

BIOTECHNOLOGY & GOOD MANUFACTURING PRACTICE

Certificate

Program Description

The Biotechnology Program is designed to prepare students for entry-level positions in the biomanufacturing industry. Students will develop a broad laboratory science-based background through courses focused in the life and chemical sciences, and will obtain industry-specific knowledge in the areas of quality control (QC), process development (PD), and upstream and downstream processing, all while following current, good manufacturing practices (cGMP). In addition, students will learn valuable laboratory techniques and instrumentation, and develop critical thinking skills. Upon successful completion of the program, students may enter the workforce directly as entry-level laboratory technicians or research assistants.

Program Outcomes

At the completion of this program, the student should be able to:

- Practice ethical standards of integrity, honesty, and fairness in scientific practices and professional conduct.
- Apply appropriate computer software and hardware skills to accomplish biotechnology lab tasks.
- Demonstrate technical knowledge of specialized techniques and instrumentation relating to biomanufacturing.
- Communicate thoughts, orally and in writing, in a clear well-organized manner that effectively informs scientific principles and lab techniques.
- Perform basic molecular biology & biochemical techniques.
- Apply GMP documentation to biomanufacturing.
- Perform all aspects of upstream and downstream processing in biomanufacturing.
- Develop critical thinking skills to solve complex scientific problems.

Program Requirements – 22 credits total		Credits
BTC 101	Introduction of Biotechnology w/Lab ¹	4 credits
BTC 102	Buffer and Media Preparation ¹	2 credits
BTC 103	Technical Writing in Biomanufacturing	3 credits
BTC 202	Protein Purification ¹	2 credits
BTC 220	Biomanufacturing I ¹	4 credits
BTC 230	Biomanufacturing II ¹	4 credits
BTC 240	Seminar in Biotechnology ¹	1 credit
MAT 103	College Algebra ²	3 credits

Total credits required for graduation

22 credits

Additional Information

1. Indicates course requires the completion of a prerequisite.
2. MAT 103 College Algebra may be taken during any of the three semesters.

NOTE: All classes are offered in the fall and the spring unless otherwise designated:

F=Class is only offered in the Fall

S=Class is only offered in the Spring

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Semester 1	Credits	Pre-Requisites
BTC 101 Introduction of Biotechnology w/Lab	4 credits	
BTC 102 Buffer and Media Preparation	2 credits	
BTC 202 Protein Purification	2 credits	
Total	8 credits	

Semester 2	Credits	Pre-Requisites
BTC 103 Technical Writing in Biomanufacturing	3 credits	
BTC 220 Biomanufacturing I	4 credits	
Total	7 credits	

Semester 3	Credits	Pre-Requisites
BTC 230 Biomanufacturing II	4 credits	
BTC 240 Seminar in Biotechnology	1 credit	
Total	5 credits	

Note: MAT 103 College Algebra (3 credits) can be taken in any of the three semesters.

Semester Path:

Recommended course of study for a full-time student. It is recommended that students speak to an Academic Advisor before registering for courses each semester.

Student Resources:

Academic Advising
617-984-1720

Dean's Office of Arts and Sciences & Professional Programs
617-405-5920

Dean's Office of Allied Health
617-405-5960

Dean's Office of Nursing
617-405-5990

Financial Aid Office
617-984-1620

Registrar's Office
617-984-1650

Student Accessibility and Academic Support Services
617-405-5915