

Comparative Biochemistry

The interdisciplinary Graduate Group in Comparative Biochemistry administers the PhD degree for students interested in a biochemical and molecular approach to problems in the biological sciences. Students work under the supervision of faculty from diverse disciplines including Molecular and Cell Biology; Nutritional Science and Toxicology; Plant and Microbial Biology; Chemistry; Chemical Engineering; Environmental Science, Policy, and Management; Public Health; and the Lawrence Berkeley National Laboratory.

Admission to the University

Applying for Graduate Admission

Thank you for considering UC Berkeley for graduate study! UC Berkeley offers more than 120 graduate programs representing the breadth and depth of interdisciplinary scholarship. The Graduate Division hosts a complete list (<https://grad.berkeley.edu/admissions/choosing-your-program/list/>) of graduate academic programs, departments, degrees offered, and application deadlines can be found on the Graduate Division website.

Prospective students must submit an online application to be considered for admission, in addition to any supplemental materials specific to the program for which they are applying. The online application and steps to take to apply can be found on the Graduate Division website (<https://grad.berkeley.edu/admissions/steps-to-apply/>).

Admission Requirements

The minimum graduate admission requirements are:

1. A bachelor's degree or recognized equivalent from an accredited institution;
2. A satisfactory scholastic average, usually a minimum grade-point average (GPA) of 3.0 (B) on a 4.0 scale; and
3. Enough undergraduate training to do graduate work in your chosen field.

For a list of requirements to complete your graduate application, please see the Graduate Division's Admissions Requirements page (<https://grad.berkeley.edu/admissions/steps-to-apply/requirements/>). It is also important to check with the program or department of interest, as they may have additional requirements specific to their program of study and degree. Department contact information can be found here (<https://guide.berkeley.edu/archive/2024-25/graduate/degree-programs/>).

Where to apply?

Visit the Berkeley Graduate Division application page (<http://grad.berkeley.edu/admissions/apply/>).

Normative Time Requirements

Normative time is defined as the elapsed time in years that under normal circumstances would be needed to complete all requirements for the PhD degree assuming that the student engaged in full-time, uninterrupted study and is making desirable progress toward the degree. The normative time for Comparative Biochemistry is five years. Requirements include

completion of course work, an oral qualifying exam, and a Ph.D. dissertation. Listed below is a sample of courses that students may take to satisfy the course requirements. The exact courses taken will vary depending on the student's research focus and goals.

Curriculum

Courses Required (examples)

Advanced Biochemistry/Molecular Biology:		
MCELLBI 110	Molecular Biology: Macromolecular Synthesis and Cellular Function	4
MCELLBI 200A	Fundamentals of Molecular and Cell Biology	3
Enzymes/Metabolism/Cell Biology/Plant Microbial Biology:		
PLANTBI 200A	Plant Developmental Genetics	1.5
NUSCTX 250	Advanced Topics in Metabolic Biology	3
MCELLBI C214	Protein Chemistry, Enzymology, and Bio-organic Chemistry	2
MCELLBI 230	Advanced Cell and Developmental Biology	4
Physical Biochemistry:		
MCELLBI 206	Physical Biochemistry	3
CHEM 270A/270B	Advanced Biophysical Chemistry I	1
COMPBIO 294	Comparative Biochemistry Seminar	1
Grad Elective Courses per approved study list		
Grad Elective Seminar per approved study list		
COMPBIO 299	Graduate Research	1-12

Comparative Biochemistry

COMPBIO 294 Comparative Biochemistry Seminar 1 Unit

Terms offered: Spring 2025, Fall 2023, Fall 2022

The objective of this course is to provide an overview of the research activities conducted by faculty members of the Graduate Group in Comparative Biochemistry. The lectures will cover a wide range of interdisciplinary research topics reflecting the breadth of the Group. An important goal of this course is to enhance intellectual and collaborative interactions between students and faculty of the Graduate Group by increasing awareness of the range of research projects. The course will be conducted in a seminar format and is required for students new to the Graduate Group. It is also recommended for advanced students currently in the Group.

Rules & Requirements

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1 hour of seminar per week

Additional Details

Subject/Course Level: Comparative Biochemistry/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

COMP BIO 299 Graduate Research 1 - 12 Units

Terms offered: Fall 2025, Spring 2025, Fall 2024

Graduate student research.

Rules & Requirements

Prerequisites: Graduate standing in the Comparative Biochemistry
Graduate Group

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-12 hours of independent study per
week

Summer:

6 weeks - 2.5-30 hours of independent study per week

8 weeks - 1.5-22.5 hours of independent study per week

Additional Details

Subject/Course Level: Comparative Biochemistry/Graduate

Grading: Letter grade.