Bachelor of Science
Biomedical Engineering - Curriculum B- Pre-Med
2016-2017

WRIGHT STATE UNIVERSITY

Name _____ UID# U_____ Phone#_____

*2 IW and 2MC required in WSU Core *Guide may be subject to program change

First Year	Cr	IW/MC	Sem	Grade	(34 Credit hours)	Pre/Co-requisites	Fa	Sp	Su
BIO 1120	4.0		____	____	Cells and Genes	MPL level 30 or AKEKS level 46-60 or MTH 1280	★	a	.
CHM 1210	3.0		____	____	General Chemistry I	(HS CHM or CHM 1010),(MTH 1280 or ALEKS level 46),CHM 1210Lc	★	a	a
CHM 1210L	2.0		____	____	General Chemistry I Lab	CHM 1210c	★	a	a
EGR 1010	4.0	IW	____	____	Intro Math for Egr Applications (E-2)	(ALEKS level 61 or MPL 40 & HS Trig) or ACT MTH 25 or MTH 1350	★	a	.
ENG 1100	3.0		____	____	English (E-1)	ACT23, or (SAT Verbal 530 or WPL 40)	★	a	a
CHM 1220	3.0		____	____	General Chemistry II	CHM 1210, CHM1210L, CHM 1220Lc	a	★	a
CHM 1220L	2.0		____	____	General Chemistry II Lab	CHM 1220c	a	★	a
MTH 2300	4.0		____	____	Calculus I (E-2 Additional)	MTH 1350 or ALEKS level 50	a	★	a
PHY 2400	4.0		____	____	General Physics I (E-6)	(MTH 2300 Grade C or Better or EGR 1010 Grade C or Better), PHY 2400Lc	a	★	a
PHY 2400L	1.0		____	____	General Physics I Lab (E-6)	PHY 2400c	a	★	a
PSY 1010	4.0	IW	____	____	Introduction to Psychology (Social Sciences) (E-5)		a	★	a
					Credit Hours Per Semester in the Model Program		16	**18**	**0**

Second Year	Cr		Sem	Grade	(30 Credit hours)	Pre/Co-requisites	Fa	Sp	Su
ANT 3100	4.0		____	____	Human Structure & Function I	(CHM 1020 or CHM 1210 Grade C or Better), ANT 3100Lc	★	a	.
CHM 2110	3.0		____	____	Organic Chemistry I	CHM 1220, CHM 1220L, CHM 2110Lc	★	a	a*
CHM 2110L	2.0		____	____	Organic Chemistry I Lab	CHM 2110c	★	a	a*
MTH 2310	4.0		____	____	Calculus II (E-2 Additional)	MTH 2300	★	a	a
SOC 2000	3.0	IW/MC	____	____	Introduction to Sociology (Social Sciences) (E-5)		★	a	a
ANT 3120	4.0		____	____	Human Structure & Function II	ANT 3100 Grade C or Better, ANT 3120Lc	.	★	a
CHM 2120	3.0		____	____	Organic Chemistry II	(CHM 2110 and CHM 2110L), CHM 2120Lc	.	★	a*
CHM 2120L	2.0		____	____	Organic Chemistry II Lab	(CHM 2110 and CHM 2110L), CHM 2120c	.	★	a*
PHY 2410	4.0		____	____	General Physics II (E-6)	PHY 2400, MTH 2300,{ MTH 2310}, PHY 2410Lc	a	★	a
PHY 2410L	1.0		____	____	General Physics II Lab (E-6)	MTH 2300, {MTH 2310}, PHY 2410c	a	★	a
MTH 2350	4.0		____	____	Differential Equations w/ Matrix Algebra	MTH 2310	a	★	a
					Credit Hours Per Semester in the Model Program		16	**18**	**0**

Third Year	Cr		Sem	Grade	(31 Credit hours)	Pre/Co-requisites	Fa	Sp	Su
BME 3211*	4.0		____	____	Human Biomechanics I	(EGR 1010 or MTH 2300) and PHY 2400, BME 3211Rc	★	a	.
BME 3511	4.0		____	____	Bioelectronics I	(EGR 1010 or MTH 2300) and PHY 2410, BME 3511Lc	★	.	.
BME 3540	3.0		____	____	Biomedical Computation	{MTH 2350}	★	.	.
BMB 3220	3.0		____	____	Biochemistry and Molecular Biology	CHM 2120	★	.	a
ISE 2211	3.0		____	____	Statistics for Engineers	EGR 1010 or MTH 2300	★	a	a
BME 3212*	3.0		____	____	Human Biomechanics II	BME 3211	a	★	.
BME 3512	4.0		____	____	Bioelectronics II	BME 3511, BME 3512Lc	.	★	.
BME 3530	3.0		____	____	Biomedical Signals & Systems	{BME 3540},MTH 2350, BME 3511	.	★	.
____ ____	3.0		____	____	Global Traditions/History (E-3)		.	★	.
EGR 3350	3.0		____	____	Tech Comm for Engineers & Computer Scientists(E-1)	ENG 1100	a	★	**a**
					Credit Hours Per Semester in the Model Program		17	16	0

Fourth Year	Cr		Sem	Grade	(32 Credit hours)	Pre/Co-requisites	Fa	Sp	Su
BME 4410	3.0		____	____	Biothermodynamics	CHM 1210, CHM 1210L, BME/ISE 3211	★	.	.
BME 4550	4.0		____	____	Bioinstrumentation	ANT 3120, BME 3512, BME 3530	★	.	.
BME 4701	4.0		____	____	Medical Imaging	ANT 3120, PHY 2410	★	.	.
BME 4910**	3.0	IW	____	____	Senior Design I	ANT 3100, BME 3212, BME 3512	★	.	
____ ____	3.0		____	____	**Technical Elective		★	a	.
BME 4421	3.0		____	____	Biotransport	BME 4410, MTH 2350	.	★	.
BME 4920**	3.0	IW	____	____	Senior Design II	BME 4910	a	★	.
____ ____	3.0		____	____	**Technical Elective		.	★	.
____ ____	3.0		____	____	Global Traditions/Interdisciplinary (E-3)		a	★	a
____ ____	3.0				Arts/Humanities (E-4)		a	★	a
					Credit Hours Per Semester in the Model Program		17	15	0

TOTAL SEMESTER CREDIT HOURS 133.0

CECS Admission Requirements met _____ Initial _____ Date

Meets or exceeds ABET minimum requirements of 37.5% engineering credit hours (47.62 semester credit hours).

Advisor Initials

General Information:

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.

* 4 Except for BME 3211 & 3212, students must have met the CECS entrance requirements in order to register for CECS courses number 3000 or higher.

Additional Requirements:

- Students are required to have two Multicultural Competence courses from any of the Wright State Core MC designated courses, Study Abroad courses, or Service Learning courses.
- Students are also required to have two Integrated Writing (IW) courses from the Wright State Core.

NOTES:

1. **Use this guide, advisor consultations, and the Undergraduate Catalog to carefully plan a program of study**. Most courses are offered only once or twice a year. Complete mathematics and physics courses early since they are prerequisite to many engineering courses. Delaying these courses may delay completion of the program. Pay close attention to prerequisite and corequisite information listed on the right of the guide.

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;
   (Ÿ) denotes courses normally not available. Check the Class Schedule for current information.

3. Course number in **{ }** denotes may be either a prerequisite or corequisite course.

4. Course number followed by "c" denotes a corequisite course.

** 5. EGR 4910 and EGR 4920 may be substituted for BME 4910 and BME 4920 with department approval.

6. *CHM 2110 offered Summer A Term
   *CHM 2120 offered Summer B Term

***Any course to fulfill a technical elective requirement that is not on this list of approved technical elective must have preapproval prior to the semester in which the course is being taken.**

APPROVED TECHNICAL ELECTIVES				
Course	Title / Pre-req	Fa	Sp	Su
BME 3520 (4)	Microcomputers for Biomedical Engineers……(PHY 2410)	a	.	.
BME 4422 (4)	Advanced Biotransport & Artificial Internal Organs……(BME 4421)	.		.
BME 4440 (4)	Biomaterials……(BME 3212 and BME 3540)	.	a	.
BME 4610 (3)	Clinical Engineering in the Developing World……PHY 2410, (Application and Department Permission)	.	.	a
BME 4702 (4)	Advanced Medical Imaging……(BME 4702Lc)	.	a	.
BME 4850 (3)	Six Sigma for Engineers……(ISE 2211)	a	.	.
BME 4950 (3)	Undergraduate Research in Biomedical Engineering II ……(Department Permission)	a	a	a
BME 4980 (3)	Undergraduate Special Topics in Biomedical Engineering II ……(Department Permission)	a	a	a
BME 4990 (3)	Undergraduate Independent Studies in Biomedical Engineering II ……(Department Permission)	a	a	a
EGR 3940/4940	Engineering Internship……30 hours of internship will count as a 3 credit hour technical elective	a	a	a
ISE 3221 (3)*	Advanced Statistics for Engineers……(ISE 2211)	a	a	.
ISE 4300 (3)	Fundamentals of Human Factors Engineering……{ISE 2211}, PSY 1010	a	.	.
ISE 4310 (3)	Ergonomics……(ISE 2211)	a	.	.
ISE 4400 (3)	Engineering Economy……(MTH 2300 or EGR 1010)	a	.	.
ISE 4410 (3)	Technology Based Venture (DL)……Senior Status	.	a	.
ISE 4980 (3)	Computational Neuroergonomics & Healthcare Applications……	a	.	.
ME 4120 (3)	Finite Element Analysis……(MTH 2350 and ME 3120)	a	.	.
ME 4870 (3)	Machining……(ME 2210 and ME 2700) or BME/ISE 3212, ME 4870Lc	.	a	.
P&N 4420 (3)	Intro Neurophysiology……	a	a	.

1/13/16