BACHELOR OF SCIENCE IN CHEMICAL AND BIOMOLECULAR ENGINEERING - STANDARD OPTION

Code	Title	Credit Hours
Wellness Requirement		
APPH 1040	Scientific Foundations of Health	2
or APPH 10	The Science of Physical Activity and Health	
or APPH 10	Flourishing: Strategies for Well-being and Resilience	
Core IMPACTS		
Institutional Priority		
CS 1371	Computing for Engineers	3
Mathematics and Quantitative Skills		
MATH 1552	Integral Calculus [3]	4
Political Science and U.S. History		
HIST 2111	The United States to 1877	3
or HIST 2112	The United States since 1877	
or INTA 1200	American Government in Comparative Perspective	
or POL 1101	Government of the United States	
or PUBP 3000	American Constitutional Issues	
Arts, Humanities, and Ethics		
Any HUM		6
Communicating in Writing		
ENGL 1101	English Composition I	3
ENGL 1102	English Composition II	3
Technology, Mathematics, and Sciences		
PHYS 2211	Principles of Physics I [1]	4
PHYS 2212	Principles of Physics II [2]	4
MATH 1551	Differential Calculus [3]	2
MATH 1553	Introduction to Linear Algebra [3]	2
Social Sciences		
Any SS		9
Field of Study		
BIOS 1107 & 1107L	Biological Principles and Biological Principles Laboratory	4
CHEM 1211K	Chemical Principles I	4
or CHEM 13	Principles of General Chemistry for Engineers	
CHEM 2380	Synthesis Laboratory I	2
MATH 2551	Multivariable Calculus [3]	4
MATH 2552	Differential Equations [3]	4
Major Requirements		
Economics Requirement [9]		
CHBE 2100	Chemical Process Principles [3]	3
CHBE 2140	Chemical Engineering Thermodynamics	4
CHBE 3205	Fluid Mechanics	2
CHBE 3215	Heat & Mass Transfer	4
CHBE 3225	Separations Processes [3]	3
CHBE 3300	Chemical Kinetics and Catalysis	2
CHBE 4200	Transport Phenomena/Unit Operations Laboratory [3,8]	3
CHBE 4320	Reactor Design	2
CHBE 4411	Process Dynamics and Control [3,8]	3
CHBE 4412	Process Dynamics and Control Laboratory [3,8]	1
CHBE 4510	Process and Product Design And Economics [3]	2
CHBE 4515	Chemical Process Safety [3,8]	1
CHBE 4520	Chemical Engineering Capstone Design Project [3,8]	2
CHBE Electives		
CHBE Electives [4]		6
Engineering Electives		
2000-level Engineering Elective or higher [5]		3
3000-level Engineering Elective or higher [5]		3
Other Engineering and Science Requirements		
CHEM 1212K	Chemical Principles II	4
CHEM 2311	Organic Chemistry I	3
CHEM 2312	Organic Chemistry II	3
or CHEM 2303	Organic and Bioorganic Chemistry	
MSE 2001	Principles and Applications of Engineering Materials	3
Select one of the following:		3
CHEM 3111	Inorganic Chemistry	
CHEM 3281	Instrumental Analysis for Engineers	
CHEM 3412	Physical Chemistry II	
CHEM 3511	Survey of Biochemistry	
CHEM 3521	Biochemistry I	
CHEM 3522	Biochemistry II	
CHEM 4311	Advanced Organic Chemistry	
CHEM 4341	Applied Spectroscopy	
Free Electives [7]		
Free Electives		6
Total Credit Hours		**129**

Pass-fail only allowed for Free Electives.

1. If PHYS 2231 is taken, extra hour goes to Free Electives.
2. If PHYS 2232 is taken, extra hour goes to Free Electives.
3. Minimum grade of C required
4. CHBE Electives must be chosen from the following list: CHBE 4020, CHBE 4030, CHBE 4050, CHBE 4310, CHBE 4535, CHBE 4610, CHBE 4710, CHBE 4720, CHBE 4730, CHBE 4743, CHBE 4745, CHBE 4746, CHBE 4757, CHBE 4759, CHBE 4760, CHBE 4762, CHBE 4765, CHBE 4775, CHBE 4776, CHBE 4782, CHBE 4791, CHBE 4793 or any 6000-level CHBE course or higher. Special Topics or Special Problems courses must be approved by the ChBE Academic Committee.
5. Students should consult with their advisor regarding Engineering Elective options. Engineering electives must be chosen from the following list: AE 4699, AE 4883, BMED 2400, BMED 3400, BMED 3510, BMED 4699, BMED 4751, CEE 2040, CEE 2300, CEE 4330, CEE 4620, CEE 4699, CHBE 2699, CHBE 4020, CHBE 4030, CHBE 4050, CHBE 4310, CHBE 4535, CHBE 4610, CHBE 4699, CHBE 4710, CHBE 4720, CHBE 4730, CHBE 4743, CHBE 4745, CHBE 4746 CHBE 4757,

CHBE 4759, CHBE 4760, CHBE 4762, CHBE 4765, CHBE 4767, CHBE 4775, CHBE 4776, CHBE 4782, CHBE 4791, CHBE 4793, CHBE 6120, CHBE 6794, COE 2001, COE 3001, COE 3002, ECE 2020, ECE 2026, ECE 3025, ECE 3040, ECE 3043, ECE 3072, ECE 3710, ECE 3741, ECE 4350, ECE 4699, ISYE 2027, ISYE 2028, ISYE 3025, ISYE 3039, ISYE 3232, ME 2202, ME 3210, ME 4699, MSE 2021, MSE 3005, MSE 3720, MSE 4140, MSE 4751, MSE 4330, MSE 4740, MSE 4699, NRE 3301, NRE 4610, NRE 4699. Special Topics or Special Problems courses must be approved by the ChBE Academic Committee.

[6] PHYS 2XXX (AP credit) not allowed.

[7] Five or fewer VIP credits can be applied as Free Electives. For Six or more VIP credits, approval must be granted by the ChBE Academic Committee to apply up to 3 hours as Engineering Electives; the balance will be applied as Free Electives. Please consult with your academic advisor for more details.

[8] Students can graduate with one D in a senior-level core CHBE course per the policy outlined in the CHBE Student Handbook. See https://sites.gatech.edu/chbe-handbook/graduation/ for more information on eligible courses.

[9] Engineering students must complete one of the following economics classes: ECON 2100, ECON 2101, ECON 2105, ECON 2106. The course will also satisfy 3 hours of Core IMPACTS Social Science courses.