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

Program Requirements

CIP Code: 40.0501

Summary Checklist for General Education

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

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

Major

Code	Title	Hours
University Graduation Requirements		
General Education		36
Student Success Seminar		
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)		
Major Requirements		
Core Courses		
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
Concentrations		
Students must select one of the following Concentrations:		
Biochemistry		47
Biochemistry (ACS Certification Optional)		
Pre-Health (Pre-Medical, Pre-Dental, Pre-Optometry, Pre-Physician Associate)		
Chemistry		
Chemistry (ACS Certification Optional)		
Pre-Pharmacy		
Chemistry Teaching		
Free Electives		
Choose from 10 hours of free electives		10
Total Hours		**120**

Concentration

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
Concentration Courses		
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 [1]	
CHE 495B	Chemistry Laboratory Independent Research: ___ [1]	
CHE 501L	Chemtopics Lab:___	
Choose from five hours of either 400- or 500-level CHE or FOR electives		5
Supporting Course Requirements		
BIO 111	Cell and Molecular Biology (Element 4) [G]	
BIO 112	Ecology and Evolution	4
BIO 315	Genetics	4
BIO 531	Principles of Molecular Biology	4
MAT 234	Calculus I (Element 2) [G,2]	
MAT 244	Calculus II	4
Choose from one of the following:		
PHY 131	College Physics I (Element 4) [G]	
PHY 201	University Physics I (Element 4) [G,3]	
Choose from one of the following:		5
PHY 132	College Physics II	
PHY 202	University Physics II [3]	
Total Hours		**47**

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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

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