BIOCHEMISTRY, BS

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

department website: http://mcb.illinois.edu/departments/biochemistry
department faculty: Biochemistry Faculty
overview of college admissions & requirements: Liberal Arts & Sciences
college website: https://las.illinois.edu/
email: biocug@mcb.uiuc.edu

Undergraduate degree programs in Molecular & Cellular Biology
Biochemistry, BS (p. 1)
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 academic 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 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>Select one of the following:</td>
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<tr>
<td>CHEM 202 &amp; CHEM 203 &amp; CHEM 204 &amp; CHEM 205</td>
<td>Accelerated Chemistry I and Accelerated Chemistry Lab I and Accelerated Chemistry II and Accelerated Chemistry Lab II (preferred sequence)</td>
<td>8-10</td>
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<tr>
<td>CHEM 102 &amp; CHEM 103 &amp; CHEM 104 &amp; CHEM 105</td>
<td>General Chemistry I and General Chemistry Lab I and General Chemistry II and General Chemistry Lab II (with advisor approval)</td>
<td>9-10</td>
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<tr>
<td>Organic chemistry, select from:</td>
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<tr>
<td>Molecular and Cellular Biology</td>
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<tr>
<td>MCB 150</td>
<td>Molec &amp; Cellular Basis of Life</td>
<td>17</td>
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<tr>
<td>MCB 250</td>
<td>Molecular Genetics</td>
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<tr>
<td>MCB 251</td>
<td>Exp Techniqs in Molecular Biol</td>
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Information listed in this catalog is current as of 06/2022
<table>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>MCB 252</td>
<td>Cells, Tissues &amp; Development</td>
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<tr>
<td>MCB 253</td>
<td>Exp Techniqs in Cellular Biol</td>
</tr>
<tr>
<td>MCB 354</td>
<td>Biochem &amp; Phys Basis of Life</td>
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<td>or equivalent as approved by academic advisor</td>
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### Physical chemistry, select one group of courses:

- **Physical Chemistry Principles (Biological Perspective Section)**  
  - CHEM 440
- **Physical Biochemistry (preferred sequence)**  
  - BIOC 446
- **Physical Chemistry I**  
  - CHEM 442
- **Physical Chemistry II (with advisor approval)**  
  - CHEM 444

### Mathematics & Statistics

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

### Physical, select from:

- **University Physics: Mechanics**  
  - PHYS 211 & PHYS 212 & PHYS 213
- **Univ Physics: Elec & Mag**  
  - PHYS 211 & PHYS 212 & PHYS 213
- **Univ Physics: Thermal Physics**  
  - PHYS 211 & PHYS 212 & PHYS 213

- **College Physics: Mech & Heat**  
  - PHYS 101 & PHYS 102
- **College Physics: E&M & Modern** (with advisor approval)

### Biochemistry:

- **Technqs Biochem & Biotech**  
  - BIOC 455
- **Biochemistry Senior Seminar**  
  - BIOC 460
- **Gene Expression & Regulation**  
  - BIOC 406
- **Introduction to Biophysics**  
  - BIOP 401

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

### Nontechnical Requirements:

- General education:
  - Foreign language - three semesters of college study (or three years of high school study) in a single foreign language to satisfy the campus foreign language requirement
  - 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 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.

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The requirements for the Campus General Education categories of Natural Sciences and Technology and Quantitative Reasoning I are fulfilled through coursework in the curriculum.