Worcester Polytechnic Institute

**Fundamentals of Biomanufacturing**

**Evening Certificate Program**

Learn from industry experts through hands-on experience at WPI's Biomanufacturing Education and Training Center

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**Corporate and Professional Education**

WPI Corporate and Professional Education (CPE) brings world-class education, training and professional development to organizations. When you partner with us, we work actively with you to help determine your organization's needs and provide solutions to meet them. CPE delivers at the most convenient times, accessible places, and training levels for your employees.

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**Biomanufacturing Education and Training Center**

The Biomanufacturing Education and Training Center (BETC) at WPI's Gateway Park provides innovative workforce development solutions customized to the specific needs of your organization.

Hands-on training is provided for professionals in a wide range of roles and disciplines—resulting in a workforce focused on compliance and operational excellence.

Experts in the field have influenced the design of the BETC and choice of equipment to ensure the training center meets the real-world needs of the industry.

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Worcester Polytechnic Institute

**Biomanufacturing Education and Training Center**

50 Prescott Street, Suite 2400

508-831-4879   betc@wpi.edu   wpi.edu/+BETC
Technical Material with Hands-On Learning
Once the hands-on processing section of the course begins, participants divide into small groups which rotate through the appropriate unit operations—each led by a specific instructor who is a subject matter expert of that topic. The unique design of this program features not only learning the technical and scientific principles of each unit operation, but also performing each operation in a cGMP manner.

Skills and topics covered in this certificate program include:
- Performing activities in compliance with the cGMP’s (Current Good Manufacturing Practices) that are mandated by the FDA
- A tour of AbbVie in Worcester, MA
- Operation of critical equipment and instruments: bioreactors, purification skids, centrifuges, biosafety cabinets, and analytical instruments
- Following Standard Operating Procedures (SOPs) for these operations
- Completing production batch records
- Filling out equipment checklists and logs
- Demonstrating conduct in compliance with FDA regulations and expectations

Special features of this certificate program include:
- Media preparation
- Aseptic processing in biosafety cabinet
- Buffer preparation
- Fermentation and cell culture operations
- Centrifugation
- Tangential flow filtration
- Purification process (column chromatography)
- Column packing and qualification
- Filtration and filter integrity testing
- Analytical instrumentation and lab calculations
- Quality control

Employment in pharmaceutical and medicine manufacturing is projected to increase by 26% between 2004 and 2014.
- U.S. Bureau of Labor Statistics