

# Biological Chemistry

*Adviser for B.S. Degree Program in Biological Chemistry:*

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## Program of Study

The Department of Chemistry, in conjunction with the Department of Biochemistry and Molecular Biology (BCMB) in the Division of the Biological Sciences, offers a B.S. degree in Biological Chemistry. The program is designed to prepare students to enter a variety of interdisciplinary fields in biochemical and biophysical sciences. Undergraduate research is strongly encouraged. By combining resources of both departments, students in this program are given the opportunity to study chemistry and physics of macromolecules, mechanisms of actions of enzymes and hormones, molecular and cellular biology, biotechnology, and other related fields.

## Summary of Requirements

<i>General Education</i>		CHEM 11101-11201 or 11102-11202 or equivalent†*
		MATH 15100-15200 or 16100-16200† or a grade of A- or higher in 13100-13200
		BIOS 20191 and either 20192 or 20182 or AP credit, if an AP 5 Fundamentals Sequence is completed+
<i>Major</i>	1	CHEM 11301 or 11302 or equivalent†*
	1	MATH 15300 or 16300 or 19620† or a grade of A- or higher in MATH 13300
	2	MATH 20000-20100
	3	PHYS 12100-12200-12300 or higher†
	1	CHEM 20100
	3	CHEM 22000-22100-22200/23000-23100-23200
	3	CHEM 26100-26200, 26700
	1	course from CHEM 20200, 23300, or 26300
	1	appropriate 20000-level (under the category Advanced-Level Courses) course in biology
	2	BIOS 20200 and 21317
	1	approved 30000-level biochemistry or chemistry course
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† Credit may be granted by examination.

\* See *Advanced Placement and Honors Chemistry Placement Test in Chemistry* section of this catalog.

+ Students with a score of 5 on the AP biology test receive one credit. They are eligible to register for a three-quarter AP 5 Fundamental Sequence. Upon completion of the sequence, students receive an additional AP credit, for a total of two, to meet the general education requirement. Students majoring in Biological Chemistry will count the AP 5 Fundamentals Sequence as three electives.

NOTE: The three-quarter sequence MATH 20300-20400-20500 may be substituted for 20000; and MATH 27000 and 27300 may be substituted for 20100. MATH 19620 is recommended for Biological Chemistry majors who plan to pursue advanced study in physical chemistry.

**Grading.** Students majoring in Biological Chemistry must receive quality grades in all courses required in the degree program. To qualify for the B.S. degree, students must: (1) achieve a GPA of 2.0 or higher; and (2) receive no grade lower than C- in the 20000-level or higher Chemistry, Biology, and Department of Biochemistry and Molecular Biology courses that are found on the preceding list.

**Honors and Undergraduate Research.** By their third year, students majoring in Biological Chemistry are strongly encouraged to participate in research with a

faculty member. For more information on research opportunities and honors in Biological Chemistry, visit [chemistry.uchicago.edu/undergraduate.shtml](http://chemistry.uchicago.edu/undergraduate.shtml).

Excellent students who pursue a substantive research project with a faculty member in the Department of Chemistry or the Department of Biochemistry and Molecular Biology should plan to submit an honors thesis. Students typically begin research during their third year, and they continue their research activities through the following summer and their fourth year. To be considered for honors, students are expected to receive approval from the program adviser before the end of their third year. Eligible students must also enroll in at least one quarter of Advanced Research in Biological Chemistry (CHEM 29900), which must be taken for a quality grade.

A B.S. with honors in Biological Chemistry requires students to write a creditable honors paper describing their research. The paper must be approved by the program advisers in the Department of Chemistry and the Department of Biochemistry and Molecular Biology, and it must be submitted before the deadline established by the department. In addition, an oral presentation of the research is required.

To earn a B.A. or B.S. degree with honors in Chemistry, students must also have an overall GPA of 3.0 or higher.

**Joint Degree Program.** A four-year joint degree program leading to a concurrent award of the B.S. in Biological Chemistry and the M.S. in Chemistry is available for a select group of students who have achieved advanced standing through their performance on placement or on accreditation examinations. Special programs are developed for such students. For details, contact Gregory Hillhouse at [gh15@uchicago.edu](mailto:gh15@uchicago.edu) or Vera Dragisich at [vdragisi@uchicago.edu](mailto:vdragisi@uchicago.edu).

**Faculty.** For a list of faculty, see the Chemistry section of this catalog.