

## Field Major in Biochemistry

The department of biological sciences and the department of chemistry and biochemistry participate jointly in this program. Students selecting this major should seek the advice of one of the departmental chairpersons as early as possible.

### Program Requirements

A minimum total of 120 credit hours is required for the field major in biochemistry. The department of biological sciences and the department of chemistry and biochemistry participate jointly in this program. Students selecting this major should seek the advice of one of the departmental advisors or chairpersons as early as possible. In addition to meeting the requirements of the WSU General Education Program (<http://catalog.wichita.edu/undergraduate/academic-information/general-education-program/>) and the requirements of Fairmount College of Liberal Arts and Sciences, students in the field major in biochemistry must take the following courses:

Course	Title	Hours
<b>General Education</b>		
Select courses to meet General Education requirements <sup>1</sup>		34-35
<b>College Requirements</b>		
LAS Competencies and Electives - select enough courses to reach 120 credit hours and complete all LAS Competency Areas <sup>1</sup>		0-2
<b>Major Core Requirements</b>		
CHEM 211 & CHEM 212	General Chemistry I and General Chemistry II	10
CHEM 523	Analytical Chemistry	4
CHEM 531 & CHEM 532	Organic Chemistry I and Organic Chemistry II	10
CHEM 662 & CHEM 663	Biochemistry I and Biochemistry II	6
CHEM 664	Biochemistry Laboratory	3
CHEM 666	Special Topics in Biochemistry	3
or BIOL 666	Special Topics in Biochemistry	
CHEM 669	Research in Biochemistry	2
or BIOL 669	Research in Biochemistry	
BIOL 210 & BIOL 211	General Biology I and General Biology II	8
BIOL 419	Genetics	4
BIOL 420	Molecular Cell Biology	4
Select 15 credit hours of biochemistry approved electives		15
CHEM 514	Inorganic Chemistry	
CHEM 524	Instrumental Methods of Chemical Analysis	
CHEM 545	Physical Chemistry I	
CHEM 546	Physical Chemistry II	
CHEM 605	Medicinal Chemistry	
CHEM 666	Special Topics in Biochemistry	
or BIOL 666B	Cancer Biology	
BIOL 330	General Microbiology	
BIOL 330L	General Microbiology Lab	
BIOL 417	Evolution	
BIOL 534	Human Physiology	
BIOL 535	Human Physiology Lab	
BIOL 540	Developmental Biology	
BIOL 540L	Developmental Biology Lab	
BIOL 542	Molecular Genetics	
BIOL 590	Immunobiology	
BIOL 626	Reproductive Biology	

BIOL 640AC	Endocrinology	
BIOL 661	Pathogenic Microbiology	
BIOL 662	Virology	
BIOL 669	Research in Biochemistry	
or CHEM 669	Research in Biochemistry	
BIOL 710	Glycobiology	
BIOL 760	Experimental Molecular Biology Lab	
MATH 242	Calculus I	
MATH 243	Calculus II	
MATH 344	Calculus III	
<b>Additional Science Requirements for the Biochemistry Field Major</b>		
PHYS 213 & PHYS 214	General College Physics I and General College Physics II	10
Select either Option A or Option B below		5-6
Option A (5 credit hours)		
MATH 112	Precalculus Mathematics	
Option B (6 credit hours)		
MATH 111 & MATH 123	College Algebra and College Trigonometry	
<b>Total Credit Hours</b>		<b>120</b>

<sup>1</sup> Required major courses may also count towards General Education and/or LAS Competencies. Students will need to select additional electives to reach 120 credit hours required for graduation with assistance from an advisor.

### Applied Learning

Students in the field major in biochemistry are required to complete an applied learning or research experience to graduate from the program. The requirement can be met by completing at least one semester of undergraduate research, by enrollment in CHEM 669 or BIOL 669 (2 credit hours minimum).