

BIOCHEMISTRY

The interdisciplinary program in biochemistry is jointly administered and staffed by members of the Department of Biological Sciences and the Department of Chemistry.

Degree offered

Biochemistry

MA

HEGIS

0414

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Chair: Shirley Raps 927 North Building; raps@genectr.hunter.cuny.edu

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Chair: Dixie J Goss, 1307 North Building; dgoss@hunter.cuny.edu

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MASTER OF ARTS

The degree is offered either as a terminal degree or as the first year toward the PhD within CUNY. Both first-year courses and advanced courses are available at Hunter College and/or at the Graduate School and University Center, 365 Fifth Avenue, New York, NY 10016.

Requirements for Admission

General admission requirements to Hunter's graduate programs are observed, including GRE; TOEFL (for foreign students whose native language is other than English).

In addition, the student must have completed the following courses: general chemistry (including qualitative analysis) (one year), quantitative analysis, organic chemistry (one year), physical chemistry (one semester lecture and laboratory), biology (one year), biochemistry lecture and laboratory (one semester).

Deficiencies may be made up during the first three semesters of graduate study.

Requirements for the Degree

Courses: In addition to the general degree requirements in effect in the graduate programs in the School of Arts and Sciences, the student must complete the following courses: Each course 45 hrs, 3 cr, unless otherwise noted

- CHEM 640 Biochemistry I** Proteins, enzymes, bioenergetics, recombinant DNA.
prereq: 1 yr of undergraduate organic chemistry fall only.
- CHEM 641 Biochemistry II** Metabolism, gene expression, immunobiochemistry, hormones, muscle biochemistry.
prereq: CHEM 640 or BIO 710.13 or 300. spring only.
note: Courses 1 and 2 may be substituted by courses 3 and 4.
- BIOCHEM U710.1 Advanced Biochemistry 1**
prereq: a 1-semester course in biochemistry or equiv and physical chemistry. fall only. Offered at the Graduate Center.
- BIOCHEM U710.2 Advanced Biochemistry 2**
prereq: BIOCHEM U710.1 or equivalent. spring only. Offered at the Graduate Center.
- BIOCHEM U711 Basic Laboratory Techniques for Research in Biochemistry**
Individual projects arranged with a faculty member. Lab and conferences.
8 hrs, 4 cr

- BIOCHEM 715.51, .52, .53, .54 Seminars in Biochemistry**
each 1 hr, 1 cr
- BIOCHEM 799.01 Thesis Research** (Master's) 1 cr
799.02 Thesis Research (Master's) 2 cr
799.03 Thesis Research (Master's) 3 cr
Open only to students writing a thesis as part of their requirements.
- CHEM 650 Biophysical Chemistry**
Essential physical chemical principles as applied to biological problems. Emphasis on kinetics, thermodynamics, equilibria.
prereq: 1 year organic chemistry, 1 year biology, MATH 150 or equivalent
4 hrs, 4 cr
fall only
- BIOCHEM U750 Bioorganic Chemistry**
fall only. Offered at the Graduate Center
- BIOLOGY** The student is required to take graduate courses in biology totaling 8 to 10 credits. This requirement may be satisfied by one course in the field of cell biology, molecular biology, genetics, or developmental biology and a second course chosen by the student in consultation with the adviser.

Comprehensive Examination or Thesis

Students may complete the requirements for the MA through either of the following plans: (1) A minimum of 30 credits of course work plus a passing grade in a comprehensive examination, or (2) a minimum of 24 credits of course work plus a thesis on an original research problem and a minimum of 6 credits in research. The thesis must be approved by the student's adviser, and it must be defended before a thesis committee.

Note: A student who completes the requirements for the MA and wishes to continue for the doctorate must reapply for matriculation and be subject to the conditions thereof.

*COURSE LISTINGS

* The prefix "U" indicates that the course is listed in the Schedule of Classes at the CUNY Graduate Center and may be taken by students enrolled in Graduate Center programs.

Optional electives:

Each course 45 hrs, 3 cr, unless otherwise noted.

BIO 710.13 Molecular Biology Lecture

Topics covered include structures and function of nucleic acids and proteins as well as bioenergetics.

prereq: 1 yr of organic chemistry
75 hrs, 5 cr
fall only

BIOCHEM U880 Physical Biochemistry

prereq: calculus, physical chemistry, and 1 semester biochemistry
spring only

Additional courses are listed above in the section Requirements for the Degree, see above.

