

**BIOMEDICAL ENGINEERING**  
**Curriculum for Bachelor of Science in Biomedical Engineering**  
*Area of Emphasis: Biomedical Sensors and Devices*  
**(133 hours total)**  
**Effective Fall 2018**

Plan to be accredited by the Engineering Accreditation Commission of ABET (<http://www.abet.org>)

Fall Semester Courses		Sem Hrs		Spring Semester Courses		Sem Hrs
<b>FRESHMAN</b>						
BME 001 New Student Assembly		0		ECE 210 Intro to Electrical Engg		3
BME 200 Intro to Biomedical Engg		3		MATH 221 Anal Geom Calc 2		4
KIN 110 Intro to Public Health	or	3		PHYS 213 Engg Physics 1		5
ECON 110 Prin Macroecon		4		CHM 230 Chemistry 2		4
CHM 210 Chemistry 1		3				
ENGL 100 Exposit Writing 1*		4				
MATH 220 Anal Geom Calc 1						
TOTAL		17		TOTAL		16
<b>SOPHOMORE</b>						
COMM 105 Public Speaking 1A		2		BIOL 198 Prin of Biology		4
ECE 241 Intro to Computer Engg		3		MATH 222 Anal Geom Calc 3		4
MATH 240 Elem Diff Equations		4		CIS 200 Prog Fundamentals		4
PHYS 214 Engg Physics 2		5		ECE 511 Circuit Theory 2		3
ECE 410 Circuit Theory 1		3		STAT 510 Intro to Prob & Stat I		3
TOTAL		17		TOTAL		18
<b>JUNIOR</b>						
BME 430 Biomaterials		3		CHM 531 Organic Chemistry I		3
BIOL 340 Struct Func Human Body	or	8		ECE 512 Linear Systems		3
KIN 360 Anatomy and Physiology		3		BME 451 Biomechanical Engineering		3
ECE 540 App Sci Computing		1		ENGL 415 Writ Comm Engr		3
BME 490 Undergrad BME Design Exp I				BME 491 Undergrad BME Design Exp II		2
				ECE 431 Microcontrollers		3
TOTAL		15		TOTAL		17
<b>SENIOR</b>						
ECE 772 Biomed Instrumentation Lec		2		BME 674 Medical Imaging		3
ECE 773 Biomed Instrumentation Lab		1		BME 575 Clinical Systems Engineering		3
BME 590 Senior Design Exp I		3		BME 591 Senior Design Exp II		3
ECE 647 Digital Filtering		3		Technical Elective***		3
Technical Elective***		6		Humanities / Social Sci Elective**		3
Humanities / Social Sci Elective**		3				
TOTAL		18		TOTAL		15

\*Students must complete the appropriate prerequisite credits for ENGL 415, but may apply only 3 hours of ENGL 415 prerequisite credits toward degree requirements.

\*\*Humanities and Social Science electives are to be selected from the approved College of Engineering H&SS list.

Students should select these courses as needed to complete the requirements of the K-State 8 General Education program.

\*\*\*Technical Electives must be selected to complete one of the areas of emphasis. Technical Electives must come from the approved technical electives list.

**ECE C-prerequisite Policy:**

For the good and benefit of the student and their future employer, the ECE department enforces a C-prerequisite policy for all courses listed by number in the biomedical engineering curriculum and for any in-major technical elective course applied toward the degree. A grade of C or better must be earned in all prerequisites to such a course before enrolling in that course.

**ECE Transfer Course Policy:**

No more than twelve (12) credit hours of courses in electrical engineering, computer engineering, or biomedical engineering may be transferred to Kansas State University for credit toward a bachelor's degree in biomedical engineering. Further, those courses selected for transfer credit must be equivalent to courses in the list below and must be such that the prerequisites for the listed course are also satisfied. Any courses transferred must be taken from ABET accredited programs: ECE 210, ECE 241, ECE 410, ECE 511, ECE 512, ECE 519, ECE 590/591, ECE 772, BME 200, BME 430, BME 451, BME 490/491, BME 575, and BME 674.