BIOCHEMISTRY, BS

for the degree of Bachelor of Science Major in Biochemistry (Specialized Curriculum)

Undergraduate degree programs in Molecular & Cellular Biology
Biochemistry, BS (p. 1)

Molecular & Cellular Biology, BSLAS (http://catalog.illinois.edu/undergraduate/las/molecular-cellular-biology-bslas/)

for the degree of Bachelor of Science Major in Biochemistry (Specialized Curriculum)

The typical program of courses required to satisfy this degree totals 126-131 hours as outlined below including up to 12 hours of non-primary language (if not completed in high school); in no case will a program totaling less than 120 hours qualify for graduation. In addition, in order to graduate there is a minimum 2.0 cumulative academic grade point average and student must attain a 2.5 grade point average in the chemistry, biochemistry, biology, mathematics, physics and advanced electives in science/engineering courses specified in this curriculum. All proposals for course substitutions must be approved by the academic advisor. This curriculum is intended for those students who desire a rigorous education in chemistry, biochemistry, and biology, who have definite research-oriented goals, and whose career objectives include graduate school, MD/PhD programs, or industry.

Students earning the Biochemistry degree automatically complete the Chemistry minor. Students earning a degree in the Specialized Curriculum in Biochemistry may not earn a second degree in the Science and Letters Curriculum in Molecular and Cellular Biology.

Departmental distinction: A student seeking distinction must satisfy the following:

- Complete a minimum of 6 credit hours of undergraduate research (BIOC 290 and BIOC 492) with a minimum of 4 credit hours of BIOC 492.
- Earn at least a 3.25 grade-point average.
- Present a senior thesis to the department.

General education: Students must complete the Campus General Education (https://courses.illinois.edu/gened/DEFAULT/DEFAULT/) requirements including the campus general education language requirement.

Minimum hours required for graduation: 120 hours.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CH EM 202</td>
<td>Accelerated Chemistry I and Accelerated Chemistry Lab I</td>
<td>8-10</td>
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<tr>
<td>&amp; CH EM 203</td>
<td>and Accelerated Chemistry II and Accelerated Chemistry Lab II (preferred sequence)</td>
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<tr>
<td>&amp; CH EM 204</td>
<td>General Chemistry I and General Chemistry Lab I</td>
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<tr>
<td>&amp; CH EM 205</td>
<td>General Chemistry II and General Chemistry Lab II (with advisor approval)</td>
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<tr>
<td>CH EM 102</td>
<td>General Chemistry I and General Chemistry Lab I</td>
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<tr>
<td>&amp; CH EM 103</td>
<td>and General Chemistry Lab I</td>
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<tr>
<td>&amp; CH EM 104</td>
<td>and General Chemistry II</td>
<td></td>
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<tr>
<td>&amp; CH EM 105</td>
<td>and General Chemistry Lab II (with advisor approval)</td>
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Select one of the following:

Organic chemistry, select from:

- CHEM 236  Fundamental Organic Chem I
- & CHEM 237  and Structure and Synthesis
- & CHEM 436  and Fundamental Organic Chem II (preferred sequence)
- CHEM 232  Elementary Organic Chemistry I
- & CHEM 233  and Elementary Organic Chem Lab I
- & CHEM 332  and Elementary Organic Chem II (with advisor approval)

Molecular and Cellular Biology

- MCB 150  Molec & Cellular Basis of Life
- MCB 250  Molecular Genetics
- MCB 251  Exp Technqs in Molecular Biol
- MCB 252  Cells, Tissues & Development
- MCB 253  Exp Technqs in Cellular Biol
- MCB 354  Biochem & Phys Basis of Life
- or equivalent as approved by academic advisor

Physical chemistry, select one group of courses:

- CHEM 440  Physical Chemistry Principles (Biological Perspective Section)
- BIOC 446  Physical Biochemistry (preferred sequence)

Mathematics & Statistics

- STAT 212  Biostatistics
- MATH 220  Calculus
- or MATH 221  Calculus I
- MATH 231  Calculus II
- MATH 241  Calculus III

Physics, select from:

- PHYS 211  University Physics: Mechanics
- & PHYS 212  and University Physics: Elec & Mag
- & PHYS 213  and Univ Physics: Thermal Physics (preferred sequence)

- PHYS 101  College Physics: Mech & Heat
- & PHYS 102  and College Physics: E&M & Modern (or equivalent as approved by academic advisor (with advisor approval)

Biochemistry:

- BI OC 455  Techqs Biochem & Biotech
- BI OC 460  Biochemistry Senior Seminar
- BI OC 406  Gene Expression & Regulation

BIOPI 401  Introduction to Biophysics

Select 10 hours of Advanced Science/Technical Electives (may include up to 7 hours of BIOC 492, Senior Thesis) from approved list.

Nontechnical Requirements:

Information listed in this catalog is current as of 10/2023
Composition I writing requirement to satisfy the campus
Composition I requirement
Advanced Composition writing requirement (BIOC 460 is required)
Humanities/Arts to satisfy the campus general education
requirements
Social/Behavioral sciences to satisfy the campus general
education requirements
Cultural Studies to satisfy the campus general education
requirement
Electives (not including any credit in satisfaction of the above variable
requirements)

1 Transfer credit must be approved by an advisor in biochemistry in order to
be used to satisfy degree requirements.
2 A more detailed description of the requirements is listed in the
Biochemistry Curriculum Handbook, available in room 419A of Roger
Adams Laboratory.
3 PHYS 213 is not required if CHEM 442/CHEM 444 sequence is taken.
4 Freshman orientation course is under development and will be required.
See advisor for details.
5 An approved list of current courses will be updated annually in January/
February for the coming year. Contact advisor.
6 The requirements for the Campus General Education categories of Natural
Sciences and Technology and Quantitative Reasoning I are fulfilled through
coursework in the curriculum.

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