Biotechnology, A.S.

HEGIS: 5407.00
PROGRAM CODE: 33154/33155
PROGRAM DIRECTOR: Dr. Sarwar Jahangir

DEPARTMENT: BIOLOGICAL SCIENCES

The Biotechnology AS degree provides students with foundational courses in biology, chemistry, and mathematics in preparation for transfer to baccalaureate programs or immediate entry into the field. Courses promote understanding of the central themes and principles of biotechnology, foster independent thinking, analysis of the ethical, legal, and sociological issues associated with advances in biotechnology, and support quantitative reasoning, scientific writing, and research.

The curriculum presented here applies to students who started the major in Fall 2025 or Spring 2026. If you enrolled as a matriculant prior to that, please see the College Catalog for the year you started the major as a matriculant for the curriculum requirements that apply to you.

Consultation with the Program Advisor is required.

Degree Maps:

Degree Map for Biotechnology, A.S.

Your Degree Map contains the suggested term-by-term course sequence for your academic path towards graduation.

To ensure successful and timely completion of your degree, it is recommended that you meet with your academic advisor to discuss your unique map.

Please note some courses *may* only be offered once an academic year.

Program Learning Outcomes:

Upon successful completion of the Biotechnology degree program requirements, graduates will:

1. demonstrate an understanding of the central themes and principles of biotechnology
2. identify biotechnology problems and solve them using scientific thinking
3. demonstrate the ability to perform the laboratory procedures and techniques commonly used in biotechnology
4. analyze scientific data, draw conclusions, and present findings in a format commonly used in science
5. apply the principles of bioinformatics and statistics to data sets

6. identify and analyze the ethical, legal and sociological issues associated with advances in biotechnology

College Requirements:

English and Math proficient as determined by the CUNY Proficiency Index, unless otherwise exempt, or successful completion of any required developmental course(s).

Civic Engagement Experiences:

One (1) Civic Engagement experience satisfied by Civic Engagement Certified or Civic Engagement Component course or approved outside activity.

Writing Intensive Requirement:

One (1) Writing Intensive Course in any discipline is required.

Required Core (4 Courses, 13 Credits):

When Required Core Courses are specified for a category, they are required for the major

- ENG 1200 - Composition I 3 Credit(s)
- ENG 2400 - Composition II 3 Credit(s)
- **Mathematical & Quantitative Reasoning Course 3 Credit(s)***
  - MAT 9010 - Introduction to Mathematics with College Algebra 3 Credit(s) **or**
  - MAT 9B0 - College Algebra for STEM Majors 3 Credit(s) **or**
  - MAT 900 - College Algebra 3 Credit(s)
- **Life & Physical Sciences Course***
  - BIO 1300 - General Biology I 4 Credit(s)

Flexible Core (6 Courses, 20 Credits):

When Flexible Core Courses are specified for a category, they are required for the major

One course from each Group A to D (Group E is satisfied by the courses shown.)

No more than two courses can be selected from the same discipline

A. World Cultures and Global Issues Designated Course

B. U.S. Experience in its Diversity Designated Course

C. Creative Expression Designated Course

D. Individual and Society Designated Course

E. Scientific World Designated Course*

- BIO 9100 - Biostatistics 4 Credit(s) **or**
  - MAT 9100 - Biostatistics 4 Credit(s)
- **AND**
- BIO 1400 - General Biology II 4 Credit(s)

Major Requirements (6 Courses, 23 Credits):

- CHM 1100 - General Chemistry I 4 Credit(s)
- CHM 1200 - General Chemistry II 4 Credit(s)
- BIO 6500 - Molecular and Cellular Biology 4 Credit(s)
  AND
- BIO 5000 - General Microbiology 4 Credit(s) **or**
  - BIO 5900 - Genetics 4 Credit(s)

  AND
- BIO 5800 - Recombinant DNA Technology 4 Credit(s) **or**
- BIO 5700 - Biotechnology: Cell Culture and Cloning 4 Credit(s)
  AND
- BIO 6000 - Computer Applications in Bioinformatics 3 Credit(s) **or**
  - CIS 6000 - Computer Applications in Bioinformatics 3 Credit(s)

Electives:

4 credits sufficient to meet required total of 60 credits

Notes:

*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.

Total Credits: 60