



UC San Diego

Biochemistry

Biochemistry/Chemistry, B.S.
Biochemistry and Cell Biology, B.S.

Major Description

The major in Biochemistry/Chemistry is offered through the Department of Chemistry/Biochemistry and deals with the chemical processes in living organisms, including structure and function of nucleic acids and proteins. It is suitable for those planning to go to graduate school as well as medical, dental, veterinary and other professional schools. At the bachelor's level, the major is suitable preparation for careers in the biotechnology or pharmaceutical fields.

The major in Biochemistry and Cell Biology is offered through the Division of Biological Sciences and is designed to provide students with the fundamental courses required for entry into a school of medicine or into postgraduate training in a wide variety of areas of biological and biomedical sciences: biochemistry, biophysics, genetics, molecular biology, cell biology, developmental biology, microbiology, virology, human biology (physiology, metabolism, genetic disorders), cancer biology, pharmacology and others. The emphasis is on basic principles that help us understand those processes unique to living organisms at the molecular level.

Starting Your Degree

Lower-Division Major Requirements in Biochemistry

From UC's perspective, community college is where you begin working on the first two years of your bachelor's degree. This includes taking lower-division coursework specifically related to your field of study that may be applied toward graduation in your major.

Listed below are the lower-division requirements for **Biochemistry/Chemistry, B.S.** and **Biochemistry and Cell Biology, B.S.** that may be satisfied with approved community college courses unless otherwise noted. To find out which of these requirements are shared by other UC campuses, see the UC Statewide Transfer Preparation Path in Biochemistry.

Requirements for **Biochemistry/Chemistry B.S.**

- General Biology (full sequence for Biological Science majors)
- General Chemistry (full sequence)
- Organic Chemistry (full sequence)
- Calculus (full sequence for Science and Engineering majors)
- Differential Equations
- Calculus-based Physics (full sequence for Science and Engineering majors)

!!! IMPORTANT !!!

All of these requirements do not necessarily have to be completed **before** you transfer. See the next section of this path for what you must do to be competitive for admission.

FIND YOUR COURSES

Every course at your community college that can be used to meet any of the lower-division major requirements is listed at www.assist.org

Requirements for Biochemistry and Cell Biology, B.S.

- General Biology (full sequence for Biological Science majors)
- General Chemistry (full sequence)
- Organic Chemistry (full sequence)
- Calculus (full sequence)
- Calculus-based Physics (full sequence)

Becoming Competitive for Admission to Biochemistry**Selection Requirements**

Important information on selection requirements for admission to the major, including what this campus advises applicants to complete, and by when, is outlined below. It is important to note that meeting these requirements does not necessarily guarantee admission to the campus or major. The stronger your major preparation, the more competitive you will be.

Biochemistry/Chemistry, B.S.:

- You are **strongly** advised to complete as many lower-division major-preparation courses as soon as possible prior to transfer. Doing so will help you move more efficiently toward graduation.

Biochemistry and Cell Biology, B.S.:

- You **must** complete the following full-sequence courses (or equivalent) by the time of transfer: General Biology (for Biological Science majors), General Chemistry, Organic Chemistry, Calculus and Calculus-based Physics.
- You are **strongly** advised to complete as many lower-division major-preparation courses as soon as possible prior to transfer. Doing so will help you move more efficiently toward graduation.
- UCSD admits transfer students to the Biology major of their choice.
- The Division of Biological Sciences requires students in all Biology majors to take one biology lab before the end of the sophomore year. You **must** petition UCSD's Division of Biological Sciences to have this course accepted. You are **strongly** encouraged to complete this requirement prior to transfer; if you do not meet the biology with laboratory requirement at the time of transfer, you may petition the division for an extension.

Satisfying General Education in Biochemistry**General Education Requirements**

While all UC campuses urge you to focus on your lower-division major requirements while in community college, it is important to remember that general education (GE), or "breadth," requirements for your bachelor's degree may also be met with approved community college courses. In fact, some majors require completion of lower-division GE coursework as part of your preparation prior to transfer. The good news is you may be able to double-count some of your lower-division major coursework for related GE requirements.

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The Intersegmental General Education Transfer Curriculum (IGETC) is a series of courses at California community colleges that students may complete to satisfy GE requirements. Certain students, however, may not be well served by following this GE option. Specific information about satisfying GE requirements as a Biochemistry and Cell Biology major is listed below.

- While completing your lower-division major-preparation courses, you are advised to work toward completion of IGETC or UCSD's GE requirements. If you are unable to complete IGETC prior to transfer, you are advised to satisfy as many UCSD GE requirements as possible. IGETC is accepted at John Muir, Earl Warren, Thurgood Marshall and Sixth colleges only. Students completing IGETC are welcomed at Eleanor Roosevelt and Revelle colleges; however, they must also fulfill the specific GE requirements of those colleges. At UCSD, all majors are available to students in each college, so students who choose IGETC will not be restricted in their choice of major.

Related Majors

Preparation for the following majors may be similar to the Biochemistry/Chemistry and Biochemistry and Cell Biology majors described above (consult the campus catalog and www.assist.org).

Division of Biological Sciences:

- Biology, General, B.S.
- Biology, Human, B.S.
- Ecology, Behavior, and Evolution, B.S.
- Microbiology, B.S.
- Molecular Biology, B.S.
- Physiology and Neuroscience, B.S.

Department of Chemistry/Biochemistry:

- Chemistry, B.S.
- Chemistry/Earth Sciences, B.S.
- Chemical Education, B.S.
- Chemical Physics, B.S.
- Environmental Chemistry, B.A. and B.S.
- Molecular Synthesis, B.S.
- Pharmacological Chemistry, B.S.