

# BIOTECHNOLOGY, MS/MBA

## MS in Biotechnology / MBA (<https://advanced.jhu.edu/academics/graduate/ms-biotechnology/ms-biotechnology-mba-dual-degree/>)

This dual-degree graduate program prepares bioscience professionals for success in both the science and business of biotechnology. Drawing from the strengths of the Krieger School of Arts and Sciences and the Carey Business School, this innovative program allows students to earn two advanced degrees in less time than it takes to earn them separately. Dual-degree recipients receive both diplomas upon completion of both programs: one from the Krieger School of Arts and Sciences and one from the Carey Business School.

### Program Features

- Complete simultaneously or sequentially
- Receive two degrees
- Count three courses from the MS program toward the Carey Business School 54-credit Professional MBA program and, as a result, complete the MBA with 42 credits of Carey courses
- Although not required, choose from eight in-demand specializations, including: business analytics and risk management; entrepreneurship, innovation, and technology; financial management; health care management, innovation, and technology; investments; digital marketing; entrepreneurial marketing; and public and private sector leadership.

## Admissions Criteria for all Advanced Academic Programs (<https://e-catalogue.jhu.edu/arts-sciences/advanced-academic-programs/enrollment-services/admission/>)

### PROGRAM-SPECIFIC REQUIREMENTS

In addition to the materials and credentials required for all programs, the Master of Science in Biotechnology requires an undergraduate degree in the natural sciences or engineering with at least a 3.0 on a 4.0 scale in undergraduate studies (relevant work experiences are also considered). Applicants should have coursework in the following:

- Two semesters of biology
- Two semesters of chemistry
- One semester of organic chemistry
- One semester of biochemistry

### Additional Requirements

For the MS in Biotechnology and MBA Dual Degree, **two letters of recommendation are required.**

### MBA Admissions Requirements

- GRE or GMAT exam
- At least two years of progressive, full-time, professional experience after the completion of undergraduate studies for the MBA.

A waiver of the GRE or GMAT exam may be approved if a candidate has:

- Completed a graduate degree and can demonstrate quantitative ability through coursework of B or better in statistics, corporate finance, or microeconomics.
- Completed an undergraduate degree and has at least five years of professional experience. Applicant has also taken at least one course in statistics, corporate finance, and microeconomics, earned a B or better, and earned an overall GPA of 3.0 or better.
- A professional designation, such as CPA or CFA

## Program Requirements

The program requires 82 credits, 42 credits (20 credits Flex MBA Business Foundation and 22 credits of electives) for the MBA and 40 credits in Biotechnology. The 42 MBA credits must be completed with "BU" courses from the Carey Business School. Dual degree recipients receive both diplomas upon completion of both programs.

### Biotechnology Requirements

| Code                            | Title  | Credits   |
|---------------------------------|--|-----------|
| <b>Core Courses - Required:</b> |  |           |
| AS.410.602                      | Molecular Biology  | 4         |
| AS.410.603                      | Advanced Cell Biology  | 4         |
| AS.410.604                      | Cellular Signal Transduction   | 4         |
| AS.410.607                      | The Biotechnology Enterprise   | 4         |
| <b>Electives (Six courses)</b>  |  | <b>24</b> |
| AS.410.645                      | Biostatistics (students who take Biostatistics may take one additional Carey Business School elective in place of BU.510.601 Statistical Analysis) |           |
| <b>Total Credits</b>            |  | <b>40</b> |

### MBA Requirements

| Code   | Title   | Credits   |
|--|---|-----------|
| <b>Core Courses - Required:</b>  |   |           |
| BU.210.620   | Accounting and Financial Reporting  | 2         |
| BU.520.601   | Business Analytics  | 2         |
| BU.120.601   | Business Communication  | 2         |
| BU.220.620   | Business Microeconomics   | 2         |
| BU.231.620   | Corporate Finance   | 2         |
| BU.142.601   | Leadership and Organizational Behavior  | 2         |
| BU.410.620   | Marketing Management  | 2         |
| BU.680.620   | Operations Management   | 2         |
| BU.510.601   | Statistical Analysis (Students who complete AS.410.645 Biostatistics may take an additional Carey Business Elective in place of BU.510.601 Statistical Analysis.) | 2         |
| BU.150.620   | Strategic Management  | 2         |
| <b>Electives (22 credits)</b>  |   | <b>22</b> |
| Select 11 two-credit courses. Students may fulfill this requirement with any Carey courses for which they meet the pre-requisites and enrollment criteria. |   |           |
| <b>Total Credits</b>   |   | <b>42</b> |

## Learning Outcomes

By the end of the MS in Biotechnology program, students will be able to:

- Assess diverse methods and technologies and their applications in biochemistry.
- Apply up-to-date knowledge and skills in molecular biology in real-world settings.
- Employ key concepts in cellular biology to solve real-world issues.
- Critique scientific information from various subdisciplines of biotechnology.
- Demonstrate ability to communicate scientifically both orally and in writing.
- Demonstrate the ability to collaborate in a diverse group to achieve an objective.