

BIOLOGY (MS)

Department Website (<http://as.nyu.edu/biology/>)

NYSED: 07753 **HEGIS:** 0401.00 **CIP:** 26.0101

Program Description

The Master of Science in Biology provides a broad base in the principles of modern biology, which frequently includes advanced coursework in cell biology, molecular biology, microbiology, physiology, neurobiology, immunology, genetics, genomics, and systems biology. This program is designed for either part or full-time students.

The department offers a dual-degree (Biology MS/Business Administration MBA) with NYU's Leonard N. Stern School of Business. See the biology department's MS/MBA Program (<https://as.nyu.edu/departments/biology/academics/ms/mba.html>) for additional information.

Admissions

All applicants to the Graduate School of Arts and Science (GSAS) are required to submit the general application requirements (<https://gsas.nyu.edu/nyu-as/gsas/admissions/arc.html>), which include:

- Academic Transcripts (<https://gsas.nyu.edu/nyu-as/gsas/admissions/arc/academic-transcripts.html>)
- Test Scores (<https://gsas.nyu.edu/nyu-as/gsas/admissions/arc/test-scores.html>) (if required)
- Applicant Statements (<https://gsas.nyu.edu/nyu-as/gsas/admissions/arc/statements.html>)
- Résumé or Curriculum Vitae
- Letters of Recommendation (<https://gsas.nyu.edu/nyu-as/gsas/admissions/arc/letters-of-recommendation.html>), and
- A non-refundable application fee (<https://gsas.nyu.edu/admissions/arc.html#fee>).

See Biology (<https://gsas.nyu.edu/admissions/arc/programs/biology.html>) for admission requirements and instructions specific to this program.

Program Requirements

| Course | Title | Credits |
|--|-------|-----------|
| Major Requirements | | |
| Select 24 credits in BIOL-GA courses (chosen in close consultation with an academic adviser) | | 24 |
| Electives ¹ | | |
| Biology Electives (by advisement) | | 12 |
| Total Credits | | 36 |

¹

May be taken in departments including Biomaterials, Basic Medical Sciences, Environmental Health, and Chemistry.

Note: Courses numbered in the 1000-level and 2000-level ranges are open to students in the MS program. All entering MS students typically take BIOL-GA 1001 Bio Core I: Molecular Systems, and BIOL-GA 1002 Bio Core II: Cellular Systems.

Additional Program Requirements

Master's Thesis

Student must submit a qualifying paper, also known as a Master's thesis.

Sample Plan of Study

| Course | Title | Credits |
|--------------------------|----------------------------------|-----------|
| 1st Semester/Term | | |
| BIOL-GA 1001 | Bio Core I: Molecular Systems | 4 |
| BIOL-GA 1080 | Emerging Pathogens | 4 |
| BIOL-GA 1007 | Programming for Biologists | 4 |
| Credits | | 12 |
| 2nd Semester/Term | | |
| BIOL-GA 1002 | Bio Core II: Cellular Systems | 4 |
| BIOL-GA 1011 | Immunobiology | 4 |
| Credits | | 8 |
| 3rd Semester/Term | | |
| BIOL-GA 2030 | Statistics in Biology | 4 |
| BIOL-GA 1051 | Cell Biology | 4 |
| BIOL-GA 1045 | Protein Biochemistry | 4 |
| Credits | | 12 |
| 4th Semester/Term | | |
| BIOL-GA 1129 | Evolutionary Genetics & Genomics | 4 |
| Credits | | 4 |
| Total Credits | | 36 |

Learning Outcomes

Upon successful completion of the program, graduates will:

1. Understand basic principles of molecular biology and the molecular basis of human diseases such as cancer or COVID-19.
2. Be able to analyze and interpret biological experimental results, and critically read primary literature papers.
3. Be able to use statistical methods and analyze genomic datasets using acquired computational and programming skills.
4. Be able to perform molecular biology experiments using DNA, RNA, and protein.
5. Understand the molecular basis of craniofacial and bone development as they relate to dental biology.

Policies

NYU Policies

University-wide policies can be found on the New York University Policy pages (<https://bulletins.nyu.edu/nyu/policies/>).

Graduate School of Arts and Science Policies

Academic Policies for the Graduate School of Arts and Science can be found on the Academic Policies page (<https://bulletins.nyu.edu/graduate/arts-science/academic-policies/>).