

# A Guide to the Biochemistry Major at Wellesley College

On the web at:

[www.wellesley.edu/biochemistry](http://www.wellesley.edu/biochemistry)  
[www.instagram.com/wellesleybioc](https://www.instagram.com/wellesleybioc)  
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**Biochemistry** is an interdisciplinary major offered by the Departments of **Biological Sciences** and **Chemistry**, allowing students to explore the chemistry of biological systems. This major involves a synergistic approach through courses in Biological Sciences, Chemistry, Math, and Physics. Our students benefit from small classes, investigative lab experiences starting in introductory courses, and an inclusive community that values Diversity, Equity, and Inclusion in learning. Students also benefit from a vast choice in research collaborations with faculty in Biological Sciences, Chemistry, and other departments working in fields of molecular biosciences.

The curriculum encompasses not only biochemistry but also cell and molecular biology and other molecular aspects of the life sciences. Expertise in these fields is central to breakthroughs in DNA technology, drug discovery and design, and molecular approaches to disease. Our program has full accreditation from the American Society of Biochemistry and Molecular Biology (ASBMB), and our students have far outperformed the national average on the ASBMB certification exam. We are proud to also offer a **Biochemistry Minor**.



## **Advisory Committee:**

Dora Carrico-Moniz (CHEM), *Co-Director*, Mathew Tantama (CHEM), *Co-Director*, Melissa Beers (BISC), Michelle Carmell (BISC), Louise Darling (BISC), Don Elmore (CHEM), John Goss (BISC), Mona Hall (CHEM), Vanja Klepac-Ceraj (BISC), Adam Matthews (BISC), Megan Núñez (CHEM), Elizabeth Oakes (CHEM), Kaye Peterman (BISC), Mala Radhakrishnan (CHEM), Julie Roden (BISC), Yui Suzuki (BISC), Marc Tetel (NEUR), Jacquelin Woodford (CHEM)

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## Requirements for the Major

### 100 Level Requirements:

**CHEM:** Either CHEM 105, CHEM 105P, CHEM 116, or CHEM 120.

**BISC:** Either BISC 110, BISC 110P, BISC 112, BISC 112Y, or BISC 116.

**PHYS:** Either PHYS 100, PHYS 104, PHYS 106, PHYS 107, PHYS 108, PHYS 109, physics exemption exam, or equivalent.

**MATH:** Either MATH 116, MATH 120, credit for AP Calculus BC, placement into MATH 205 or higher, or equivalent.

### 200 Level Requirements:

**CHEM:** CHEM 205 (if CHEM 120 was not taken) and CHEM 211.

**BIOC:** BIOC 219, BIOC 220, and BIOC 223.

### 300 Level Requirements:

**BISC:** Two 300-level courses from the following: BISC 303, BISC 311; BISC 314; BISC 316; BISC 318; BISC 328; BISC 329; BISC 333; BISC 334; BISC 335; BISC 336; NEUR 332 or other course approved by the co-directors.

**BIOC:** BIOC 331 and one course from among BIOC 320, BIOC 323, BIOC 324 or BIOC 325.

### Lab/Research Requirement:

(i) Any two 300-level courses counting toward the major must have a laboratory component **OR**

(ii) Any one of the 300-level courses counting toward the major must have a laboratory component **AND** an [Independent Research](#) experience with a written report. Click [HERE](#) for additional information regarding the independent research experience.

We also offer a **7 course [Biochemistry Minor](#)** for anyone not majoring in Chemistry or Biological Sciences; this can be a great option for someone with an interest in both biochemistry and either the humanities, social sciences, or another science.

Check out the [COURSE PLANNING GUIDE](#) for students written by students!

## After Wellesley

A major in Biochemistry provides an excellent background for many different career paths. Graduates go on to a variety of graduate schools and health professional schools or into public health, teaching, law, or business. Those wanting to enter directly into the workforce do so in areas such as bio-technology, bioengineering, pharmacology, or clinical chemistry. Alumnae surveys from students who graduated in the years 2014-2017 indicate that within a few years of graduating from Wellesley, roughly 40% of students enroll in either an MD, Dental, Veterinary, or MD/PhD program, another 35% enroll in Ph.D. programs, and others pursue exciting options including Public Health, engineering, or K-12 education.

## Student Research

We learn science best by doing science. We encourage students to carry out [Independent Research](#) in collaboration with faculty either during the academic year or in the summer. Research may be advised by any member of the Biochemistry Advisory Committee or by another approved research advisor on or off campus. Faculty research interests are available on the Biochemistry website, and interested students should contact the relevant faculty member. Opportunities exist for work-study eligible students to earn stipends during the semester for doing research. **Summer research** is funded through the Science Center by competitive application early in the spring semester. During the academic year, **Independent study** (BIOC 250, 250H, 350, 350H) is open to any student. Students interested in completing a **senior thesis** should speak with their prospective research advisor. A BIOC 355/365 thesis option is available to all students. A BIOC 360 /370 thesis option is for Biochemistry majors with a sufficient GPA in the major and is necessary to earn **honors in the major**.

