

BIOTECHNOLOGY & GOOD MANUFACTURING PRACTICE

Certificate

Quincy College | Academic Division of Natural Science

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.

ADDITIONAL INFORMATION

All Biotech (BTC) courses should be taken sequentially; the Chair of Biotechnology & Good Manufacturing Practices Program should approve any changes. Issa Bayala can be reached via phone (617) 405-5967

(*) Indicates course requires the completion of a prerequisite.

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

MAT 103 College Algebra may be taken during any of the three semesters.

Course / Credit Information

Program Requirements – 23 credits total	Credits
BTC 101 Introduction of Biotechnology w/Lab	4 credits
BTC 102 Buffer and Media Preparation*	2 credits
BTC 103 Technical Writing in Biomanufacturing	3 credits
BTC 202 Protein Purification*	2 credits
BTC 220 Biomanufacturing I*	4 credits
BTC 230 Biomanufacturing II*	4 credits
BTC 240 Seminar in Biotechnology*	1 credit
MAT 103 College Algebra	3 credits

Total credits required for graduation 23 credits

BIOTECHNOLOGY & GOOD MANUFACTURING PRACTICE

Certificate

COURSE FLOW

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 Liberal Arts & Professional Programs

617-405-5920

Dean's Office of Allied Health & Natural Science

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