May 2012

Chancellor Matthew Goldstein
The City University of New York
535 E. 80th Street
New York, NY 10075

Dear Chancellor Goldstein:

On behalf of the CUNY Jobs Task Force, I am pleased to present the final report of findings and recommendations that resulted from your creation of the task force in fall 2011.

Focusing on five key industries in New York City—finance, insurance, and accounting; health care; higher education; information technology; and media and advertising—the task force examined key drivers and emerging trends in the industries, the workforce skills in demand, and employers’ recommendations to colleges and universities to enhance students’ preparation for a competitive workplace.

The task force’s research included interviews with industry experts, including the members of the task force themselves; analysis of labor market information; and examination of industry reports and trade organization websites. The research was designed to provide a snapshot of the selected industries and offer directional guidance to CUNY and other universities in educating a workforce capable of driving innovation and contributing meaningfully to New York City’s global marketplace.

To that end, the report recommends strengthening links to industry in order to better support areas such as academic programming, career guidance, and job search training. The report also notes the importance of understanding post-graduate outcomes, as well as the articulation and assessment of specific learning outcomes. (Please note that the report is available online at www.cuny.edu.)

The report’s recommendations position CUNY as a resource for the city’s major industries and suggest a number of opportunities for follow-up action by the University:
• We know that a number of CUNY partnerships and programs with industry already address the linkages suggested by interviewees. A comprehensive effort to identify and examine CUNY’s best practices, as well as those of institutions across the country, will be a critical first step toward the goal of refining and expanding such activities and ensuring their effectiveness in preparing students for the rapidly changing 21st century workplace.

• Following conversations you have initiated across CUNY, the University should further its consultations with trustees, presidents, faculty, disciplinary councils, students, alumni, governance and advisory groups, the Business Leadership Council, and other constituencies to identify ways this study can be used to inform program improvements.

• The University should develop a framework for communicating with industry sectors, which could include creating a single, central point of contact for businesses seeking to interact with CUNY, and cross-campus discipline councils that more deeply connect with businesses in their respective fields.

• CUNY may also wish to consider conducting industry scans like those undertaken for this report at regular intervals and with other industries of strategic importance to the city and to the University. Ongoing monitoring of the labor market to determine if labor supply is matching industry demand should remain a priority at CUNY.

• The University plays a key role in the New York City labor market—it serves the majority of undergraduates in New York City, and 80 percent of its bachelor’s recipients remain in the city after graduation. Enhanced data collection about post-graduate outcomes would not only advance our understanding of the industries in which graduates participate but would also greatly assist the colleges in planning for academic programs, student services, and career advisement.

• CUNY’s emphasis on rigorous and clearly articulated learning outcomes, highlighted most recently in the University’s “Pathways to Degree Completion” initiative, is reflected in much of the feedback offered by employers interviewed for the report. A continued focus on building key skills—including communication skills, data analysis, and creativity—along with ongoing assessment is essential to maintaining the long-term advancement of our students.

The CUNY Jobs Task Force was pleased to consider these important issues on behalf of the University. I deeply appreciate the diligent efforts of the task force and its staff, and I look forward to working closely with you and other University officials to address questions and follow-up activities.

Sincerely,

Frederick Schaffer
Chair, CUNY Jobs Task Force
TASK FORCE MEMBERS

Frederick Schaffer (Chair)
General Counsel and Senior Vice Chancellor for Legal Affairs
The City University of New York

Steve Anderman
Chief Operating Officer and Chief Information Officer
Bronx Lebanon Hospital Center

Orlando Ashford
Chief HR Officer & Communications Officer
Marsh & McLennan Companies

Frank Bisignano
Chief Administrative Officer and Head of Home Lending
JP Morgan Chase & Company

Ted Brown, Ph.D.
Professor and Executive Officer, Computer Science Department
Executive Director, CUNY Institute for Software Design and Development
CUNY Graduate Center

Roger Ferguson
President and Chief Executive Officer
TIAA-CREF

Maria Gotsch
President and Chief Executive Officer
New York City Investment Fund

Carol Schuster
Former Worldwide Managing Director,
Global Brand Management, Ogilvy & Mather

Mark Wagar
President and Chief Executive Officer
Empire BlueCross BlueShield

Robert Walsh
Commissioner
New York City Department of Small Business Services

STAFF

Shayne Spaulding
University Director of Workforce Development
The City University of New York

Lesley Hirsch
Director, New York City Labor Market Information Service
Center for Urban Research
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Ronnie Kauder
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Theresa Desmond
Special Assistant to the Chancellor and Director of Special Projects
The City University of New York

Suri Duitch, Ph.D.
University Associate Dean of Continuing Education and
Deputy to the Senior University Dean for Academic Affairs
The City University of New York
EXECUTIVE SUMMARY

In recent years, there have been a number of calls to strengthen the country’s skilled workforce for a 21st-century economy in which new fields continue to emerge and competition is global. Higher education institutions play a key role in preparing a workforce capable of driving innovation, developing new technologies, and meeting the needs of industry. Just as colleges and universities must ensure that students advance a broad range of cognitive abilities, they must also be responsive to change, shaping programs that align with industry evolution and demand.

As New York City’s public university, The City University of New York (CUNY) has a special responsibility to educate a workforce that will build the city’s economy in the decades ahead. To ensure that CUNY is preparing graduates who can sustain New York City’s global leadership, the University must continually assess key sector needs and review its own academic programs and its approach to helping students secure work.

To that end, CUNY Chancellor Matthew Goldstein formed a Jobs Task Force in the fall of 2011 to examine industry and labor force trends in several industry sectors that are of strategic importance to the University and New York City’s economy. These include:

- Finance, insurance, and accounting
- Health care
- Higher education
- Information technology (IT)
- Media and advertising

Specifically, Chancellor Goldstein asked the task force to answer the following key questions with respect to the five clusters above:

1) What current jobs requiring a college degree are difficult to fill?
2) What are the jobs and skills of the future that require a college degree?
3) How can CUNY and other institutions of higher education better prepare students for the labor market today and in the future?

The research conducted for the Jobs Task Force included both primary and secondary data collection, including interviews with industry experts, analysis of labor market information, and examination of industry reports and trade organization websites. The study team synthesized the findings from the above sources into five industry profiles and a summary report that highlights crosscutting themes.

It should be emphasized that, as noted above, the scope of this report was limited to five industries and three overarching questions, researched through data analysis and interviews with key industry representatives. Respondents’ observations, as synthesized throughout this report, are intended to provide aspirational guidance to universities and may not reflect existing practices at individual education institutions. Follow-up research regarding existing best practices at CUNY and other universities is highly recommended.
Key cross-industry findings from this research fall into three main areas: key industry drivers and emerging trends that have an impact on the workforce; workforce skills in demand, including anticipated shortages and gaps in the workforce; and recommendations to colleges and universities.

**Key Industry Drivers and Emerging Trends**

To understand what elements drive employment expansion and contraction within an industry, colleges and universities must understand the basic factors that influence its profitability. Colleges and universities should further understand—from the businesses’ perspective—what emerging trends will influence future workforce needs. The industry experts interviewed in this study cited the following cross-cutting drivers and emerging trends:

- **Economic conditions.** With the exceptions of higher education and health care, the selected industries are sensitive to business cycles, expanding their workforce when the economy is stronger and retrenching when the economy is weaker. Although the recent recession is over, there is still a high degree of uncertainty about the state of the economy. Uncertainty slows business and makes these industries less likely to expand.

- **The magnitude and pace of regulatory change,** particularly in finance and health care, which has increased the demand for associated experience and skills. In finance, these include auditing, risk assessment, and compliance. In health care, these skills also include compliance as well as an understanding of how regulation changes reimbursement policies and the scope and models of practice.

- **The frequency of technological change,** which was cited by all industry experts as having the greatest influence on the way business is conducted and what is currently and will in the future be required of the workforce (including a need for more software programmers and developers).

- **The growing volume of information,** which must be managed, analyzed, and utilized, increasing the demand for graduates skilled in data analysis.

- **Increasing globalization and consolidation** and the resulting increase in international competition among businesses for customers and workforce talent.

- **The multigenerational workplace,** leading to challenges in managing three generations in the workforce and an anticipated shortage of people with critical skills and experience as the baby-boom generation retires.

**Workforce Skills in Demand**

Although the chancellor originally charged the task force with identifying both occupations and skills in demand, it became clear that the industries perceived labor supply shortages primarily in terms of skills, not occupations. The following were the skills cited:

- **An appropriate balance between deep, specific skills and general knowledge,** referred to as “T-shaped skills”—i.e., immersion in one field and broad knowledge across other fields

- **Creativity and curiosity and a broad understanding of the world** that is often obtained from a well-rounded liberal education

- **Written and oral communication skills;** that is, the ability to effectively articulate and present ideas

- **Analytical skills,** namely the ability to arrange, understand, assess, and interpret increasing amounts of data
• Business process skills, including project management, process management, and client management
• Learning agility and flexibility, such as the ability to change course and learn on the job
• Cultural competence, namely the ability to serve a diverse customer base in the United States and abroad
• Previous exposure to work

Recommendations to Colleges and Universities

Based on their experiences with recent two- and four-year college graduates, industry experts made the following recommendations to CUNY and other institutions of higher education:

• Build deeper and more meaningful relationships with industry, including finding ways to invite and use industry input, from student internships to faculty/staff site swapping, and making it easier for industry to access CUNY.
• Provide career guidance by assisting students in exploring interests, aptitude, and career pathways, as well as job search skills training, such as résumé preparation, interview skills, and how to research industries and companies of interest
• Facilitate work experience before graduation by arranging internships and summer employment opportunities
• Simulate workplace conditions that will help students acquire business skills, such as project planning and management, estimating timelines, and developing and maintaining budgets

In addition to a summary of the cross-cutting themes, this report includes detailed profiles of the five industry sectors. These profiles consist of an overview of the components of each industry cluster, as well as the number of firms, employees, and average pay in each. The profiles also summarize key employment trends, including how employment in the industry has changed over the last decade, the top occupations in the industry, emerging workforce issues and skills needed, and how colleges and universities can better prepare candidates for employment in the industry.

Industry-specific findings include:

• **Finance, insurance, and accounting.** Consolidation/globalization, as a result of mergers and acquisitions and the financial downturn of 2008, is a key industry driver. Employment opportunities have decreased (even as wages have increased), but demand for workers in risk management and those with bilingual skills is expected to grow.

• **Health care.** The main drivers shaping the industry are an aging population, the size of the Medicaid and Medicare population, technology changes, and regulatory and policy changes that promote disease prevention and the management of chronic conditions, as well as cost reductions. Workforce shortages are anticipated for several occupations and will be affected by the shift from hospitals to ambulatory care settings.

• **Higher education.** Employment has grown in the sector, in part because economic conditions have led more people to enroll in colleges and universities for retraining and credentialing. Workforce needs will be driven by constrained resources, government demands for accountability, and an increasingly diverse student body.
• **Information technology (IT).** The speed of technological advancements and the proliferation of information generated across industries have greatly increased the need for workers with IT and related analytical skills, all across the economy. There is a shortage of programmers and developers, particularly those without special visa needs, and a need for more computer science graduates.

• **Media and advertising.** The huge impact of digital technology and social networking, as well as considerable consolidation within several segments of this cluster, has led to widespread operational shifts. Employment has declined in some parts of the industry, notably publishing, and new workers must increasingly possess technological fluency, a facility with analytics, and strong communication skills.

The report concludes with additional recommendations by the task force for next steps to be taken by CUNY and other institutions of higher education in New York City:

• CUNY should monitor global and local trends in key city industries and expand meaningful links to industry. To do so effectively, it is recommended that the University conduct an inventory of current practices in New York City’s institutions of higher learning and identify local and national best practices.

• The process of improving alignment of academic programs with industry should continue and include regular monitoring of labor market data, conducting scans in strategic sectors on a regular basis, and convening faculty and administration to discuss potential program improvements.

• CUNY should develop a framework for communicating with strategic industry sectors, which could include creating a single, central point of contact for businesses seeking to interact with CUNY, and cross-campus discipline councils that interact more deeply with businesses in their respective fields.

• CUNY and other New York City colleges and universities should also identify best practices regarding career guidance and job search skills training, which should be then used to improve CUNY’s programs.

• Given the importance of rapid technological change as an industry driver, CUNY should work closely with the IT industry to understand emerging workforce issues and more aggressively market computer science as a course of study for students in an effort to increase the number of computer science graduates.

• To fully understand the effectiveness of career-preparation and job-search training, and to understand how well academic programs prepare graduates for the world of work, institutions of higher education would benefit from robust collection of post-graduation employment outcomes.

• The task force further recommends that the findings from this report be used to inform CUNY’s Pathways to Degree Completion initiative, which seeks to enhance general education.
APPENDIX B: INDUSTRY EXPERTS INTERVIEWED

Steve Anderman  
Chief Operating Officer  
Bronx Lebanon Hospital Center  
September 27, 2011

Orlando Ashford  
Chief Human Resources Officer and Communications Officer on Diversity and Inclusion  
Marsh & McLennan Companies  
November 17, 2011

Frank Bisignano  
Chief Administrative Officer and Head of Home Lending  
JPMorgan Chase & Company  
October 25, 2011

Susan Bolotin  
Editor-in-Chief  
Workman Publishing  
December 28, 2011

Ted Brown, Ph.D.  
Professor and Executive Officer, PhD Program in Computer Science, CUNY Graduate Center  
Executive Director, CUNY Institute for Software Design and Development  
November 29, 2011

Andy Brantley  
President and CEO  
College and University Professional Association for Human Resources (CUPA-HR)  
January 6, 2012

Andrew Brust  
Founder and CEO  
Blue Badge Insights  
December 1, 2011

Catherine Casey  
Senior Vice President for Human Resources  
New York University  
February 24, 2012

John Donnelly  
Director of Human Resources  
JPMorgan Chase & Company  
January 6, 2012

John N. Eddey  
Vice President  
Steiner Studios  
February 13, 2012

John Elliott  
Vice President and Dean  
Baruch College, Zicklin School of Business  
December 8, 2011

Roger Ferguson  
President and Chief Executive Officer  
TIAA-CREF  
October 17, 2011

Julie B. Goldberg  
Chief Operating Officer  
Rubenstein Associates, Inc.  
January 31, 2012

Maria Gotsch  
President and CEO  
New York City Investment Fund  
October 5, 2011

Matthew Harrington  
President and CEO  
Edelman U.S.  
December 8, 2011

Tim Johnson  
Senior Vice President  
Greater New York Hospital Association  
November 21, 2011

Yosette Jones-Johnson  
Assistant Vice President for Faculty and Staff Relations  
CUNY Graduate Center  
February 1, 2012

Deanna Laird  
North America University Recruitment Leader  
IBM  
January 10, 2012

Ian Laird  
Director, Strategy, Programs and Sales  
Empire Blue Cross/Blue Shield  
October 20, 2011

13 Additional individuals were interviewed but declined permission to list their names in the report.
Kevin Laitman  
Vice President  
Grant-Peters Associates  
December 5, 2011

Christine Larsen  
Executive Vice President  
JPMorgan Chase & Company  
January 16, 2012

Elizabeth S. Lasdon  
Executive Director of Human Resources  
Rubenstein Associates, Inc.  
January 31, 2012

Brendan Molloy  
Director of University Relations and Recruiting  
KPMG  
December 20, 2011

Doug Rohde  
Software Engineer  
Google  
December 19, 2011

Paul Rossi  
Managing Director and Executive Vice President  
The Economist Group  
December 21, 2011

Howard Rubenstein  
Founder and President  
Rubenstein Associates, Inc.  
January 31, 2012

Carol Schuster  
Former Worldwide Managing Director, Global  
Brand Management  
Ogilvy & Mather  
October 14, 2011

Trish Shortell  
Senior Vice President, Executive Recruitment  
& Talent Management  
WPP  
December 7, 2011

Regan Solma  
Managing Editor  
W Magazine  
December 16, 2011

Bill Stackhouse, Ph.D  
Director of Workforce Development  
Community Health Care Association of New York State  
November 29, 2011

Douglas C. Steiner  
Chairman  
Steiner Studios  
February 13, 2012

Seymour Sternberg  
Retired Chairman and CEO  
New York Life Insurance Company  
December 1, 2011

Shawna Trager  
Director of Health Workforce and Grants  
Greater New York Hospital Association  
November 21, 2011

Jenny Tsang-Quinn  
Executive Director  
New York Alliance for Careers in Health Care  
December 12, 2011

Sandi Vito  
Director  
1199SEIU Training & Upgrading Fund  
December 7, 2011

Mark Wagar  
President and CEO  
Empire Blue Cross/Blue Shield  
October 20, 2011

Robert Walsh  
Commissioner  
New York City Department of Small Business Services  
November 11, 2011

Gloriana Waters  
Vice Chancellor for Human Resources Management  
City University of New York  
December 9, 2011