

# CHEMISTRY, BACHELOR OF SCIENCE WITH A CONCENTRATION IN PRE-HEALTH (PRE-MEDICAL, PRE-DENTAL, PRE-OPTOMETRY, PRE-PHYSICIAN ASSOCIATE) (B.S.)

## Program Requirements

CIP Code: 40.0501

### Summary Checklist for General Education

Code	Title	Hours
<b>Element 1</b>		
A:	Written Communication ( <a href="http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-1/">http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-1/</a> )	3
B:	Written Communication ( <a href="http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-1/">http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-1/</a> )	3
C:	Oral Communication ( <a href="http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-1/">http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-1/</a> )	3
<b>Element 2</b>		
	Quantitative Reasoning ( <a href="http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-2/">http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-2/</a> )	3
<b>Element 3</b>		
A:	Arts ( <a href="http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-3/">http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-3/</a> )	3
B:	Humanities ( <a href="http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-3/">http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-3/</a> )	3
<b>Element 4</b>		
	Natural Sciences ( <a href="http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-4/">http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-4/</a> )	6
<b>Element 5</b>		
A:	Historical Science ( <a href="http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-5/">http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-5/</a> )	3
B:	Social Behavioral Science ( <a href="http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-5/">http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-5/</a> )	3
<b>Element 6</b>		
	Diversity of Perspectives Experiences ( <a href="http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-6/">http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/element-6/</a> )	6
<b>Total Hours</b>		<b>36</b>

Students are expected to complete Elements 1 and 2 within their first 60 hours of college credit.

## Major

Code	Title	Hours
<b>University Graduation Requirements</b>		
General Education		36
<i>Student Success Seminar</i>		
SCO 100C	Student Success Seminar in Chemistry (waived for transfers with 30+ hrs.)	1
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	Descriptive Inorganic Chemistry	2
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 430	Biochemistry of Macromolecules	3
<b>Concentrations</b>		
Students must select one of the following Concentrations:		
Biochemistry		
Biochemistry (ACS Certification Optional)		
Pre-Health (Pre-Medical, Pre-Dental, Pre-Optometry, Pre-Physician Associate)		44
Chemistry		
Chemistry (ACS Certification Optional)		
Pre-Pharmacy		
Chemistry Teaching		
<i>Free Electives</i>		
Choose from 13 hours of free electives		13
<b>Total Hours</b>		<b>120</b>
<b>Concentration</b>		
This program option produces a degree certified by the American Chemical Society (ACS) and follows the recommendation from the American Society for Biochemistry and Molecular Biology (ASBMB).		
Code	Title	Hours
<b>Concentration Courses</b>		
CHE 385W	Chemical Literature	3
CHE 425 & 425L	Instrumental Analysis and Instrumental Analysis Lab	4
CHE 431	Metabolic Biochemistry	3
CHE 432	Biochemistry Laboratory	1
CHE 450	Inorganic Chemistry	3
CHE 485	Chemistry Seminar	1
CHE 502	Polymers & Particles	1
CHE 570	Biophysical Chemistry I	4
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 501L	Chemtopics Lab: ___	
Choose from five hours of either 400- or 500-level CHE or FOR electives		5
<i>Supporting Course Requirements</i>		
BIO 111	Cell and Molecular Biology (Element 4) <sup>G</sup>	
BIO 112	Ecology and Evolution (Element 4) <sup>G</sup>	
BIO 307	Human Anatomy and Physiology I	3
BIO 331	Cell Biology	3
BIO 348	Vertebrate Physiology	4
MAT 234	Calculus I (Element 2) <sup>G,2,3</sup>	
PHI 383	Health & Biomedical Ethics	3
or PHI 383W	Health and Biomedical Ethics	
PSY 200	Introduction to Psychology (Element 5B) <sup>G</sup>	
SOC 131	Introductory Sociology (Element 5B) <sup>G</sup>	
Choose from one of the following:		
PHY 131	College Physics I (Element 4) <sup>G</sup>	
PHY 201	University Physics I (Element 4) <sup>G,4</sup>	
Choose from one of the following:		5
PHY 132	College Physics II	
PHY 202	University Physics II <sup>4</sup>	
<b>Total Hours</b>		<b>44</b>

**G**

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

1

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

2

Preparatory courses in mathematics may be required before admission to MAT 122 Precalculus Mathematics or MAT 234 Calculus I.

3

STA 270 Applied Statistics may be required for admission to some professional school programs.

4

Two semesters of Calculus are highly recommended, and Calculus based physics (PHY 201 University Physics I and PHY 202 University Physics II) is recommended by the ACS and ASBMB.