

BSBCHE Biochemical Engineering
Fall 2024

This document is an example of a BSBCHE program of study. Several factors can affect the course scheduling sequence. For a copy of the official curriculum, please go to the UGA Bulletin: <http://bulletin.uga.edu/>

Major Requirements

Students must earn a grade of "C" (2.0) or better in the courses indicated in **bold**.

Entrance Requirements

To be considered as a candidate for BSBCHE, students must complete the courses indicated in *italics*. For more information on entrance requirements, please refer to the UGA Bulletin: <http://bulletin.uga.edu/> and our website.

YEAR ONE

Fall Semester		Hours	Spring Semester		Hours
<i>BIOL 1107&L</i>	<i>Principles of Biology I</i>	4	<i>CHEM 1212&L</i>	<i>Freshman Chemistry II</i>	4
CHEM 1211&L	Freshman Chemistry I	4	ENGL 1102	English Composition II	3
ENGL 1101	English Composition I	3	ENGR 1120	Engineering Graphics	2
ENGR 1920	Intro to Engineering	1	<i>MATH 2260</i>	<i>Calculus II</i>	4
MATH 2250	Calculus I	4	<i>PHYS 1251</i>	<i>Physics for Engineers I</i>	3
FYOS	First-Year Odyssey	1			
Total Credit Hours		17	Total Credit Hours		16

YEAR TWO

Fall Semester		Hours	Spring Semester		Hours
BCHE 2910	Intro Biochemical Engr. Design	3	CHEM 2211&L	Organic Chemistry I	4
COMM 1110	Public Speaking	3	ENGR 3140	Thermodynamics I	3
ENGR 1140	Computational Engr. Methods	2	ENGR 3160	Fluid Mechanics	3
ENGR 2120	Statics	3	MATH 2700	Differential Equations	3
MATH 2500	Multivariable Calculus	3		Engineering Prof. Elective	3
PHYS 1252	Physics for Engineers II	3			
Total Credit Hours		17	Total Credit Hours		16

YEAR THREE

Fall Semester		Hours	Spring Semester		Hours
BCHE 3145	Equilibrium Thermodynamics	3	BCHE 3180L	Biochemical Engineering Lab	3
BCHE 3520	Mass Transport/Rate Phenom	3	BCHE 3420	Kinetics & Reactor Design	3
BCMB 3100	Intro Biochem./Molecular Bio	4	BCHE 4510	Biochemical Engineering	3
MIBO 3500	Intro Microbiology	3	ENGR 3150	Heat Transfer	3
	Social Sciences Elective	3		World Lang & Culture Elective	3
Total Credit Hours		16	Total Credit Hours		15

YEAR FOUR

Fall Semester		Hours	Spring Semester		Hours
BCHE 4520	Biochemical Separation Process	3	BCHE 4180L	Advanced Biochemical Engineering Lab	3
BCHE 4550	Bioprocess Design & Simulation	3	BCHE 4360	Biochemical Process Control	3
BCHE 4910	BCHE Capstone Design I	2	BCHE 4911	BCHE Capstone Design II	2
	Biochemical Engineering Elective	3		Biochemical Engineering Elective	3
	Social Sciences Elective	3		World Lang & Culture Elective	3
	World Lang & Culture Elective	3		Social Sciences Elective	3
Total Credit Hours		17	Total Credit Hours		17



Biochemical Engineering Electives

Select two (2) courses from the list below. Courses with BCHE prefixes are preferred over BIOE prefixes.

BCHE 4460	Bio-refinery Engineering
BCHE 4600	Biopharmaceutical Engineering
BCHE 4650/6650	Animal Cell Biomanufacturing
BCHE 4655/6655	Metabolic Engineering and Synthetic Biology
BCHE 4710/6710	Bio-electrochemical Engineering
BCHE 4900	Special Topics in Biochemical Engineering (3 hours; requires approval of School Chair)
BCHE/ENVE 4490/6490	Environmental Engineering Remediation Design
BIOE 4625	Tissue Engineering *
BIOE 4740/6740	Biomaterials *
BIOE/CHEM 4615/6615	Soft Materials *
ENGR 4490/6490	Renewable Energy Engineering
ENGR 4900	Special Topics in Engineering (3 hours; requires approval of School Chair)

* Students may only choose one of these.

Engineering Professionalism Electives

Select one (1) course from the list below.

BIOE 2100W	Bioengineering Prof. Persona (Preferred)
ELEE 4545	Engineering Entrepreneurship
ENGR 4570	International Engineering Project Management

