

# BS in Biochemistry

## Program Codes:

20FT0318BS

## Degree Requirements

To earn a Bachelor of Science in Biochemistry degree from UIC, students need to complete university, college, and department degree requirements. The degree requirements for the Department of Biological Sciences and the Department of Chemistry are outlined below. Students should consult the *College of Liberal Arts and Sciences* section for additional degree requirements and college academic policies.

Code	Title	Hours
<b>Summary of Requirements</b>		
Requirements for the Curriculum		120
<b>Total Hours</b>		<b>120</b>

## Requirements for the Curriculum

The requirements for the curriculum include the courses necessary to complete the *General Education and Writing-in-the-Discipline* requirements described in the *College of Liberal Arts and Sciences* section.

Code	Title	Hours
<b>Required Courses</b>		
ENGL 160	Academic Writing I: Writing in Academic and Public Contexts	3
ENGL 161	Academic Writing II: Writing for Inquiry and Research	3
Foreign language (the equivalent of two years of a single language at the college level)		0-16
Exploring World Cultures course <sup>a</sup>		3
Understanding the Creative Arts course <sup>a</sup>		3
Understanding the Individual and Society course <sup>a</sup>		3
Understanding the Past course <sup>a</sup>		3
Understanding U.S. Society course <sup>a</sup>		3
MATH 180	Calculus I <sup>b,c</sup>	4
MATH 181	Calculus II <sup>c</sup>	4
Select one of the following sequences in physics:		8
PHYS 141	General Physics I (Mechanics) <sup>c</sup>	
PHYS 142	General Physics II (Electricity and Magnetism) <sup>c</sup>	
<b>OR</b>		
PHYS 131	Introductory Physics for Life Sciences I <sup>c</sup>	
PHYS 132	Introductory Physics for Life Sciences II <sup>c</sup>	
BIOS 110	Biology of Cells and Organisms <sup>c</sup>	4
BIOS 120	Biology of Populations and Communities <sup>c</sup>	4
BIOS 220	Genetics	3
Select one of the following sequences in general and analytical chemistry:		10-14
CHEM 116	Honors and Majors General and Analytical Chemistry I <sup>c</sup>	
CHEM 118	Honors and Majors General and Analytical Chemistry II <sup>c</sup>	

<b>OR</b>		
CHEM 122	General Chemistry I Lecture <sup>d</sup>	
CHEM 123	General Chemistry Laboratory I <sup>c,d</sup>	
CHEM 124	General Chemistry II Lecture <sup>d</sup>	
CHEM 125	General Chemistry Laboratory II <sup>c,d</sup>	
CHEM 222	Analytical Chemistry	
CHEM 232	Organic Chemistry I	4
CHEM 233	Organic Chemistry Laboratory I	2
CHEM 234	Organic Chemistry II	4
Select one of the following physical chemistry sequences:		9
CHEM 342	Physical Chemistry I <sup>e</sup>	
CHEM 343	Physical Chemistry Laboratory <sup>f</sup>	
CHEM 346	Physical Chemistry II	
<b>OR</b>		
CHEM 340	Physical Chemistry for Biochemists I	
CHEM 343	Physical Chemistry Laboratory <sup>f</sup>	
CHEM 344	Physical Chemistry for Biochemists II	
CHEM/BIOS 452	Biochemistry I	4
CHEM/BIOS 454	Biochemistry II	4
CHEM 455	Biochemistry Laboratory	3
CHEM 314	Inorganic Chemistry	4
Electives, chosen in consultation with an academic advisor, including at least two advanced-level courses (6 hours) in the biological sciences. One of these courses must be from either the area of cell and molecular biology or the area of microbiology.		9-28
<b>Total Hours</b>		<b>120</b>

- Students should consult the [General Education](#) section of the catalog for a list of approved courses in this category.
- MATH 180 fulfills the LAS Quantitative Reasoning requirement.
- This course is approved for the Analyzing the Natural World General Education category.
- Each of the following pairs will be considered one course in meeting the LAS General Education requirements: CHEM 122 /CHEM 123 and CHEM 124/CHEM 125.
- Students who wish to use the CHEM 342/CHEM 343/CHEM 346 option to satisfy the physical chemistry requirement will also need to choose PHYS 141/PHYS 142 to satisfy their physics requirement and will need to take MATH 210 as a corequisite for CHEM 342.
- CHEM 343 fulfills the LAS Writing-in-the-Discipline requirement.

## Recommended Plan of Study

Students who are not ready to take MATH 180 and CHEM 122/CHEM 123 in the first year should expect to take summer session courses and/or take longer than four years to graduate.

Course	Title	Hours
<b>First Year</b>		
<b>Fall Semester</b>		
ENGL 160	Academic Writing I: Writing in Academic and Public Contexts	3
BIOS 110 or BIOS 120	Biology of Cells and Organisms or Biology of Populations and Communities	4
Select one of the following:		5

CHEM 116	Honors and Majors General and Analytical Chemistry I <sup>a,b</sup>	
OR		
CHEM 122	General Chemistry I Lecture <sup>a</sup>	
CHEM 123	General Chemistry Laboratory I <sup>a,c</sup>	
General Education Requirement course		3
<b>Hours</b>		<b>15</b>
<b>Spring Semester</b>		
ENGL 161	Academic Writing II: Writing for Inquiry and Research	3
MATH 180	Calculus I <sup>d</sup>	4
Select one of the following:		5
CHEM 118	Honors and Majors General and Analytical Chemistry II <sup>a,b</sup>	
OR		
CHEM 124	General Chemistry II Lecture <sup>a</sup>	
CHEM 125	General Chemistry Laboratory II <sup>a,c</sup>	
General Education Requirement course		3
<b>Hours</b>		<b>15</b>
<b>Second Year</b>		
<b>Fall Semester</b>		
CHEM 232	Organic Chemistry I	4
MATH 181	Calculus II	4
BIOS 110 or BIOS 120	Biology of Cells and Organisms or Biology of Populations and Communities	4
General Education Requirement course		3
<b>Hours</b>		<b>15</b>
<b>Spring Semester</b>		
CHEM 233	Organic Chemistry Laboratory I	2
CHEM 234	Organic Chemistry II	4
BIOS 220	Genetics	3
Select one of the following:		4
PHYS 131	Introductory Physics for Life Sciences I <sup>a</sup>	
PHYS 141	General Physics I (Mechanics) <sup>a</sup>	
<b>Hours</b>		<b>13</b>
<b>Third Year</b>		
<b>Fall Semester</b>		
CHEM 452	Biochemistry I (Same as BIOS 452)	4
CHEM 222 or Elective	Analytical Chemistry <sup>b</sup>	4
Foreign Language		4
Select one of the following:		4
PHYS 132	Introductory Physics for Life Sciences II <sup>a</sup>	
PHYS 142	General Physics II (Electricity and Magnetism) <sup>a</sup>	
<b>Hours</b>		<b>16</b>
<b>Spring Semester</b>		
Select one of the following:		3
CHEM 340	Physical Chemistry for Biochemists I	

CHEM 342	Physical Chemistry I <sup>e</sup>	
Foreign Language		4
CHEM 454	Biochemistry II (Same as BIOS 454)	4
CHEM 455	Biochemistry Laboratory	3
<b>Hours</b>		<b>14</b>

**Fourth Year****Fall Semester**

CHEM 343	Physical Chemistry Laboratory <sup>e,f</sup>	3
Select one of the following:		3
CHEM 344	Physical Chemistry for Biochemists II	
CHEM 346	Physical Chemistry II <sup>e</sup>	
BIOS Elective at the advanced level		4
Foreign Language		4
General Education Requirement course		3
<b>Hours</b>		<b>17</b>

**Spring Semester**

CHEM 314	Inorganic Chemistry	4
BIOS Elective at the advanced level		4
Foreign Language		4
General Education Requirement course		3
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>120</b>

- a *This course has been approved for the Analyzing the Natural World General Education category.*
- b *Students who take CHEM 116 and CHEM 118 to fulfill the general chemistry requirement do not need to take CHEM 122.*
- c *Each of the following pairs will be considered one course in meeting the LAS General Education requirements: CHEM 122/CHEM 123 and CHEM 124/CHEM 125.*
- d *MATH 180 fulfills the LAS Quantitative Reasoning requirement.*
- e *Students who wish to use the CHEM 342/CHEM 343/CHEM 346 option to satisfy the physical chemistry requirement will need to also choose PHYS 141/PHYS 142 to satisfy their physics requirement and will need to take MATH 210 as a corequisite for CHEM 342.*
- f *CHEM 343 fulfills the LAS Writing-in-the-Discipline requirement.*