

Biological Engineering

The curriculum is 128 credits comprised of a Basic Program plus Electives which students select to meet both University Core requirements and requirements of the Biological Engineering degree.

Student Performance and Retention Requirements: Students are required by Board of Regents policy to achieve a C- or better grade in each class used to satisfy the Bachelor of Science degree requirements. Moreover, students must achieve a C- or better grade prior to taking follow-on courses.

Basic Program

Freshman Year	Credits	
	Fall	Spring
EBIO 100 - Intro to Biological Engr or ECHM 100 - Intro to Chemical Engr	2	
CHMY 141 - College Chemistry I & CHMY 142 - College Chemistry I Lab	4	
Univ Core Electives (IA, IH, IS or D)	3	
M 171Q - Calculus I	4	
US or W Core course	3	
Univ Core Electives (IA, IH, IS or D)		3
BIOB 160 - Principles of Living Systems or BIOB 260 - Cellular and Molecular Biology		4
EGEN 102 - Intro to Engineer Comp Apps		3
CHMY 143 - College Chemistry II & CHMY 144 - College Chemistry II Lab		4
M 172 - Calculus II		4
Year Total:	16	18

Sophomore Year	Credits	
	Fall	Spring
M 273 - Multivariable Calculus	4	
PHSX 220 - Physics I with Calculus	4	
CHMY 211 - Elements of Organic Chemistry & CHMY 212 - Elements of Organic Chemistry Lab	5	
ECHM 201 - Elementary Principles of Chemical and Biological Engineering	4	
EBIO 216 - Elem Princ of Biological Engineering		3
ECHM 321 - Chemical Engineering Fluid Mechanics Operations		3
M 274 - Introduction to Differential Equation		4
BIOM 360 - General Microbiology		5
Year Total:	17	15

Junior Year	Credits	
	Fall	Spring
BCH 380 - Biochemistry & BCH 381 - Biochemistry Lab	5	
Univ Core Electives (IA, IH, IS or D)	3	
EGEN 350 - Applied Engineering Data Analysis	2	
EBIO 324 - Bioengineering Transport	3	
EBIO 407 - Biological Engineering Thermodynamics	3	
EBIO 438 - Bioprocess Engineering		3
Univ Core Electives (IA, IH, IS, or D)		3
EBIO 439 - Downstream Processing		3

EGEN 310R - Multidisciplinary Engineering Design	3	
EMAT 251 - Materials Structures and Prop	3	
Year Total:	16	15

Senior Year	Credits	
	Fall	Spring
EBIO 442 - Bioengineering Lab I	3	
EBIO 411R - Biological Engineer Design I	3	
Technical Elective	3	
EMAT 464 - Biomedical Materials Engineering	3	
PHSX 222 - Physics II with Calculus	4	
EBIO 412R - Biological Engineer Design II		3
EBIO 443 - Bioengineering Lab II		3
Technical Elective		3
ECHM 451 - Chemical Engineering Process Dynamics and Control		3
Univ Core Electives (IA, IH, IS or D)		3
Year Total:	16	15
Total Program Credits:		128

A minimum of 128 credits is required for graduation; 42 of which must be in courses numbered 300 and above.