A unique course for a growing need

*BioWork* is a 128-hour introductory course bringing together the basics of manufacturing technology and the fundamentals of science—two essentials for competent, entry-level technicians in biotechnology, pharmaceutical, and chemical manufacturing.

**An emphasis on safety**

*BioWork* students graduate with a safety mindset. Much of safety training is job-specific. However, *BioWork* introduces students to common hazards in the workplace, critical OSHA requirements, and personal protective clothing and equipment.

**A relevant framework for on-the-job training**

*BioWork*-certified graduates enter the workforce ready to learn company operations and tasks. Equipped with *BioWork* knowledge and skills, they are prepared to:
- Read a process diagram
- Use the metric system
- Adjust pH
- Read gauges
- Make chemical solutions
- Prepare growth media
- Comply with cGMP
- Follow an SOP
- Complete a batch record
- Read an MSDS
- Use common pumps and valves

**A priority on quality**

*BioWork* teaches students what quality means and why it matters, providing overviews of current quality systems—with detailed treatment of cGMP as an example of a comprehensive quality system. *BioWork* graduates understand that a quality product depends on the strict attention process technicians give to standards and procedures for every task.

**Built-in communication, teamwork, and problem-solving**

Technical knowledge and skill is not enough. Successful process technicians need an ability to effectively communicate, work with a team, and solve problems. *BioWork* offers students many opportunities to develop and practice these skills.
Features that make it easy for students to learn

- Content is structured in manageable segments moving from simple to complex.
- Topics unfold in logical sequence with helpful examples, illustrations and reviews.
- Text is clear and concise with a simple vocabulary and well-defined industry terms.
- Course competencies are reinforced in a variety of ways, including classroom and lab activities, role plays and case studies, field trips to manufacturing sites, and learning from guest speakers from local companies.

BioWork Units of Study

Unit 1. Your New Job. Orientation to the process manufacturing industries.
Unit 2. Working Safely. Basic safety attitudes and approaches.
Unit 4. Measuring Process Variables. The metric system and variables critical to controlling processes.
Unit 5. Transforming Matter. Basic chemistry for process technicians.
Unit 7. Controlling the Process. Basic principles of feedback control systems.

BioWork is taught only through North Carolina Community Colleges. Check with your local college for availability.

BioWork can be taught to the public through Continuing Education or customized as part of an industrial training package. Selected units can be taught based on company or employee needs.

Companies participating in the development of BioWork include

- Eisai
- Bayer
- Biogen
- Diosynth
- Ajinomoto
- Novozymes
- Stockhausen
- Corn Products
- Wyeth-Lederle
- GlaxoSmithKline
- Burlington Research
- E. I. DuPont de Nemours
- NovoNordisk Pharmaceuticals
- DSM Catalytica Pharmaceuticals

For further information regarding BioWork, contact The North Carolina Biotechnology Center Education and Training Program at (919) 541-9366 or the North Carolina Community College BioNetwork at (919) 807-7183.