

New York City College of Technology 2015 – 2016 College Focus Goals

City Tech's Focus Goals stem from the goals of the College's 2014-2019 Strategic Plan, which has set ambitious expectations for academic program development, faculty renewal, improved student outcomes and experiences, as well as institutional advancement and partnerships.

1 - Enhanced Fundraising:

Academic year 2014-15 was a banner year for fundraising at City Tech. The \$2.3 million received was the largest in the history of the College. It was aided by the simultaneous renewal of two large grants, an atypical event. The coming academic year will be the first in which we expect to see substantial progress in fundraising around the new academic complex currently under construction. A major focus will be on naming opportunities in the new academic complex and to a lesser extent in the newly renovated Voorhees Building, our center for the engineering technologies. Many of the academic programs gaining new laboratories and clinics in these buildings have strong connections to businesses and industries that hire our graduates. As a result, we anticipate securing named laboratories from companies such as Nobel Biocare, the world's largest producer of equipment related to restorative dentistry.

We anticipate raising at least \$2 million in the coming year and \$2.5 million in AY 2016-17. The wide range of naming opportunities in the new building, at every price point, will attract not only alumni but also corporate donors, especially those related to some of the unique academic programs at the College. We expect to identify and hire a candidate for our Major Gifts Officer position, which has the potential to further accelerate progress.

2 - Graduation Rates

City Tech's enrollment profile is undergoing a dynamic transition as baccalaureate program enrollment has increased rapidly with the addition of new bachelor's programs that leverage existing associate programs in high-demand technical areas. Baccalaureate program enrollment has increased from 4406 to 7212, almost 40% in the past five years (22 % in the past two years), while associate degree enrollment has fallen by 10% over the past five years. Almost all the baccalaureate programs at City Tech are structured and registered as 2+2 programs, i.e. they represent upper division coursework and are designed for either transfer students who have completed associate degrees or internal associate degree students who continue into the baccalaureate.

As a result, the conventional measure of graduation rates based upon first-time/full-time freshmen cohorts does not provide a meaningful measure of student outcomes as the common path for the large and growing number of City Tech's baccalaureate students is through progression from the corresponding associate programs or through external transfer. The College is seeing an increase in the number of students entering baccalaureate programs as freshmen – from 177 to 550 over the past five years; however, more than half of these students are in three tightly related programs among our 25 baccalaureate programs (Computer Engineering Technology, Mechanical Engineering Technology and Computer Systems Technology).

Even with this caveat, it is worth mention that the six-year graduation rate for freshmen in baccalaureate programs has more than doubled in seven years, from 11.1% to 28.9%, and the four-year graduation rate for transfers into baccalaureate programs (a more meaningful measure for 2+2 programs) increased last year from 31.0% to 38.7%, and is on a fairly steady course of improvement. Over the past several years the six-year graduation rate of associate degree students has gradually increased from 19.8% to 21.7%.

In recognition of the need to enhance retention and graduation the College is continuing to focus on eliminating obstacles that discourage rapid progress toward a degree, including pursuing higher pass rates in gateway courses, expanding academic advisement, and support for students at every level. The College has also launched a STEM-focused ASAP program this fall serving students in eight AAS programs offered by the School of Technology and Design.

It is clear that the lack of adequate proficiency in mathematics is a persistent barrier to student success. Students aspiring to STEM programs generally must complete a minimum of pre-calculus and as much as two semesters of calculus plus additional mathematics for the Engineering Technology programs. Even programs such as Hospitality Management or Nursing that are not math-intensive have requirements—for accounting or medical math—that challenge students with inadequate preparation. Students whose initial Math placement is the first credit-bearing course must complete two courses, a total of eight credits, before pre-calculus. Students whose initial placement is developmental math are required to complete either a 5 or a 7 hour non-credit course before beginning credit-bearing work. The passing rate in these courses has been consistently low. Even with a successful summer experience, it might take a year or more for students to reach the math pre-requisites to begin taking courses in their major field.

To more directly engage the need for improved student progress, and to develop a more effective program, the Mathematics Department is focusing on both the developmental and the credit-bearing math sequences. With the aid of a recently-awarded USDE MSEIP (Minority Science and Engineering Improvement Program) grant of \$750,000 over three years, the department is undertaking a project titled “Curricular and Strategic Changes in Mathematics to Enhance Institutional STEM Education.” They seek to streamline the sequences while introducing curricular and pedagogic improvements to increase success. A second large grant award (\$3.2m over five years), under Title V Strengthening Hispanic Serving Institutions will build on the College’s OpenLab learning platform to develop resources for teaching and academic support in mathematics. Entitled “Opening Gateways to Completion: Digital Pedagogies for Student Success in STEM,” this project will address both mathematics courses and the application of mathematics required in STEM degrees.

As a result of these efforts we are targeting an increase in first-to-third semester retention of first-time, full-time freshmen in associate degree programs of 5% over three years, from the current 60.4% to 65.4%. By the second year we will expect an improvement in graduation rates of approximately 1.5% per year, rising to 16.8 % in 2017-18. Similarly, the several new interventions with transfers into baccalaureate programs will lead to a 5% increase over three years, from the current 37% to 42%. We believe the enhanced coursework and interventions described here will set the stage for continued improvement beyond this three-year window.

3 - Academic Program Development

Drawing on new industry partnerships the College is pursuing a five-year plan for creating new baccalaureate programs and updating existing offerings. During year two of this initiative the College will pursue baccalaureate program development in the Business and Technology of Fashion and BioMedical Engineering Technology. These new programs will address market needs and provide associate degree graduates across the system with expanded transfer and career opportunities. In addition, the College will also begin to transition its existing bachelors program in Architectural Technology to a BS in Architecture and attain NAAB accreditation.

A - The Business and Technology of Fashion

Fashion's intimate connection with technology puts City Tech in a unique position to offer an

innovative Bachelor of Science degree in The Business and Technology of Fashion. The proposed program focuses on the development of technology-based proficiencies and the rapid changes in business practice due to technology advances, online retailing, and emerging global markets. Fashion is a significant driver of trade and manufacturing, and the technological transformation of the fashion industry will only accelerate. This program will fully support the goals of NYC Economic Development Corporation's FashionNYC2020 initiative, which aims to "develop the next generation of management and merchant leaders" and to "become a hub of innovation for specialty and multi-channel retail experiences." As part of this initiative the College's existing AAS degree in Fashion Marketing will be converted to an AS degree which will increase the strength of the program and allow for the seamless transition of associate degree graduates to the proposed baccalaureate program.

B - BioMedical Engineering Technology

The growing field of biomedical engineering technology is a major area of product development, research, and career opportunities. To address this, the College seeks to explore the development of an upper division (2+2) BioMedical Engineering Technology program that will leverage its existing offerings in design, manufacturing and mechatronics, and its baccalaureate programs in Computer, Electrical, and Mechanical Engineering Technology. Of significance, the baccalaureate program in BioMedical Engineering Technology will be structured to accept associate degree graduates from Computer, Electrical, and Mechanical Engineering Technology programs, thereby building upon the specialized interests of these students and providing them with an expanded range of opportunities

C - Transition of B.Tech in Architectural Technology to B.Arch Program and NAAB accreditation.

The College's Department of Architectural Technology has experienced dramatic growth over the past decade. When the B.Tech program was implemented the student population grew to over 800 along with a 100% increase in full-time faculty. The B.Tech program in Architectural Technology is highly successful and has exceptional curriculum elements in place, such as a digital spine that is recognized on a national basis. To provide our students with the strongest possible professional career path the next logical step is to transition the program to a 5-year Bachelor of Architecture degree and attain full accreditation status by the national architecture accreditation board (the NAAB). In keeping with the College's mission we will retain and modify the existing associate degree program to ensure that the opportunity to pursue a career in architecture would remain within the reach of all students.

4 - Establish a Professional Development Center

To prepare students for a successful transition from classroom to workplace the College will establish a Professional Development Center (PDC) that will serve as the locus for all student workforce preparation activities. The PDC will centralize all activities related to internships, business and industry engagement, and student career preparation activities, to enhance operational effectiveness and help students attain their professional objectives.

➤ Internship Management & Expansion

The Professional Development Center will serve as the centralized locus for internship activity. Career service tracking technology will be acquired and employed to follow student, employer, and academic department engagement. This technology will allow the Center to match student expertise and readiness with employer interests and target students to the most appropriate internship placement. As a result of the PDC's activity, during the current 2015-2016 academic

year the College seeks to increase the number of internships facilitated by 50%, from 200 to at least 300 placements.

➤ **Expanded Employer Engagement**

The College's expanding portfolio of workforce relevant programs has significantly enhanced business and industry interest in the College's skilled graduates. This is particularly true in the Brooklyn neighborhoods that comprise the "Brooklyn Tech Triangle"- a burgeoning hub of technology/media/advanced design and manufacturing activity that has emerged as the City's largest cluster of tech activity outside of Manhattan. The College is fully engaged in this renaissance and will expand its strategic outreach to private industry and organizations aligned with the College's academic offerings to increase the number of collaborating entities by at least 50 %, from 140 to 210 during the current year.

In addition, the College will expand its workforce training partnership with the NYC Department of Small Business Services (SBS) and participate in NYC "Tech Talent Pipeline" public-private partnerships which are designed to support the growth of the city's tech ecosystem. Relations with Microsoft, Infor, and other tech-sector firms will also be expanded to provide additional opportunities for students and graduates.

➤ **Preparing Students for Employment and Workplace Expectations**

The National Association of Colleges and Employers (NACE) *Job Outlook 2015* survey lists "soft skills" among the attributes that employers look for in candidates' resumes. Soft skills are interpersonal workforce readiness skills which include personal qualities, characteristics and attitudes. The most important included: technical skills, leadership and ability to work on a team, written and verbal communication skills, analytical skills, a strong work ethic, as well as initiative and flexibility.

To enhance student preparation for workplace expectations two initiatives will be undertaken. The first involves a series of traditional workshops and seminars that will assist students in developing presentation skills that range from writing a cover letter and resume to job interview preparation and salary negotiation. The second involves a pilot program involving 250 students that will help them to see and utilize their co-curricular experiences as workforce preparation. We propose to use the searchable *Jossey-Bass Student Leadership Competencies Database* to identify specific leadership competencies (knowledge, values, abilities and behaviors) and to design workshops and experiential learning opportunities so that students will be able to leverage their campus involvement to achieve their post-graduate goals.