

# Graduate Programs in BIOTECHNOLOGY



**Masters in Professional Studies:**  
Biotechnology

**Post-Baccalaureate Certificate:**  
Biotechnology Management

**Post-Baccalaureate Certificate:**  
Biochemical Regulatory  
Engineering

## **Biotechnology - a professional industry-relevant and practical graduate degree**

- » Biotechnology is a growing economic sector creating new opportunities for qualified individuals.
- » Courses in life science, management, and business are combined to create an effective curriculum.
- » Ideal for professionals pursuing management opportunities in Biotech.
- » Students gain experience in researching, analyzing and communicating the primary and current literature in the Biotech field.

## **When you choose UMBC Professional Programs, you can count on:**

- » Courses taught by industry experts and a range of academic departments.
- » Flexible evening class schedule that accommodates working professionals.
- » Wide-ranging resources offered at a top-notch public research university.

## **Why UMBC?**

- » The excellent academic and research expertise in the biosciences provides the foundation for the M.P.S. Biotechnology programs and certificate programs.
- » For six years running, UMBC was ranked #1 in the U.S. New and World Report's list of 'national up-and-coming' universities, and in 2015 ranked #4 as 'most innovative schools.'
- » UMBC provides a comprehensive and quality education at a manageable cost.

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## **Professional Experience Program (PEP) Option**

The MPS Program offers assistance to students interested in expanding on their industry experiences to include a Professional Experience. Please contact the Program Director for more information.



[umbc.edu/biotech](http://umbc.edu/biotech)

### **For Program Information:**

Dr. Stephen Miller  
Program Director  
stmiller@umbc.edu | 410-455-3381

### **For Application Information:**

Ms. Nancy Clements  
Program Specialist  
nancyc@umbc.edu | 410-455-5536

## Admission Requirements

### M.P.S.:

- » A bachelor's degree in any life science related field including Biology, Chemistry, Biochemistry, Biochemical Engineering, Biotechnology and Food and Agricultural Sciences.
- » Minimum undergraduate GPA of 3.0 on a 4.0 scale
- » GRE scores are not required for applicants with a degree from an accredited U.S. institution
- » Two semesters of general chemistry and two semesters of organic chemistry

### Graduate Certificates:

#### Biotechnology Management:

- » A bachelor's degree in any discipline

#### Biochemical Regulatory Engineering:

- » A bachelor's degree in science or relevant discipline
- » Minimum undergraduate GPA of 3.0 on a 4.0 scale

### International Applicants:

Please visit [umbc.edu/biotech/international](http://umbc.edu/biotech/international) for detailed admissions requirements for international applicants.

- » Please pay special attention to English proficiency and testing requirements

## Admission Deadlines

**Fall:** August 1

**Spring:** December 1

For detailed application process please visit: [umbc.edu/biotech](http://umbc.edu/biotech)

## Office of Professional Programs

UMBC's Office of Professional Programs offers a broad array of professionally focused master's degree and certificate programs that address industry needs while anticipating future opportunities.  
[umbc.edu/professionalprograms](http://umbc.edu/professionalprograms)

## Master's Program

### Master in Professional Studies (M.P.S.): Biotechnology

**30 Credits (10 courses)**

### Core Courses 18 credits (6 Courses)

BTEC 675: Business of Biotech*
BTEC 655: Emerging Topics in Biotechnology Seminar
BTEC 656: Experimental Design
BTEC 665: Management, Leadership and Communication
BTEC 670: Legal and Ethical Issues in the Science Professions
BTEC 654 Capstone

\* BTEC 675 should be taken in the first semester of enrollment



### Biotechnology Tracks (Select one track) 12 Credits (4 Courses)

#### Regulatory Track

BTEC/ENCH 660: Regulatory Issues in Biotechnology
BTEC/ENCH 662: Good Manufacturing Practices for Bioprocesses
BTEC/ENCH 664: Quality Control and Quality Assurance for Biotechnology Products
BTEC/ENCH 666: Biotechnology GMP Facility Design, Construction and Validation <b>OR</b>
BTEC 668: Clinical Trials: Design and Management

#### Bioprocessing Track

BTEC 653: Principles of Upstream Processing
BTEC 658: Principles of Downstream Processing
BTEC 659: Fundamentals of Bioprocess Development
BTEC/ENCH 664: Quality Control and Quality Assurance for Biotechnology Products

## Certificate Programs

### Post-Baccalaureate Certificate: Biotechnology Management 12 Credits (4 courses)

BTEC 665: Management, Leadership and Communication
BTEC 670: Legal and Ethical Issues in the Science Professions
BTEC 680: Financial Management
BTEC 685: Project Management Fundamentals



### Post-Baccalaureate Certificate: Biochemical Regulatory Engineering 12 Credits (4 courses)

BTEC/ENCH 660: Regulatory Issues in Biotechnology
BTEC/ENCH 662: Good Manufacturing Practices for Bioprocesses
BTEC/ENCH 664: Quality Control & Quality Assurance for Biotechnology Products
BTEC/ENCH 666: Biotechnology GMP Facility Design, Construction and Validation

Please consult [umbc.edu/biotech/schedule](http://umbc.edu/biotech/schedule) for current schedule.