

**The Biomedical Engineering Department
The City College of The City University of New York**

STRATEGIC PLAN

Background

The Biomedical Engineering (BME) Department of The City College of The City University of New York (CUNY) was established in 2002 after an evolutionary process that began with the formation of the New York Center for Biomedical Engineering (NYCBE) in 1994. Along the way the NYCBE became an official CUNY Institute in 1996, and a CUNY Ph.D. program in Biomedical Engineering was established in 1999. The NYCBE started as a collaborative research consortium between City College and several private medical institutions in New York City and continues to thrive today, embracing partnerships with:

- Albert Einstein College of Medicine
- Columbia College of Physicians and Surgeons
- Hospital for Special Surgery
- Mount Sinai School of Medicine
- New York University School of Medicine
- Cardiovascular Research Foundation
- Memorial Sloan-Kettering Cancer Center
- Weill Medical College of Cornell University

The Biomedical Engineering Department grants B.E., M.S., and Ph.D. degrees in biomedical engineering and administers both the teaching and research activities associated with these degrees. The present, critical function of the NYCBE is to foster research collaboration and interactive teaching that support the mission of the Biomedical Engineering Department. This includes the placement of students in research laboratories in the consortium partner institutions and establishing contacts between researchers with complementary interests.

The first strategic plan for the Biomedical Engineering Department was developed during the summer and fall of 2004 and unveiled publicly on the department's website on November 5, 2004 to commemorate the Inauguration of the new BME facilities in Steinman Hall.

I. Aspiration

The Biomedical Engineering Department of The City College of The City University of New York aspires to provide exciting educational programs of superior quality at the undergraduate and graduate levels. We want to inspire our students, faculty and staff and nurture their dreams.

II. Mission

We strive to establish an enduring national urban model for Biomedical Engineering programs and a legacy of excellence in public higher education for future generations of students and faculty.

III. Values

This Department subscribes completely to the mission and purpose of The City College of New York, especially its commitment to making a superior education available to the most diverse possible group of students. Our Department believes in, and thus teaches, directly and by example, mutual respect and caring for each of its students, faculty and staff.

IV. Purposes

Two overarching purposes derive from our aspiration, mission, and values; one cannot exist without the other:

Educational Purpose: To provide our students with an intellectual foundation that will prepare them for productive careers in biomedical research, industry, medicine, and academics by sustaining superior BME educational programs with access to renowned collaborating medical institutions.

Research Purpose: To conduct innovative research that is useful to humanity. We seek to understand biological mechanisms and develop methodologies for the prevention and treatment of disease and dysfunction. In conducting this research use will be made of our unique access to the unparalleled infrastructure of New York's leading medical institutions as well as our own state of the art laboratories.

This Plan is intended to chart our direction, guide our growth, and inform our choices for the next five years. Specific actions to move us in the direction of meeting our aspirations are detailed in our Operational Plans, a follow-on document to this one.

V. Goals

We have both educational goals and research goals and view the two as mutually reinforcing. Each goal is presented in this section and refined into a set of "general objectives". Recognizing that it is necessary to monitor progress toward our goals continuously and to refine this Plan regularly, we will continue to review, revise and adapt it to our changing departmental and institutional mission and a changing world.

Educational Goal 1: Recruit and retain an academically talented and diverse student body and faculty.

General Objectives:

1. Encourage the participation of all academically talented students and faculty with special efforts to ensure access to groups traditionally underrepresented in the field of biomedical engineering.
2. Create an environment where both junior and senior faculty can grow, with senior faculty mentoring junior faculty.

Educational Goal 2: Sustain and improve our undergraduate program, which provides students with basic scientific knowledge, engineering skills, access to research experiences and preparation for careers.

General Objectives:

1. Ensure that students have an understanding of biology and physiology along with the capability to apply advanced mathematics, science, engineering and integrated methods of modeling to the solution of interdisciplinary problems at the interface of engineering and the biological sciences.
2. Provide the foundation for a successful career in the graduate's field of choice, including industry, medicine, and biomedical research.

Educational Goal 3: Maintain a vigorous graduate program that develops creative and productive researchers who are skilled scientific collaborators and admirable professionals.

General Objectives:

1. Build on the educational goals of the undergraduate program.
2. Produce future leaders of academia, industry and medicine.

Research Goal 1: Be an acknowledged leader in academic biomedical engineering research in the following areas:

- Cardiovascular Engineering
- Molecular, Cell, and Tissue Engineering
- Nanotechnology and Biomaterials
- Musculoskeletal Mechanics
- Neural Engineering and Imaging

General Objectives:

1. Recruit new faculty in our thrust areas and the administrative and technical staff and facilities necessary to support them.
2. Expand the graduate program while regulating its growth in strategic areas.

Research Goal 2: To serve as a focal center for collaborative biomedical engineering research in the New York metropolitan area through our consortium with the New York Center for Biomedical Engineering (NYCBE) and its premier partner institutions.

General Objectives:

1. Expand the NYCBE and its outreach to the renowned facilities and researchers in major New York medical centers.
2. Promote the translation or application of basic research to clinical and industrial practice.