



**WRIGHT STATE
UNIVERSITY**

Bachelor of Science Biomedical Engineering – Pre-Med 2025-2026

Name:

UID:

Guide may be subject to program change

First Year	CR	IWMC	Sem	Gr	Title	Fa	Sp	Su
UVC 1010	1.0				First year seminar-----	*	*	*
CHM 1210 ^(C)	3.0				General Chemistry I(E-E)----- (H S CHM, or CHM 1010), (MTH 1280 or ALEKS level 46), CHM 1210Lc	*	a	a
CHM 1210L ^(C)	2.0				General Chemistry I Lab(Element E)----- CHM 1210c	*	a	a
MTH 2300 ^(C)	4.0				Calculus I (Element B)-----MTH 1350 or MPL 50 or ALEKS 76	*	a	a
ENG 1100 ^(C)	3.0				English (Element A)-----ACT 23 or SAT Verbal 530 or WPL 40	*	a	*
*BIO 1120	4.0				Cells and Genes----- (Recommended for MCAT but not required for BME B)	a	*	*
CHM 1220	3.0				General Chemistry II(Element E additional)-----CHM 1210, CHM 1210L, CHM 1220Lc	a	*	a
CHM 1220L	2.0				General Chemistry II Lab-(Element E additional)-----CHM 1220c	a	*	a
CS 1160(D)	4.0				Intro to Computer Programming----- MPL 30 or DEV 0970 Minimum Grade of P, CS1160L(c)	a	*	*
PHY 2400 ^(C)	4.0				General Physics I (Element E)-----MTH 2300 or EGR 1010 C or better), PHY 2400Lc	a	*	a
PHY 2400L ^(C)	1.0				General Physics Lab (Element E additional)-----PHY 2400c	a	*	a
Credit Hours Per Semester in the Model Program						13	14	0

Second Year	CR	IWMC	Sem	GR	Title	Fa	Sp	Su
ANT 2100 ^(C) OR ANT 3100 ^(C)	4.0				Human Anatomy and Physiology I-----ANT 2100Lc	*	a	*
CHM 2110*	3.0				Human Structure & Function I----- (CHM 1020 or CHM 1210 C or better), ANT 3100Lc	*	a	*
CHM 2110L	2.0				Organic Chemistry I-----CHM 1220, CHM 1220L, CHM 2110Lc	*	a	a
MTH 2310	4.0				Organic Chemistry I Lab-----CHM 2110c	*	a	a
SOC 2000	3.0				Calculus II (Element B additional)-----MTH 2300	*	a	a
ANT 2120 OR ANT 3120	4.0				Introduction to Sociology (Element D IE, IW)-----	*	a	a
CHM 2120*	3.0				Human Anatomy and Physiology II-----ANT 2100 C or Better, ANT 2100Lc	*	*	a
CHM 2120L	2.0				Human Structure & Function II-----ANT 3100 C or Better, ANT 3120Lc	*	*	a
PHY 2410	4.0				Organic Chemistry II-----CHM 2110, CHM 2110L, CHM 2120Lc	*	*	a
PHY 2410L	1.0				Organic Chemistry II Lab-----CHM 2120c	*	*	a
MTH 2350	4.0				General Physics II (Element E additional) -----PHY 2400, MTH 2300, {MTH 2310}, PHY 2410Lc	a	*	a
					General Physics II Lab (Element E additional)-----PHY 2410c	a	*	a
					Differential Equations w/Matrix Algebra-----MTH 2310	a	*	a
Credit Hours Per Semester in the Model Program						16	18	0

Third Year	CR	IWMC	Sem	GR	Title	Fa	Sp	Su
*BMB 4001	3.0				Biochemistry & Molecular Biology----- (Recommended for MCAT but not required for BME B)	a	*	a
ME 2120 ^(C)	3.0				Statics-----EGR 1010 or MTH 2300 and PHY 2400, ME 2120Rc	*	a	*
EE 2010 ^(C)	3.0				Analog Circuit Theory-----EGR 1010(min grade of C), or MTH 2300 (min grade of C), EE2010Lc	*	a	a
EE 2010L ^(C)	1.0				Analog Circuit Theory Lab----- EGR 1010(min grade of C), or MTH 2300 (min grade of C), EE2010c	*	a	a
BME 4440	4.0				Biomaterials-----CHM 1220 and (ANT 2120 or ANT 3120), BME 4440Lc	*	*	*
PSY 1010	4.0	IW			Intro to Psychology (Element D IE, IW) -----PSY 1010Lc	*	a	a
ME 3120	3.0				Mechanics of Materials-----ME 2120 (min grade of C), and CS 1160	a	*	*
EE 3310	3.0				Electronic Devices and Circuits-----EE 2010 and EE 2010L C or better and MTH 2300, EE 3310Lc	a	*	*
EE 3310L	1.0				Electronic Devices and Circuits Lab-----EE 2010 and EE 2010L C or better and MTH 2300, EE 3310c	a	*	*
EE 3510	3.0				Continuous and Discrete Linear Systems-----EE 2010 C or better and EE 2010L C or better	a	*	*
ISE 2211(D)	3.0				Statistics for Egr-----MTH 2300 or EGR 1010	*	a	*
EGR 3350 or ENG 2140	3.0				Tech Comm for Engineers & Computer Scientists (Element A) -----ENG 1100	a	*	*
					Rsrch, Tech Writing & Prestation for Scientists and Egr-----ENG 1100 Min Gr C or ENG 1130 Min Gr C or ENG 1140 Min Gr C	a	*	*
Credit Hours Per Semester in the Model Program						15	16	0

Fourth Year	CR	IWMC	Sem	GR	Title	Fa	Sp	Su
BME 4550	4.0				Bioinstrumentation----- (ANT 2120 or ANT 3120), EE 3310, EE 3510, BME 4550Lc	*	*	*
					WSU Core Element C Arts & Humanities-----	*	a	a
ISE 4310 (D)	3.0				Ergonomics-----ISE 2211	*	*	*
BME 4910(D)	3.0	IW			Senior Design I-----EE 3310, BME 4440, (EGR 3350 or ENG 2140)	*	*	*
BME 4470	3.0				Design of Medical Devices-----BME 4440 min grade of D	*	a	a
BME 4421(D)	3.0				Biotransport----- (ANT 2120 or ANT 3120), MTH 2350, CS 1160 and (BME 3212 or ME 2120)	*	*	*
	3.0				WSU Core Element C Arts a& Humanities-----	a	*	a
BME 4920(D)	3.0	IW			Senior Design II-----BME 4910	*	*	*
ISE 3540 or CS 3840	3.0				Applied Machine Learning-----CS 1160 and ISE 2211 and MTH 2300 *See back for full list	a	*	*
	3.0				**Department Approved Technical Elective-----	a	*	*
	2.0				Additional WSU Core-----	a	*	a
Credit Hours Per Semester in the Model Program						16	17	0

Total Semester Credit Hours = 125.0

Meets or exceeds ABET minimum requirements of 37.5% engineering credit hours (45 semester credit hours).

General Information:

1. **Traditional Curriculum** 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. **Pre-Med Curriculum** also prepares students for entrance test 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. Students must have met the CECS entrance requirements in order to register for BIE courses numbered 3000 or higher.

Additional Requirements:

- Students are required to have two Multicultural Competence (MC) 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. Prerequisites to a course in { } may be taken concurrently with the course.
4. Course number followed by "c" denotes a corequisite course.
5. *CHM 2110 offered Summer A Term
*CHM 2120 offered Summer B Term
6. Independent Study or Undergraduate Research including Departmental Honors research can fulfill a maximum of four credit hours of TE requirements. Internship can fulfill a maximum of three credit hours of TE requirements.
7. ^(C) = A C or higher is required to move to full major status for CHM 1210/1210(L) or PHY 2400/2400(L) and MTH 2300, and ENG 1100. Also, a C or higher is required for ME 2120, (ANT 2100 or ANT 3100), and EE 2010/2010(L) for course pre-requisites.
8. Full list of prerequisites for ISE 3540 and CS 3840 are (CS 1160 or CS 1180 or CEG 2170 or ME 1020) and (ISE 2211 or STT 3600 or STT 3700) and MTH 2300
9. Additional Core Requirements
Within the 36 credit hours of the Wright State Core students must successfully complete the following:
 - One Global Inquiry (GI) course
 - Two Inclusive Excellence (IE) courses
 - One to two Integrated Writing (IW) courses. To meet degree requirements all students must complete a minimum of three IW courses by choosing either (a) one in the Core and two in the major or (b) two in the Core and one in the major.Students who do not make choices within the 36 required hours of the Core to fulfill the GI, IE and IW requirements will take additional Core hours beyond the minimum of 36.