

# CHEMISTRY, BACHELOR OF SCIENCE WITH A CONCENTRATION IN BIOCHEMISTRY (ACS CERTIFICATION OPTIONAL) (B.S.)

## Program Requirements

CIP Code: 40.0501

### Major

Code	Title	Hours
<b>University Graduation Requirements</b>		
General Education ( <a href="http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/">http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/</a> )		36
<i>Foundations of Learning</i>		
GSD 101	Foundations of Learning	3
Upper division courses (42 hrs. distributed throughout Major/Supporting/Gen Ed/Free Electives categories)		
<b>Major Requirements</b>		
<i>Core Courses</i>		
CHE 111 & 111L	General Chemistry and General Chemistry Lab I	4
CHE 112 & 112L	General Chemistry II and General Chemistry Lab	4
CHE 250 & 250L	Descriptive Inorganic Chemistry and Descriptive Inorganic Chemistry Lab	4
CHE 325 & 325L	Analytical Chemistry and Analytical Chemistry Lab	5
CHE 361 & 361L	Organic Chemistry I and Organic Chemistry Lab I	4
CHE 362 & 362L	Organic Chemistry II and Organic Chemistry Lab II	4
CHE 385	Chemical Literature	3
CHE 430	Biochemistry of Macromolecules	3
CHE 432	Biochemistry Laboratory	1
CHE 471 & 471L	Principles of Physical Chemistry I and Principles of Physical Chemistry I Lab	4

### Concentrations

Students must select one of the following Concentrations:

Biochemistry	
Biochemistry (ACS Certification Optional)	36
Pre-Health (Pre-Medical, Pre-Dental, Pre-Optometry, Pre-Physician Associate)	
Chemistry	
Chemistry (ACS Certification Optional)	
Pre-Pharmacy	
Chemistry Teaching	

*Free Electives*

Choose from 11 hours of free electives	11
<b>Total Hours</b>	<b>122</b>

### Concentration

This program option produces a degree which follows the recommendation from the American Society for Biochemistry and Molecular Biology (ASBMB).

Code	Title	Hours
<b>Concentration Courses</b>		
CHE 425 & 425L	Instrumental Analysis and Instrumental Analysis Lab	4
CHE 431	Metabolic Biochemistry	3
Choose from one hour of the following:		1
CHE 411	Practicum	
CHE 495A	Independent Chemical Research <sup>1</sup>	
CHE 495B	Chemistry Laboratory Independent Research: ____ <sup>1</sup>	
CHE 401L	Chemtopics Lab: _____	
Choose from five hours of either 400- or 500-level CHE or FOR or BIO electives or 300-level or higher FMT electives.		5
<i>Supporting Course Requirements</i>		
BIO 111	Cell and Molecular Biology (Element 4) <sup>G</sup>	
BIO 112	Ecology and Evolution	4
BIO 315	Genetics	4
	or BIO 320 Principles of Microbiology	
BIO 331	Cell Biology	3
BIO 531	Principles of Molecular Biology	4
MAT 234	Calculus I (Element 2) <sup>G,2</sup>	
STA 215	Introduction to Statistical Reasoning	3
Choose from one of the following:		
PHY 201	University Physics I (Element 4) <sup>G,3</sup>	
Choose from one of the following:		5
PHY 202	University Physics II <sup>3</sup>	
<b>Total Hours</b>		<b>36</b>

G Course also satisfies a General Education element. Hours are included within the 36 hr. General Education requirement above.

<sup>1</sup> CHE 495A Independent Chemical Research and/or CHE 495B Chemistry Laboratory Independent Research: \_\_\_\_ (chemistry research) is recommended.

<sup>2</sup> Preparatory courses in mathematics may be required before admission to MAT 122 Precalculus Mathematics or MAT 234 Calculus I.

<sup>3</sup> Calculus based physics (PHY 201 University Physics I and PHY 202 University Physics II) is recommended by the ACS and ASBMB.