

## BSBCHE BIOCHEMICAL ENGINEERING

Fall 2018

This document is an aid only for planning a BSBCHE degree plan. Several factors affect a course scheduling sequence.

See the UGA Bulletin for details: <http://bulletin.uga.edu/>

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

### High Demand Entrance Requirements

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

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

YEAR TWO					
<u>Fall Semester</u>		<u>Hours</u>	<u>Spring Semester</u>		<u>Hours</u>
<b>MATH 2500</b>	<b>Multivariable Calculus</b>	3	<b>MATH 2700</b>	<b>Differential Equations</b>	3
<b>ENGR 2120</b>	<b>Statics</b>	3	<b>ENGR 3160</b>	<b>Fluid Mechanics</b>	3
<b>PHYS 1252</b>	<b>Physics for Engineers II ^</b>	3	<b>ENGR 3140</b>	<b>Thermodynamics I</b>	3
BCHE 2910	Intro Biochemical Engr. Design	3	ENGL 1102	English Composition II	3
ENGR 1140	Computational Engr. Methods	2	<b>CHEM 2211&amp;L</b>	<b>Organic Chemistry I</b>	4
COMM 1110	Intro to Public Speaking	3			
<b>Total Credit Hours</b>		<b>17</b>	<b>Total Credit Hours</b>		<b>16</b>

YEAR THREE					
<u>Fall Semester</u>		<u>Hours</u>	<u>Spring Semester</u>		<u>Hours</u>
<b>BCHE 3520</b>	<b>Mass Transport/Rate Phenomena</b>	3	<b>ENGR 3150</b>	<b>Heat Transfer</b>	3
BCHE 3145	Equilibrium Thermodynamics	3	<b>ENGR 2110</b>	<b>Engineering Decision Making</b>	3
BCMB 3100	Intro Biochem./Molecular Biology	4	BCHE 3420	Kinetics & Reactor Design	3
MIBO 3500	Intro Microbiology	3	BCHE 3180	Biochemical Engineering Lab	3
	World Lang & Culture Elective	3	BCHE 4510	Biochemical Engineering	3
<b>Total Credit Hours</b>		<b>16</b>	<b>Total Credit Hours</b>		<b>15</b>

YEAR FOUR					
<u>Fall Semester</u>		<u>Hours</u>	<u>Spring Semester</u>		<u>Hours</u>
BCHE 4910	BCHE Capstone Design I	2	BCHE 4911	BCHE Capstone Design II	2
BCHE 4550	Bioprocess Design & Simulation	3	BCHE 4180	Advanced Biochemical Engineering Lab	3
	Biochemical Engineering Elective	3	BCHE 4360	Biochemical Process Control	3
	Social Sciences Elective	3		Biochemical Engineering Elective	3
	World Lang & Culture Elective	3		Biochemical Engineering Elective	3
	World Lang & Culture Elective	3		Social Sciences Elective	3
<b>Total Credit Hours</b>		<b>17</b>	<b>Total Credit Hours</b>		<b>17</b>



School of Chemical, Materials  
and Biomedical Engineering  
*College of Engineering*  
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## Biochemical Engineering Electives

Select **three (3) courses** from the list below. Students are encouraged to select elective courses with the **BCHE** prefix.

BCHE 4460	Bio-refinery Engineering
BCHE(ENVE) 4490/6490	Environmental Engineering Remediation Design
BCHE 4520/6520	Design of Biochemical Separation Processes
BCHE 4650	Animal Cell Biomanufacturing
BCHE 4655/6655	Metabolic Engineering and Synthetic Biology
BCHE 4710/6710	Bio-electrochemical Engineering
BIOE 4625	Tissue Engineering
*BIOE 4740/6740	Biomaterials
*BIOE(CHEM) 4615/6615	Soft Materials
ENGR 4490/6490	Renewable Energy Engineering

*\*Students may only choose **one** of these.*

### ^ Preferred courses for Pre-Health students:

PHYS 1211-1211L (4 hours) - Principles of Physics for Scientists and Engineers-Mechanics, Waves, Thermodynamics

PHYS 1212-1212L (4 hours) - Principles of Physics for Scientists and Engineers-Electricity and Magnetism, Optics, Modern Physics

