# M.S. in Bioinformatics

## Degree Requirements

A minimum of 30 credits is required for the degree, excluding bridge courses. The graduate curriculum consists of five core courses and additional elective courses, with an optional thesis (six credits) or research project (three credits).

## Curriculum

### Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNFO 601</td>
<td>Foundations of Bioinformatics I</td>
<td>3</td>
</tr>
<tr>
<td>BNFO 602</td>
<td>Foundations of Bioinformatics II</td>
<td>3</td>
</tr>
<tr>
<td>BNFO 615</td>
<td>Data Analysis in Bioinformatics</td>
<td>3</td>
</tr>
<tr>
<td>BNFO 644</td>
<td>Data Mining and Management in Bioinformatics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 663</td>
<td>Introduction to Biostatistics</td>
<td>3</td>
</tr>
</tbody>
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### Electives

Select five of the following:

- **NJIT Electives**
  - BME 661 Neural Engineering
  - BME 671 Biomechanics of Human Structure and Motion
  - CHEM 658 Advanced Physical Chemistry
  - CHEM 673 Biochemistry
  - CS 631 Data Management System Design
  - CS 632 Advanced Database System Design
  - CS 659 Image Processing and Analysis
  - CS 634 Data Mining
  - CS 681 Computer Vision
  - CS 731 Applications of Database Systems
  - CS 782 Pattern Recognition and Applications
  - IS 634 Information Retrieval
  - ECE 609 Artificial Neural Networks
  - ECE 640 Digital Signal Processing
  - ECE 673 Random Signal Analysis I
  - MATH 635 Analytical Computational Neuroscience
  - MATH 636 Systems Computational Neuroscience
  - MATH 637 Foundations of Mathematical Biology
  - MATH 662 Probability Distributions

- **Rutgers-Newark Electives**
  - R120 512 Cell Biology: Methods & Appl
  - R120 515 Molecular Bio Of Eukaryotes
  - R120 516 Microbial Ecology
  - R120 526 Topics in Cell Biology
  - R120 548 Biology Of Cancer
  - R120 573 Pharmacology

### RBHS Electives

- UMD 5002
- UMD 5030
- UMD 5200

## Total Credits

30