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Welcome to BTEC

Delivering world-class education and training, engaging in novel research, and providing custom contract services

About BTEC

The Golden LEAF Biomanufacturing Training and Education Center (BTEC) develops skilled professionals for the growing biomanufacturing industry. BTEC also helps support and grow this important sector of North Carolina’s economy through its education and training programs, its research endeavors, and the contract services it provides. BTEC —

- Is part of NC State University’s College of Engineering and is located in the Centennial Campus research park
- Provides degree opportunities for both undergraduate and graduate students
- Offers a wide range of education and training courses for working professionals
- Supports clients from academia and industry by delivering bioprocess and analytical services
- Creates and participates in innovative research collaborations that aid and grow the industry

BTEC’s highly qualified scientists, engineers, and operations staff carry out the center’s programs in two facilities. The main building features 43,700 gross square feet of laboratory space, which includes a simulated-GMP (Good Manufacturing Practice) pilot plant, and 7,200 gross square feet devoted to classrooms. The nearby BTEC Annex offers an additional 4,000 gross square feet of laboratory space. Together, the two facilities boast more than $18 million of industry-standard equipment. The center is capable of producing biological products using cell growth and expression, recovery, and purification processes.

An important resource for the 700+ life science companies in North Carolina and their more than 64,000 employees, BTEC provides support and services to foster innovation and job creation. Since opening in 2007, BTEC has been helping to position the state as a leader in biomanufacturing workforce development.

Through its various academic programs and professional development opportunities, BTEC equips individuals with the knowledge and skills needed to pursue or advance a career in biomanufacturing.

For more information

www.btec.ncsu.edu
(919) 513-2000
btecinfo@lists.ncsu.edu

Please visit the BTEC website to learn more about its academic and professional development programs, analytical and bioprocess services, and its research activities.

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Hands-on biomanufacturing education and training for students and working professionals

BTEC offers programs at the undergraduate, post-baccalaureate, and graduate levels, all of which feature hands-on learning in its state-of-the-art laboratories. Available programs are:

- Undergraduate certificate
- Undergraduate minor
- Post-baccalaureate certificate
- Graduate certificates in Upstream Biomanufacturing and Downstream Biomanufacturing
- Graduate minor
- Accelerated Bachelor’s/Master’s degree program
- Master of Science in Biomanufacturing (MS)
- Master of Biomanufacturing (MR)

BTEC students have a variety of backgrounds including engineering, the life sciences, and chemistry. The multi-disciplinary, industry-focused curriculum features hands-on learning at a variety of scales. Students have the opportunity to learn from instructors with industry experience and to develop the skills needed to be successful on the job.

As part of its overall mission, BTEC collaborates with industry partners to design and develop learning experiences that enhance the knowledge and skills of biotechnology and biomanufacturing professionals. BTEC’s growing industry training programs offer:

- A wide variety of 1- to 5-day courses organized into 4 tracks:
  - Analytical technologies
  - Biomanufacturing
  - Bioprocess development
  - Bioprocess engineering
- A chance to learn new technologies and techniques with participants from across the country and around the world
- Customized courses for industry clients, which can be held at either the BTEC facility or the firm’s site
- Academic and vendor-sponsored seminars that address current topics of interest

BTEC’s expert instructors—many of whom have extensive experience with leading industry firms—carry out the center’s training and education programs. Courses focus primarily on the production of biological products for the treatment or prevention of human disease.

Helping to solve the toughest scientific problems

BTEC’s Bioprocess and Analytical Services units offer contract development and testing services. BTEC can:

- Supply material for research and preclinical studies
- Collaborate on process development projects
- Generate process data during scale-up
- Offer assay development and validation services
- Furnish routine analytical testing services
- Test prototypes of new equipment

BTEC personnel involved in bioprocess and analytical projects have wide-ranging experience in GMP manufacturing, process development, and analytical development. Upstream and downstream projects are carried out in BTEC’s state-of-the-art laboratories, which range from bench to simulated-GMP pilot scale. In BTEC’s analytical lab, capabilities range from HPLC, UPLC, ELISA, gel electrophoresis, capillary electrophoresis, MALDI-TOF, and quantitative PCR.

Research targeting the challenges of a rapidly growing and changing industry

BTEC actively engages in a variety of research projects and provides leadership to the national and international biotechnology community by creating strong collaborations that support and grow the industry. BTEC’s research program seeks to bring stakeholders together to address problems and new ideas around biomanufacturing in particular and biotechnology in general.

Through direct collaboration and by bringing together industry, academia, non-profit and/or government agencies, BTEC’s research program offers opportunities to create new partnerships, support new ideas, and catapult existing research into implementation.

BTEC is a member of the National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL) and other organizations dedicated to furthering the biopharmaceutical industry.

Please visit www.btec.ncsu.edu to learn more about BTEC’s academic and professional development programs, analytical and bioprocess services, and its research activities.