



# WPI

## BIOMANUFACTURING EDUCATION & TRAINING CENTER

ENHANCE YOUR SKILLS & ADVANCE YOUR CAREER

## Fundamentals of Biomanufacturing - A Hands-On Approach

Massachusetts is a global leader in biomanufacturing and the industry continues to grow in New England. WPI developed this fundamentals program in collaboration with many of the region's leading biomanufacturing companies to give adult learners the basic skills and knowledge they need to seek entry-level jobs in the industry.

This eight-week evening program is taught by WPI instructors and biomanufacturing industry professionals. It includes a mix of classroom instruction and hands-on learning in small teams working on state-of-the-art biomanufacturing equipment.

### PROGRAM INCLUDES

- Performing activities in compliance with the cGMP's (Current Good Manufacturing Practices) that are mandated by the FDA (Food & Drug Administration)
- A tour of AbbVie in Worcester
- Operation of critical equipment and instruments such as bioreactors, purification columns, harvesting equipment (centrifuges, depth filters, etc.) biosafety cabinets and analytical instruments
- Experience single-use and stainless steel equipment
- Following Standard Operating Procedures (SOP's) for these operations
- Completing production batch records
- Filling out equipment checklists and logs
- Demonstrating conduct in compliance with FDA regulations and expectations

### SPECIAL FEATURE

Participate in a full biomanufacturing process:

- Cell culture operations
- Media preparation/seed inoculums
- Aseptic processing in biosafety cabinet
- Centrifugation
- Buffer preparation
- Tangential flow concentration and diafiltration
- Purification process (column chromatography)
- Column packing and qualification
- Filtration and integrity testing
- Analytical instrumentation and lab calculations

Participants will be divided into small groups that rotate through the appropriate unit operations, each led by an instructor who is a subject matter expert from industry. The unique design of this certificate program features not only learning the technical and scientific principles of each unit operation, but also performing each operation under simulated cGMP conditions.

**Learn More: [WPI.edu/+BETC](https://wpi.edu/+BETC)**

50 Prescott Street, Suite 2400, Worcester, MA 01605  
508.831.4879 | [betc@wpi.edu](mailto:betc@wpi.edu)