



Bachelor of Science Biomedical Engineering - Curriculum B- Pre-Med 2018-2019

Name _____ UID# U _____

*2 IW and 2MC required in WSU Core				*Guide may be subject to program change			
First Year	Cr	W/MC	Sem Grad	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 LabCHM 1210c	*	a	a
MTH 2300	4.0	_____	_____	Calculus I (E-2 Additional).....MTH 1350 or ALEKS level 50	*	a	a
ENG 1100	3.0	_____	_____	English (E-1)ACT23, or (SAT Verbal 530 or WPL 40)	*	a	a
CHM 1220	3.0	_____	_____	General Chemistry IICHM 1210, CHM1210L, CHM 1220Lc	a	*	a
CHM 1220L	2.0	_____	_____	General Chemistry II LabCHM 1220c	a	*	a
_____	3.0	_____	_____	Arts/Humanities (E-4)	a	*	a
PHY 2400	4.0	_____	_____	General Physics I (E-6)(MTH 2300 Grade C or Better), PHY 2400Lc	a	*	a
PHY 2400L	1.0	_____	_____	General Physics I Lab (E-6)PHY 2400c	a	*	a
Credit Hours Per Semester in the Model Program.....					16	13	0

Second Year	Cr	Sem	Grad	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 LabCHM 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 IIANT 3100 Grade C or Better, ANT 3120Lc	.	*	a
CHM 2120	3.0	_____	_____	Organic Chemistry IICHM 2110, CHM 2110L, CHM 2120Lc	.	*	a*
CHM 2120L	2.0	_____	_____	Organic Chemistry II Lab(CHM 2110, 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 AlgebraMTH 2310	a	*	a
Credit Hours Per Semester in the Model Program.....					16	18	0

Third Year	Cr	Sem	Grad	Pre/Co-requisites	Fa	Sp	Su
BMB 3220	3.0	_____	_____	Biochemistry and Molecular Biology(Recommended for MCAT but not required for BME B).....	a	.	a
BME 3211*	4.0	_____	_____	Human Biomechanics I MTH 2300, PHY 2400, BME 3211Rc	*	.	.
BME 3511	4.0	_____	_____	Bioelectronics I..... MTH 2300, PHY 2410, BME 3511Lc	*	.	.
BME 3540	3.0	_____	_____	Biomedical ComputationMTH 2350	*	.	.
_____	3.0	_____	_____	Social Science (E-5)..(*PSY 1010 is recommended for MCAT but not required for BME B*).....	*	.	.
BME 3212*	3.0	_____	_____	Human Biomechanics IIBME/ISE 3211	.	*	.
BME 3512	4.0	_____	_____	Bioelectronics IIBME 3511, BME 3512Lc	.	*	.
BME 3530	3.0	_____	_____	Biomedical Signals & SystemsBME 3540, BME 3511	.	*	.
ISE 2211	3.0	_____	_____	Statistics for Engineers (Recommended for MCAT but not required for BME B).....EGR 1010 or MTH 2300	a	*	a
EGR 3350	3.0	_____	_____	Tech Comm for Engineers & Computer Scientists(E-1)ENG 1100	a	*	a
_____	3.0	_____	_____	Global Traditions/History (E-3)	a	*	a
Credit Hours Per Semester in the Model Program.....					14	16	0

Fourth Year	Cr	Sem	Grad	Pre/Co-requisites	Fa	Sp	Su
BME 4440	4.0	_____	_____	Biomaterials..... 3212 and BME 3540, BME 4440Lc	*	.	.
BME 4550	4.0	_____	_____	BioinstrumentationANT 3120, BME 3512, BME 3530, BME 4550Lc	*	.	.
BME 4703	4.0	_____	_____	Medical ImagingANT 3120, PHY 2410	*	.	.
BME 4910	3.0	IW	_____	Senior Design IBME 3212, BME 3512, ANT 3100, EGR 3350	*	.	.
BME 4421	3.0	_____	_____	BiotransportANT 3120, MTH 2350	.	*	.
BME 4920	3.0	IW	_____	Senior Design IIBME 4910	a	*	.
_____	3.0	_____	_____	Global Traditions/Interdisciplinary (E-3)	a	*	a
_____	3.0	_____	_____	Technical Elective (see back of guide for approved courses).....	a	*	a
Credit Hours Per Semester in the Model Program.....					15	12	0

TOTAL SEMESTER CREDIT HOURS.....120.0

Meets or exceeds ABET minimum requirements of 37.5% engineering credit hours (45 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 BIE 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**
 (★) 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 number in { } denotes may be either a prerequisite or corequisite course.
4. Course number followed by "c" denotes a corequisite course.
5. *CHM 2110 offered Summer A Term
 *CHM 2120 offered Summer B Term

APPROVED BME Pre-Med TECHNICAL ELECTIVES					
Course	Title	Pre-req	Fa	Sp	Su
BME 4350 (3)	Computational Neuroergonomics & Healthcare Applications.....	BME students must submit a pre-req petition to take this course	a	.	.
BME 4460 (3)	Nanomedicine Fundamentals.....	BME 4440, ANT 3120	.	a	.
BME 4610 (3)	Clinical Engineering in the Developing World.....	PHY 2410, (Application and Department Permission)	.	.	a
BME 4710 (3)	Optical Imaging.....	PHY 2410 and PHY 2410L	a	.	.
BME 4720 (3)	Biomedical Optics.....	PHY 2410, ANT 3120	.	a	.
BME 4950 (3)	Undergraduate Research in Biomedical Engineering II	(Department Permission)	a	a	a
BME 4980 (3)	Tissue Engineering & Regenerative Medicine.....	ANT 3120 and BME 4440	.	a	.
BME 4990 (3)	Undergraduate Independent Studies in Biomedical Engineering II.....	(Department Permission)	a	a	a
EGR 3940/4940	Engineering Intemship.....	30 hours of intemship will count as a 3 credit hour technical elective	a	a	a

