



**KENTUCKY STATE
UNIVERSITY**

BACHELOR OF SCIENCE

Chemistry Curriculum Ladder

The Bachelor of Science in Chemistry at Kentucky State University is structured to provide a progressive and in-depth education in the chemical sciences. Our curriculum ladder is designed to guide students through a sequence of courses that build on foundational knowledge and advance toward specialized expertise.

Throughout the curriculum, students benefit from small class sizes, personalized mentorship, and access to state-of-the-art laboratory facilities. The B.S. in Chemistry program at Kentucky State University equips graduates with the knowledge, skills, and experiences needed to excel in graduate studies, professional schools, and diverse scientific careers.

Plan of Study

Course	Title	Hours
Year 1		
Term 1 (Fall)		
KSU 118	Intro. to University Learning	3
MAT 120	Precalculus	4
CHE 101 & CHE 110	General Chemistry I and General Chem I Laboratory	4
ENG 101	English Comp I	3
Hours		14
Term 2 (Spring)		
ENG 102	English Comp II	3
MAT 131	Calculus/Analy Geom I	5
CHE 102 & CHE 120	General Chemistry II and General Chemistry II Lab	4
Select one General Education Arts Course		3
ART 130 or MUS 130 or THE 130 or ENG 211	Introduction to Art or Introduction to Music or Introduction to Theatre or Intro to Literature	
Hours		15
Year 2		
Term 3 (Fall)		
CHE 301 & CHE 310	Organic Chemistry I and Organic Chemistry I Lab.	4
COM 103	Interpersonal Communication	3
MAT 132	Calculus/Analy Geom II	5
PHY 207	Physics In Biological Sci I	4
Hours		16
Term 4 (Spring)		
CHE 302 & CHE 320	Organic Chemistry II and Organic Chemistry II Lab	4
MAT 231	Multivariate Calculus	3
PHY 208	Physics In Biological Sci II	4
Select one General Education Humanities Course		3

EDU 204 or BUA 120 or HIS 103 or HIS 108	Cultural Responsiveness or Business and Society or Western Civilization or Intro to African American Hist	
Hours		14
Year 3		
Term 5 (Fall)		
BIO 111	Principles of Biology	4
CHE 414	Instrumental Analysis	4
MAT 232	Differential Equations	3
Select one General Educational Global/Civic Course		3
APE 117 or ASP 303 or POS 101 or POS 361	Global Perspect Ag/Food/Env or American Civil Rights Movement or American Government or World Politics	
Hours		14
Term 6 (Spring)		
BIO 210	General Zoology	3
CHE 303	Quantitative Analysis	4
CHE 315 & CHE 350	Biochemistry and Biochemistry Laboratory	4
Select one General Education Behavioral Science Course		3
PSY 200 or SOC 203	General Psychology or Principles of Sociology	
Hours		14
Year 4		
Term 7 (Fall)		
CHE 425	Intro. Physical Chemistry	4
CHE 402	Chemistry Seminar	1
BIO 301	Human Anatomy	4
Select one of the following:		4
BIO 307 or BIO 316 or BIO 408	Genetics or Ecology or Cell Biology	
Select one General Education Behavioral Science Course		3
ECO 201 or FIN 101	Prin of Economics I or Financial Literacy	
Hours		16
Term 8 (Spring)		
CHE 412	Inorganic Chemistry	3
CHE 401	Undergrad Research	1-4
BIO 303	Human Physiology	4
BIO 302	General Microbiology	4
Select one of the following:		3
AQU 422 or AQU 407	Princ of Aquaculture or Fish Genetics	
Hours		15-18
Total Hours		118-121