

A.S. BIOTECHNOLOGY

Department: Biological Sciences

Total credits: 60

COLLEGE REQUIREMENTS**CREDITS**

- Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores or developmental courses may be required.
- One (1) Writing Intensive course in any discipline from any category below is required. Participation in a Learning Community that includes ENG 1200 or 2400 also satisfies this requirement.
- Two (2) Civic Engagement experiences—satisfied by CE-Certified or CE-Component courses or approved outside activity. Refer to the *Degree Requirements* section of this catalog.

CUNY CORE

Approved Required and Flexible Core courses are listed in the General Education: CUNY Pathways section of this catalog. **When Required or Flexible Core courses are specified for a category, they are required for the major.**

REQUIRED CORE:

ENG 1200	3
ENG 2400	3
Mathematical & Quantitative Reasoning: MAT 900√ or BIO/MAT 9100√	3
Life and Physical Sciences: BIO 1300 or BIO 1400 or CHM 1100 or CHM 1200	4

FLEXIBLE CORE: ◇

One course from each Group A – E plus an additional course from any Group. **No more than two courses in the same discipline.** 20

A. World Cultures and Global Issues

B. U.S. Experience In Its Diversity

C. Creative Expression

D. Individual & Society

E. Scientific World: MAT 900 √ or BIO/MAT 9100√ or BIO 1300 or BIO 1400 or CHM 1100 or CHM 1200
(if not taken for Required Core)

Plus another course selected from any Group E list above (if not taken for Required or Flexible Core)

DEGREE REQUIREMENTS §

If not taken for the CUNY Required Core or Flexible Core, the following are required:

College Algebra (MAT 900√)	3
General Biology I and II (BIO 1300 and BIO 1400)	8
Biostatistics (BIO/MAT 9100√)	4
General Microbiology (BIO 5000) or Genetics (BIO 5900)	4
Recombinant DNA Technology (BIO 5800) or Cell Culture and Cloning (BIO 5700)	4
Molecular and Cellular Biology (BIO 6500)	4
General Chemistry I and II (CHM 1100 and CHM 1200)	8
Applications in Bioinformatics (BIO/CIS 6000√)	3

ELECTIVES: 4 credits sufficient to total 60 credits for the degree.

§ Consultation with the Department Advisor is required.

√ Refer to course descriptions for pre-requisites, co-requisites and/or pre/co-requisites

◇ This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

STUDENT LEARNING OUTCOMES

Demonstrate an understanding of the central themes and principles of biotechnology

BIO 1300 BIO 5000 BIO 5700 BIO 5800 BIO 6000

Identify biotechnology problems and solve them using scientific thinking

BIO 5700 BIO 5800 BIO 6000

Demonstrate the ability to perform the laboratory procedures and techniques commonly used in biotechnology

BIO 1300 BIO 1400 BIO 5000 BIO 5700 BIO 5800 BIO 5900 BIO 6000

Analyze scientific data, draw conclusions, and present findings in a format commonly used in science

BIO 1300 BIO 1400 BIO 5000 BIO 5700 BIO 5800 BIO 5900 BIO 6000 BIO 6500 BIO 9100

Apply the principles of bioinformatics and statistics to data sets

BIO 6000 BIO 9100

Identify and analyze the ethical, legal and sociological issues associated with advances in biotechnology

BIO 5700 BIO 5800