	___	___	General Physics II----- (MTH 230, PHY 240, PHY 202c)	a	x	•	•
PHY	202	1.0	___	___	General Physics II Laboratory----- (PHY 242c)	a	x	•	•
PHY	244	5.0	___	___	General Physics III----- (MTH 230, PHY 240, PHY 204c)	•	a	x	•
PHY	204	1.0	___	___	General Physics III Laboratory----- (PHY 244c)	•	a	x	•
<b>Credit Hours Per Quarter in the Model Program -----</b>					<b>16</b>	<b>17.5</b>	<b>16.5</b>		

## 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. Course numbers followed by "c" indicate a co-requisite course.

Program Guide: 2003-04 Biomedical Engineering (Curriculum B - continued)

Third Year	Qtr	Grd	(49 credit hours)			Fa	Wi	Sp	Su
BME 419	3.0	___	___	Biofluid Mechanics -----	(ME 212, 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 464	4.0	___	___	Microprocessors for Biomedical Engineering -----	(BME 460)	•	•	x	•
EE 301	4.0	___	___	Circuit Analysis I -----	(MTH 233, PHY 242, EE 302c)	x	a	a	•
EE 302	1.0	___	___	Circuit Analysis I Laboratory -----	(EE 301c)	x	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 Manuf. I-----	(MTH 230)	a	a	x	•
ME 212	4.0	___	___	Statics-----	(MTH 231, PHY 240)	x	a	a	a
ME 213	4.0	___	___	Dynamics -----	(CEG 220, PHY 240, ME 212)	a	x	a	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

**Credit Hours Per Quarter in the Model Program ----- 18 16 15**

Fourth Year	Qtr	Grd	(52 credit hours)			Fa	Wi	Sp	Su
BME 428	3.0	___	___	Biomechanics and Biothermodynamics -----	(ME 212, ME 315)	•	•	x	•
*BME 439	4.0	___	___	Biotransport and Artificial Organs -----	(BME 420)	•	x	•	•
BME 440	4.0	___	___	Biomaterials-----	(ME 213, EE 321)	x	•	•	•
BME 461	4.0	___	___	Bioinstrumentation I -----	(BIO 279, 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 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 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 493c)	•	•	x	•
___	4.0	___	___	Human Behavior -----		a	x	a	a
___	4.0	___	___	General Education-----		a	a	x	a
___	4.0	___	___	General Education-----		a	a	x	a
___	4.0	___	___	Non-Western World -----		a	a	x	a
___	4.0	___	___	Human Expression -----		x	a	a	a
___	4.0	___	___	Human Behavior -----		a	a	x	a

**Credit Hours Per Quarter in the Model Program ----- 15 19 18**

**TOTAL PROGRAM CREDIT HOURS ----- 205**

**General Information:**

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

- 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.
- 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.
- 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.
- \*Students may substitute BME 470/471 for BME 422/439.