

**BSBE Biological Engineering
Fall 2024**

This document is an example of a BSBE 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 BSBE, 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>BIOL 1108&L</i>	<i>Principles of Biology II</i>	4
CHEM 1211&L	Freshman Chemistry I	4	<i>CHEM 1212&L</i>	<i>Freshman Chemistry II</i>	4
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		17

YEAR TWO

Fall Semester		Hours	Spring Semester		Hours
COMM 1110	Public Speaking	3	BIOE 2920	Design Methodology	2
ENGL 1102	English Composition II	3	CHEM 2211&L	Organic Chemistry I	4
ENGR 1140	Computational Engr. Methods	2	ENGR 2170&L	Electrical Circuits	3
ENGR 2120	Statics	3	ENGR 2110	Engineering Decision Making	3
MATH 2500	Multivariable Calculus	3	MATH 2700	Differential Equations	3
PHYS 1252	Physics for Engineers II	3			
Total Credit Hours		17	Total Credit Hours		15

YEAR THREE

Fall Semester		Hours	Spring Semester		Hours
BCMB 3100	Intro Biochem. /Molecular Bio	4	BIOE 3720	Engineering Physiology	3
BCHE 3520	Mass Transport/Rate Phenom	3	ENGR 2140	Strength of Materials	3
ENGR 3160	Fluid Mechanics	3	ENGR 3140	Thermodynamics I	3
	Engineering Prof. Elective	3		Science Elective	3
	Science Elective	3		Social Sciences Elective	3
Total Credit Hours		16	Total Credit Hours		16

YEAR FOUR

Fall Semester		Hours	Spring Semester		Hours
BIOE 4740	Biomaterials	3	BIOE 4760	Biomechanics	3
BIOE 4910	Engineering Design Project I	2	BIOE 4911	Engineering Design Project II	2
	BIOE Lab Elective [#]	3		Biological Engineering Elective	3
	Biological Engineering Elective	3		World Lang & Culture Elective	3
	Social Science Elective	3		World Lang & Culture Elective	3
	World Lang & Culture Elective	3		Social Sciences Elective	3
Total Credit Hours		17	Total Credit Hours		17

Biological Engineering Lab Elective (at least 3 hours)

BIOE 4960R

BIOE 4750

ENGR 3910

Science Elective: Select 3000-level or above courses that are at least 3 credit hours from the following prefixes: ADSC, BCMB, BIOL, BIOS, BINF, BTEC, CBIO, ECOL, EPID, GENE, IDIS, MIBO, PBIO, PHRM, PMCY, VPHY or STAT 3110.

Biological Engineering Electives

Select two (2) courses from the list below. BIOE prefix courses are preferred over BCHE prefix courses. BIOE 4750 is highly recommended.

BCHE 4510/6510	Biochemical Engineering
BCHE 4520/6520	Design of Biochemical Separations Processes
BCHE 4600	Biopharmaceutical Engineering
BCHE 4655/6655	Metabolic Engineering and Synthetic Biology
BCHE 4900	Special Topics in Biochemical Engineering (3 hours; require approval of School Chair)
BIOE 4625	Tissue Engineering
BIOE 4650/6650	Animal Cell Biomanufacturing
BIOE 4720	Biomedical Device Design
BIOE(CHEM) 4615/6615	Soft Materials
CSEE 4620/6620	Biomedical Imaging
CSEE 4750	Programming for Computational & Systems Biology
CSEE 4790	Applied Biomedical Instrumentation
ENGR 4900	Special Topics in Engineering (3 hours; require approval of School Chair)

Engineering Professionalism Electives

Select one (1) course from the list below.

BIOE 2100W	Bioengineering Prof. Persona (Preferred)
BIOE 4780	Regulations and Ethics in BME
ELEE 4545	Engineering Entrepreneurship
ENGR 4570	International Engineering Project Management