

# BACHELOR OF SCIENCE IN BIOCHEMISTRY

The degree program in biochemistry is intended to prepare students for entrance into post-baccalaureate programs in the health professions or the basic sciences. Biochemistry is becoming an increasingly popular career path for many scientists as the basic scientific fields of chemistry and biology intertwine. The program in biochemistry will offer students a strong foundation in both the biological and chemical sciences.

## Required Courses

Code	Title	Credit Hours
<b>Biology Requirements</b>		<b>(34-35)</b>
BIOL 100	Introduction to the Profession	2
BIOL 107	General Biology Lectures	3
BIOL 109	General Biology Laboratory	1
BIOL 115	Human Biology	3
BIOL 117	Human Biology Laboratory	1
BIOL 210	Microbiology	3
BIOL 214	Genetics	3
BIOL 401	Introductory Biochemistry	3
BIOL 402	Metabolic Biochemistry	3
BIOL 404	Biochemistry Laboratory	3
BIOL 445	Cell Biology	3
Select one course from the following:		3
BIOL 431	Animal Physiology Laboratory	3
BIOL 446	Cell Biology Laboratory	3
BIOL 455	Macromolecular Techniques	3
BIOL 451	Biological Literature	2-3
or CHEM 451	Undergraduate Seminar	
BIOL 495	Biology Colloquium	1
<b>Chemistry Requirements</b>		<b>(27-28)</b>
CHEM 124	Principles of Chemistry I with Laboratory	4
CHEM 125	Principles of Chemistry II with Laboratory	4
CHEM 237	Organic Chemistry I	4
CHEM 239	Organic Chemistry II	3
CHEM 240	Organic Chemistry Laboratory	2
CHEM 247	Analytical Chemistry	3
CHEM 343	Physical Chemistry I	3
CHEM 344	Physical Chemistry II	3-4
or CHEM 438	Physical Biochemistry	
CHEM 485	Chemistry Colloquium	1
<b>Biochemistry Technical Electives</b>		<b>(11)</b>
Select 11 credit hours from the following courses:		11
BIOL 225	Microbiology Laboratory	2
FDSN 401	Nutrition, Metabolism, and Health	3
MATH 252	Introduction to Differential Equations	4
PHYS 410	Molecular Biophysics	3
Any 300+ level BIOL or CHEM course		3
<b>Physics Requirements</b>		<b>(8)</b>
PHYS 123	General Physics I: Mechanics	4
PHYS 221	General Physics II: Electricity and Magnetism	4
<b>Mathematics Requirements</b>		<b>(17)</b>
MATH 151	Calculus I	5
MATH 152	Calculus II	5

MATH 251	Multivariate and Vector Calculus	4
MATH 425	Statistical Methods	3
<b>Computer Science Requirement</b>		<b>(2)</b>
CS 105	Introduction to Computer Programming	2
or CS 110	Computing Principles	
or CS 115	Object-Oriented Programming I	
<b>Interprofessional Projects (IPRO)</b>		<b>(6)</b>
See Illinois Tech Core Curriculum, section E		6
<b>Humanities and Social Science Requirements</b>		<b>(21)</b>
See Illinois Tech Core Curriculum, sections B and C		21
<b>Total Credit Hours</b>		<b>126-128</b>

## Bachelor of Science in Biochemistry Curriculum

		Year 1	
Semester 1	Credit Hours	Semester 2	Credit Hours
BIOL 100	2	BIOL 115	3
BIOL 107	3	BIOL 117	1
BIOL 109	1	CHEM 125	4
CHEM 124	4	MATH 152	5
MATH 151	5	Humanities 200-level Course	3
<b>15</b>		<b>16</b>	
		Year 2	
Semester 1	Credit Hours	Semester 2	Credit Hours
BIOL 214	3	BIOL 210	3
CHEM 237	4	CHEM 239	3
PHYS 123	4	CHEM 240	2
MATH 251	4	PHYS 221	4
CS 105, 110, or 115	2	Social Sciences Elective	3
<b>17</b>		<b>15</b>	
		Year 3	
Semester 1	Credit Hours	Semester 2	Credit Hours
Biology Laboratory Elective <sup>1</sup>	3	CHEM 344 or 438	3-4
BIOL 445	3	MATH 425	3
CHEM 247	3	Biochemistry Technical Elective <sup>2</sup>	3
CHEM 343	3	I PRO Elective I	3
CHEM 485	1	Social Sciences Elective (300+)	3
Humanities or Social Sciences Elective	3		
<b>16</b>		<b>15-16</b>	
		Year 4	
Semester 1	Credit Hours	Semester 2	Credit Hours
BIOL 401	3	BIOL 402	3
BIOL 404	3	BIOL 451	2
BIOL 495	1	Biochemistry Technical Elective <sup>2</sup>	2-3
Biochemistry Technical Elective <sup>2</sup>	3	Biochemistry Technical Elective <sup>2</sup>	3
I PRO Elective II	3	Humanities Elective (300+)	3
Humanities Elective (300+)	3	Social Sciences Elective (300+)	3
<b>16</b>		<b>16-17</b>	

**Total Credit Hours: 126-128**

<sup>1</sup> Select from the following courses: BIOL 431, BIOL 446, or BIOL 455.

<sup>2</sup> Select from the following courses: BIOL 225, FDSN 401, MATH 252, PHYS 410, or any 300+ level BIOL or CHEM course.