



Biochemistry

1206 Chemistry Building
(301) 405-1791

<http://www.chem.umd.edu/undergraduateprogram>

College of Computer, Mathematical, and Natural Sciences

Key Features about a Biochemistry Major

- Gain research experience at the undergraduate level, under the guidance of nationally and internationally known faculty.
- Major in a field of high demand, both in the public and private sectors.
- Find both research opportunities and job placement through the department's close proximity to government labs and the biotech industry.

Career Options and Salaries with a Biochemistry Major

Many biochemists continue their education in graduate or professional schools, going on to become physicians, dentists, pharmacists or veterinarians. Some work in product development, testing substances in everything from household cleaners to exotic pharmaceuticals. Biochemists are in demand within the field of toxicology, determining chemical levels within industry and the environment. They work in developing analytical techniques, creating new technologies merging computers and chemistry and standardizing measurements. Some biochemistry majors go on to study law or business, using their scientific knowledge to tackle complex legal and technological questions. Other career pursuits include science education, journalism, sales, policy and industrial regulation.

In May 2015, the median annual wages for biochemists were \$82,150. Biochemists employed within scientific research and development in physical, engineering and life sciences earned a median annual wage of \$86,530 in 2012.

**Career and salary information was taken from The Occupational Outlook Handbook, 2012-2013 ed. (<http://www.bls.gov/ooh/life-physical-and-social-science/biochemists-and-biophysicists.htm>).*

Advising

1. Make an appointment to see an advisor for advising by phone (301-405-1791) or email (chem-uso@umd.edu).
2. Students who would like more information about majors in Biological Sciences, Chemistry, Biochemistry or ENSP-Biodiversity and Conservation should attend an informational session offered by the College. No prior reservations are necessary, but strongly encouraged. Please email cmnslep@umd.edu. To view dates and times for information sessions for the current semester, please visit <http://cmns.umd.edu/cmnsmajorchange>.

Declaring a Biochemistry Major

Chemistry is a Limited Enrollment Program (LEP) which means that students must apply for enrollment in the major after completing certain pre-requisite, or "Gateway," courses. All students beyond their first semester at the University of Maryland and those off campus wishing to transfer must complete the following requirements before applying to the Department of Chemistry:

- Completion of MATH 140 and 141 with a minimum grade of C-
- Completion of (CHEM 146 AND 177) or (CHEM 131 AND 132) and with minimum grades of C-
- Completion of CHEM 237 or (CHEM 231 and 232) with a minimum grade of a C-
- A minimum grade point average of 2.7 in all courses taken at the University of Maryland and all other institutions is required for internal and external transfer students.

Please also note:

- Only one gateway or performance review course may be repeated to earn the required grade and that course may only be repeated once. When more than one course can satisfy a gateway requirement, taking a second course from the list will count as a repeat. **This policy will be in effect for all students who first matriculated at the University of Maryland in Spring 2015 or later.** A "W" or withdrawal counts as one attempt at a course.
- Students may apply only once to an LEP. Students who are directly admitted and fail to meet the performance review criteria will be dismissed from the major and may not reapply.
- Students must maintain a minimum cumulative GPA of 2.00. Failure to do so will result in dismissal from the major.
- Any student denied admission or dismissed from the major may appeal in writing directly to the Assistant Dean for Student Services – 1300 Symons Hall.

In order to apply, you must:

- 1) Fulfill the requirements listed on www.lep.umd.edu.
- 2) Visit <http://www.admissions.umd.edu/apply/LEPApplication.php> in order to access the online application. You can also review application deadline dates and anticipated decision notification dates at this Web address.
- 3) If you have any questions regarding the completion or submission of your application, please contact the Office of Limited Enrollment Programs at lep@umd.edu.

Four-Year Plan (General Education)

First Year:

ENGL 101 (AW)	3	CHEM 231	3
CHEM 131	3	CHEM 232	1
CHEM 132 (NL)	1	BSCI 170/171 (NL)	4
MATH 140 (MA, AR)	4	MATH 141	4
HU	3	HU	3
UNIV 100	1		15 credits
15 credits			

Second Year:

CHEM 241	3	CHEM 276	2
CHEM 242	1	CHEM 277	3
BSCI Elective LL	3-4	PHYS 260+261	4
PHYS 161	4	MATH 241 (recommended)	4
HS	3	SP (non-major)	3
14-15 credits		16 credits	

Third Year:

BCHM 461	3	BCHM 485	3
CHEM 481	4	CHEM 483	2
BSCI Elective UL	3-4	CMNS 390 (OC)	3
HS	3	CHEM 395	1
Elective	3	Electives	6
16-17 credits		15 credits	

Fourth Year:

BCHM 462	3	BCHM 465	3
CHEM 425	4	BCHM 464	3
ENGL39X (PW)	3	SP	3
Elective	3	Elective	3
Elective	3	Elective	3
16 credits		15 credits	

*All students must complete two Distributive Studies courses that are approved I-Series courses.

*Students must also complete Understanding Plural Society and Cultural Competence courses that may also fulfill a Distributive Studies category.

Total = 120 credits

Four Year Plan (CORE)

First Year:

CHEM 131	3
CHEM 132	1
MATH 140	4
ENGL 101	3
CORE	3
UNIV 100	1
<hr/>	
	15 credits

CHEM 231	3
CHEM 232	1
MATH 141	4
BSCI 170/171	4
CORE	3
<hr/>	
	15 credits

Second Year:

CHEM 241	3
CHEM 242	1
PHYS 141	4
BSCI Elective LL	4
CORE	3
<hr/>	
	15 credits

CHEM 276	2
CHEM 277	3
PHYS 142	4
MATH 241 (recommended)	4
CORE	3
<hr/>	
	16 credits

Third Year:

BCHM 461	3
CHEM 481	3
BSCI Elective UL	4
CORE	3
<hr/>	
	14 credits

BCHM 485	3
CHEM 483	2
CHEM 395	1
ENGL 39x	3
CORE	6
<hr/>	
	15 credits

Fourth Year:

BCHM 462	3
CHEM 425	4
Advanced CORE	3
Elective	3
Elective	3
<hr/>	
	16 credits

BCHM 465	3
BCHM 464	3
Elective	3
Elective	3
Elective	3
<hr/>	
	15 credits

TOTAL = 120 Credits

Q & A

Is it possible to finish a chemistry or biochemistry degree in four years?

Absolutely! Every year, a significant fraction of graduates are fourth-year seniors. Because the majors are so structured, it is critically important that you take the time to carefully plan out your path to completion.

I noticed that there are special versions of the introductory courses for BCHM majors. Do I have to take them if I want to be a Biochemistry major?

No. If you want to take the larger unrestricted introductory courses, you can, and they will count toward the major requirements. However, the majors courses are smaller, they have a different laboratory experience (exercises that are impossible to do on the large scale of the unrestricted courses), and they are full of students who have similar interests.

Is Biochemistry a good major for getting into medical school?

Yes and no. It's certainly true that Biochemistry is a challenging major, and doing well as a Biochemistry major will reflect well upon you when you apply to medical or other professional school. It is also true, however, that significant numbers of students who are accepted into medical training programs every year have majored in non-science fields.

The most important characteristic of students who get into professional schools is that they have excelled in their studies. There is simply no short-cut or way around this. Since students are most likely to do well in subjects that interest them, the most important criteria for choosing a major should be that the subject interests you.