



What is Biochemistry?

Biochemistry is the study of the chemical and biological processes and reactions occurring in and around living systems. Biochemistry is used to study the structures, functions, and interactions of biological molecules within living cells, and biochemical research techniques have become some of the most important tools in the study of molecular biology, genetics, and related fields.

What can I do with a Biochemistry Degree?

Biochemistry majors often find work performing laboratory research either in the industry or at a university. Although students who graduate with a Bachelor's degree can find work out of college, often biochemistry majors continue on with their schooling to earn a Master's degree or Ph.D. There are many varied fields in which a biochemist could effectively perform research (for more information see www.WOIS.org —> Educational Programs —> Biochemistry).

Biochemistry is also a good major choice for students interested in attending Medical, Dental, Pharmacy, or other health programs.

Related Majors

Chemistry	Biology
Pharmacology	Biophysics
Forensic Science	Epidemiology
Microbiology/Immunology	Cell/Molecular Biology
Materials Science/ Engineering	Molecular Bioscience Genetics

Where can I study Biochemistry ?

In Washington state, a number of universities offer a stand-alone Biochemistry program or offer it as an emphasis within their Chemistry program. The University of Washington, Washington State University, Central, Eastern, and Western Washington Universities, Seattle University, Seattle Pacific University, Pacific Lutheran University, and more offer biochemistry programs.

How do I get started?

At Bellevue College, we are here to help you get started on your path to studying Biochemistry as a major. For most students, the main goals are to graduate with a transferrable associates degree and to complete most or all of the major prerequisites. Accordingly, below are some steps that you can take to help you successfully transfer to your dream school as a Biochemistry major.

Step One: Research

Making an informed decision about a major requires active research. Here are steps that students should complete while determining whether a Biochemistry major is the best fit for their goals:

- Make a list of things you want out of your education. What goals do you have when it comes to what you study in college?
- Log on to wois.org (obtain a [site key](#) from the BC Career Center) or the national occupations website, onetonline.org, to check out potential occupations and what life after college may look like for you. Specifically look at what type of background is necessary for your dream job and if/how your education in Biochemistry helps you meet those goals. If you have more questions be sure to visit the BC Center for Career Connections on the second floor of the B building.
- Read the Biochemistry department websites of your top transfer schools. Take notes of what you like and dislike about each school, paying special attention to the types of research, educational opportunities, and courses/emphases offered.
- Every university and major concentration **may require different prerequisite courses** to be completed prior to enrolling in their Biochemistry program. Contact a departmental representative/advisor at your potential transfer university.

Step Two: Pick a BC Degree

As a transfer student, you not only have the responsibility of researching the prerequisite courses required for your major and university, but you should also pick a transfer degree to pursue at Bellevue College. We offer several transfer degrees at BC, but one in particular is especially well-suited for prospective Biochemistry students.

BC Degree	Key aspects of this degree:	This degree is ideal for:
Associate of Science Track 1 (AS-T1)	<ul style="list-style-type: none"> Requires students to complete three major science sequences Requires students to complete a minimum of two quarters of calculus Requires less written communication courses than other BC degrees Limits the amount of general education coursework a student must complete 	Students who have completed or plan to start with Calculus 1, have experience in chemistry, biology, and/or physics, and would enjoy doing more science coursework upfront at BC.

Step Three: Make a Plan

The table below has a list of common prerequisite courses found for Biochemistry programs across Washington state. While many programs have similar prerequisites, it is still important to research individual biochemistry programs at your school of choice. The prerequisites can be varied depending on which program and school you plan to pursue.

Math	Chemistry	Biology
Up to Calculus II or III <ul style="list-style-type: none"> MATH 151¹, MATH 152¹ Some programs require MATH 153/254 	General and Organic Chemistry <ul style="list-style-type: none"> CHEM 140 (prereq), 161, 162, 163^{1,2} CHEM 261, 262 CHEM 263 (recommended but may not be required) Some programs recommend CHEM 275 	General Biology <ul style="list-style-type: none"> BIOL 211, 212, 213 (prerequisites BIOL 160 and CHEM 161)

¹ These classes/series are recommended to be taken during the first year of study at Bellevue College.

² Note that the Chemistry and Physics series have math prerequisites. General Chemistry also has an introductory chemistry prerequisite (or assessment).

Due to the many math and science admission requirements, students should plan to take math and chemistry courses beginning with their first or second quarter at BC. Students strong in chemistry might consider taking the Chemistry Placement Exam to test out of CHEM 140. Students should also plan on continuing to take math and/or science courses every quarter while they are at BC. Biochemistry programs typically require that students receive a minimum GPA of 2.0 in the prerequisite courses to be counted towards admission requirements. Some programs advise a minimum GPA of 3.0 or higher for competitive admission.

In most cases, students interested in biochemistry-based research should plan on completing a Master's degree or a Ph.D. degree. Biochemistry graduate programs can take between 2-6 years to complete. You need to research graduate program prerequisites.

Now that you've had a chance to review your prerequisites, and have been able to review the degrees offered at BC, a great next step is to meet with an adviser. Biochemistry is part of the Science Division (located in L200) and you can make an appointment to meet with the science adviser by visiting there or by calling 425-564-2321. For general advising appointments call: 425-564-2212.

Additionally please note we can help answer clarifying questions via email: scienceadvising@bellevuecollege.edu

This is an unofficial guide only, designed to prepare students for entry into Washington State Biochemistry programs. It is the student's responsibility to research and communicate with all community college and university programs to which he/she intends to apply to establish prerequisites and admission requirements, as they vary and are subject to change without notice.

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