



Date: February 23, 2010
From: NJIT Self Study Steering Committee; Working Group Chairs; and Working Group Members
To: The NJIT Community

New Jersey Institute of Technology Self Study Design: A Technological Research University for the 21st Century

Context

New Jersey Institute of Technology (NJIT), founded in 1881 as Newark Technical School, has been accredited by the Middle States Commission on Higher Education (MSCHE) since 1934. Upon acceptance of the institution's periodic review report, NJIT last had its accreditation reaffirmed on November 17, 2007. NJIT is now preparing for its decennial self study evaluation, a process that will conclude in 2012.

The most recent MSCHE action on June 25, 2009—to affirm the additional location at Beijing University of Technology as within the scope of the institution's accreditation—reflects NJIT's expanding role as a technological research university for the 21st century.

It is within that context that the present self study design is offered.

Introduction

Our design is informed by three documents submitted to MSCHE: *Middle States Self Study Design, January, 2001*; *An Emerging Presence: Self Study and Strategic Plan, 2002*; and *The Future's Edge: New Jersey Institute of Technology Periodic Review Report, June 2007*. The content of each of these documents, as well as their reception, reveals that strategic planning has played a key role in NJIT's current past. From 2004 to the present writing, strategic planning has helped us adapt to a changing environment, create a vision for the future, provide a basis for allocating resources, and guide our daily work. As NJIT President Robert A. Altenkirch wrote of our *Strategic Plan, 2004-2010*, while oftentimes university-based planning ends with the publication of a plan, the NJIT community has worked to ensure that ours is a plan of action for the university's growth and development. In that the 2010 strategic plan is now drawing to a close, the NJIT community is now preparing to launch its new *Strategic Plan, 2010 to 2015*. This university-wide effort has been planned to complement the present self study.

What, we ask ourselves in preparing both the NJIT strategic plan and the MSCHE self study, is the role of a science and technology university in the nation, the region, and the state?

The unique role of NJIT is well established, and we center our decisions around our four-fold mission: in undergraduate, graduate, and continuing professional education, to prepare students for productive careers and amplify their potential for lifelong personal and professional growth;

in the conduct of research, to emphasize applied, interdisciplinary efforts encompassing architecture, the sciences, including the health sciences, engineering, mathematics, transportation and infrastructure systems, information and communications technologies; in contribution to the state's economic development, to foster growth through the state's largest business incubator system, workforce development, joint ventures with government and the business community, including the development of intellectual property; and in service to both its urban environment and the broader society of the state and nation, to conduct public policy studies, making educational opportunities widely available and initiating community-building projects.

An exemplar project in defining NJIT's unique, mission-centered vision is the university's Gateway Project, a model of economic development and community enhancement. In a bold and strategic move with the city of Newark, the university has taken on the role of redeveloper for a diversity of projects—from student and residential housing to professional offices, from large and small scale retail to entertainment venues. Launched in 2007, the Gateway Plan comprises a conceptual system of development of new, private, clustered housing for Greek Life organizations and redevelopment along Dr. Martin Luther King, Jr. Boulevard between Central Avenue and Orange Street. The financial scale of the project is over \$1 billion. The project is now fully in place, with a formal redevelopment plan approved, and a Master Developer engaged. Developed in consultation with the James Street Commons Neighborhood Association, St. Michael's Medical Center, the Greek Life Community, NJIT Administration, and the City of Newark, the Gateway Project promises to allow Newark gains of urban renewal similar to those described by University of Pennsylvania President Emerita Judith Rodin in *The University and Urban Revival: Out of the Ivory Tower and Into the Streets* (Philadelphia: University of Pennsylvania Press, 2007). A concrete example of NJIT's deep commitment to economic development and community service, the Gateway Project embodies the creative vision of the university.

Ensuring the integrity of the university's mission while facing new challenges is, in essence, the fundamental question we will address in our self study. In answering this question, we will articulate the role of a 21st century science and technology university in the state, the region, and nation.

A Portrait of NJIT

On August 7, 2007, Katherine Mayberry, former Vice President for Academic Affairs at Rochester Institute of Technology and first reviewer of *The Future's Edge: New Jersey Institute of Technology Periodic Review Report*, wrote that “NJIT has approached the strategic goal of research and development growth by developing a comprehensive and truly supportive infrastructure that has already proven highly effective. The increased focus on research seems not to have compromised the institution's sense of its core strengths, its multiple constituents, nor its multiple shareholders.”

The current self study finds NJIT continuing in the tradition of a dedicated commitment to growth and a concurrent commitment to its core values.

NJIT's research efforts, for example, have continued to expand, with \$100M in expenditures expected this fiscal year—a doubling in expenditures from fiscal year 2000. Federally funded research has more than doubled. Presently, we are in the position of statewide leadership for healthcare information technology and at the center for proposed initiatives that are in competition for over \$75 million in federal funding.

In enrollment, NJIT has admitted the largest first-year class in its history—998 students, an 8% increase over the fall 2008 class. The fall 2009 admitted students held a composite SAT scores of 1143, a score well above the national average score of 1016. In 2010-2011, we plan an enrolled headcount of 9,193 students; and we plan an enrolled headcount of 9,561 the following year.

Yet in this period of growth, our core values endure: NJIT provides accessible, affordable education for the technological professions to a diverse student body; we deliver practical research results to our sponsors; and we are active participants in the life of our Newark community. Upon its visit in the spring of 2012, the MSCHE Self Study Team will find substantial evidence of our progress since the last MSCHE visit in 2002.

- Innovatively, the Newark College of Engineering (NCE) has launched a Department of Biomedical Engineering that has rapidly become one of the largest in the College. In addition, the Otto M. York Department of Chemical Engineering has been transformed into the Otto M. York Department of Chemical, Biological, and Pharmaceutical Engineering, thus allowing new research to develop in particle technology, polymeric materials, polymer physics, membrane technology, and pharmaceutical engineering.
- As evidence of achieved goals of the *Strategic Plan, 2004-2010*, study in architecture at NJIT has broadened to include design, thus prompting a new name: The College of Architecture and Design (CoAD). While CoAD continues to play an important role in architectural education in New Jersey, the new fine arts program provides unique opportunities for aspiring artists exploring interrelationships between art and technology.
- Integral to a technological research university known for innovation, entrepreneurship, and engagement, the School of Management (SOM) continues its tradition of research in entrepreneurship and small business development and pursues new research areas such as the management of information technology and the unification of economic theory into applied business practices.
- In 2012, the evaluation team will also find NJIT's newest college, The College of Computing Sciences (CCS). The College symbolizes NJIT's desire to make computing integral to its educational activities. The mission of the College of Computing Sciences—to deliver education in a broad range of computing disciplines to students on and off campus, to carry out cutting-edge computing research, and to work closely with industry—has resulted in an instructional staff of nearly sixty and a wide array of programs from the baccalaureate to the doctoral level.
- While the College of Science and Liberal Arts (CSLA) has continued to embrace its substantial commitment to the undergraduate General University Requirements—NJIT's

common core courses—the College has transformed its role from one of service to one of education and research. Evidence of this new direction is found in the doubling of its degree-seeking students during the last five years. In the 2007 Faculty Productivity Index, produced by Academic Analytics and published in the *Chronicle of Higher Education*, the Department of Mathematical Sciences was ranked tenth nationally among mathematics programs—an indication of what the *Strategic Plan, 2004-2010* yielded in its strategic priority to develop a core of nationally recognized programs. In addition, with over 200 students, the newly-created Department of Biological Sciences has taken a leadership role in research and education within CSLA.

- Since the Albert Dorman Honors College (ADHC) became an NJIT college in 1995 with support from its namesake and other donors, honors students have deeply enriched the academic community of the university through their university-wide leadership, honors curricula, and undergraduate research. The NJIT *Strategic Plan, 2010-2015*, as well as the ADHC Plan, both call for the university to maintain a minimum of 15 percent Albert Dorman Honors Scholars among first year admitted students; that goal, and the performance of the ADHC students, symbolizes our NJIT core value of academic excellence.
- Two targeted fundraising campaigns were also completed since the last MSCHE visit. The first, the ADHC scholarship campaign, exceeded its goal with a total of over \$23 million; and the second campaign for NJIT Athletics, achieved its goal of \$5 million. The university is currently planning a comprehensive campaign which is expected to exceed \$150 million.

In addition, the 2012 evaluation team will find additional fulfilled strategic priorities that strengthen NJIT.

- Just as NJIT is committed to excellence, we are equally committed to diversity. Among our most treasured students are those in our Educational Opportunity Program (EOP), and so the *Strategic Plan, 2010-2015* calls for a minimum of 15 percent of EOP students to be maintained in the entering class. Our EOP students traditionally meet or exceed the retention and graduation rates of regularly admitted students.
- NJIT now holds NCAA Division I status. Effective 2006 and 2007, all Highlander sports were brought to Division I status. As NJIT continues to strengthen its academic offerings and enrich its profile as a residential university, the transition to Division I has allowed the university to align more closely with our academic peers. Because we have been able to attract a high caliber of student-athlete, advancement to Division I has allowed us to recruit students who enrich the campus community.
- The 2005 Landscape Master Plan allowed NJIT to design guidelines for future facility decision making. The plan identified campus areas requiring improvement, provided a phasing strategy to logically implement plans, and defined campus standards for construction materials. The evaluation team in 2012 will note the renovations of

Eberhardt Hall, the newly constructed Fenster Hall, and a landscaped campus dotted with signature red umbrellas surrounding the Campus Center.

- Begun in 2008, Project ORBIT (Organizational Reengineering using Banner Information Technology)—a multi-year, campus-wide effort to implement a new enterprise resource planning system—has begun to yield a single integrated database for the university's core student, financial, and human resource operations. The integrated database will eliminate the silo approach often found in university computing processes. The implementation will conclude in April of 2011, in time for the 2012 MSCHE evaluation team visit.

Within NJIT, as is the case nationally, these gains are undertaken in a period of dwindling state support and increased demands for educational service. The housing market decline and the associated credit failure in the summer and fall of 2008 worsened an historic trend in faltering state support. As the National Education Association 2009 analysis of trends in post-secondary education demonstrates, declining state support in the early 2000s, combined with enrollment increases, reduced 2005 state support per student to 6.6 percent below the 1982 fiscal year level.

Such trends remain. While the state observed that there would be no reduction for higher education in New Jersey for fiscal year 2010, state revenue shortfall nevertheless resulted in a \$3.6 billion deficit, about 10% of state budget. While a one-time appropriation of \$3 million of federal stimulus funds was awarded to NJIT, provided tuition and fee increases for in-state undergraduate students were limited to 3%, such relief does not address long term challenges: personnel-related cost savings will be required for 2011 and 2012; and tuition may have to be increased by as much as 8%. NJIT's budget plan for FY2011, submitted in January of 2010, requested no appropriation increases above the FY2010 base budget. While this request recognizes the very serious fiscal constraints facing the state, NJIT's expense base nevertheless remains significantly lower than its peers. NJIT will continue to review critically and plan strategically for the needed resources (faculty, staff, and facilities) as enrollment expands to 11,000 students, particularly given the anticipated short-term reductions in state funding.

Such trends in reductions continue. At the time of the present writing, the New Jersey Governor announced plans to address a \$2.2 billion state budget shortfall in the FY2010 budget between now and the end of the fiscal year, June 30, 2010. Reductions to individual senior public colleges and universities are prorated on the FY2010 original state appropriation. NJIT's prorated share stands at \$2.65 million.

Summary Statement

The gains of NJIT are demonstrable, and the challenges are real. We have thus designed our self study to allow our university community to document achieved goals and plan a common future. Using the 14 standards presented in the MSCHE's *Characteristics of Excellence in Higher Education*, the steering committee and the working groups have crafted a tailored vision of the MSCHE institutional and educational standards that will yield a decennial self study of high integrity and authentic value.

To that end, we have designed NJIT models for the study design, steering committee membership, working group membership, and communication process. Those models are presented below in this self study design report.

As well, we have worked to make sure that the study design research questions have been drafted and reviewed by a wide variety of shareholders, from the president to the working groups. These working groups are presently using a framework that allows the 14 standards to be understood in ways important to the self study.

- In her 2007 review of *The Future's Edge: New Jersey Institute of Technology Periodic Review Report*, Katherine Mayberry wrote that “the university has set ambitious yet appropriate goals for itself that, if met, could take the school to new levels of excellence and visibility.” In investigating the degree to which we have achieved our goals, Working Group 1 will focus on the NJIT Mission and the various ways we pursue our commitment to excellence. In the research questions that appear below, we target mission differentiation, global initiatives, and the processes surrounding strategic planning. Working Group 1 will focus only on Standard 1 (Mission and Goals).
- Both Standard 2 (Planning, Resource Allocation, and Institutional Renewal) and Standard 3 (Institutional Resources) will be the focus of Working Group 2. Here, we focus on the NJIT resource allocation process. While the MSCHE 2007 review noted that “resource challenges are being approached on multiple fronts,” we want to ensure that these approaches are meeting the desired goals of mission articulation in education, research, economic development, and service. To that end, research questions focus on the emerging priorities, budget allocation, and the forces impacting both. Central to this group will be an analysis of future challenges to resource allocation and identification of new strategies to inform stakeholders of our decision-making processes.
- Working Group 3 will focus on three standards—Standard 4 (Leadership and Governance); Standard 5 (Administration); and Standard 6 (Integrity). The MSCHE 2007 review identified “big ticket” goals for NJIT, such as enhancement of the physical plant, a move to Division I athletics, and building selected programs to national prominence. While we have evidence that we have met these goals, we must address the processes that will ensure their continued success. To assure that these three critical MSCHE standards are integrated into the NJIT context, Working Group 3 will focus on the leadership processes, institutional constituencies, and the assurance of integrity. Of importance to Working Group 3 are questions of leadership identification, checks and balances in governance, the metrics of effectiveness, and the maintenance of ethical conduct in education, research, economic development, and service.
- “Decision-making at NJIT is clearly driven by continuous assessment of institutional effectiveness at multiple levels,” our 2007 review noted, “including comprehensive coverage of student learning outcomes. The thorough assessment mechanism that evaluates progress on all components of the strategic plan is but one instance of the thorough-going culture of evidence that characterizes the institution.” Nevertheless, while the NJIT ViSTa model—a capacious method of strategic planning which attends to

vision, strategy, and tactics—has allowed the completion of one strategic plan and the design of a second, there remains a need to formulate a cohesive, university-wide assessment plan for NJIT. Hence, Group 4 will focus on Standards 7 (Institutional Assessment) and Standard 14 (Assessment of Learning) in order to address the need for a unified assessment effort of both institutional context and educational effectiveness. Research questions on the measurement of learning ability, reporting, and impact on curricular design will be addressed within the context of the success that has been achieved in institutional assessment.

- Working Group 5 will focus on both Standard 8 (Student Admission and Retention) and Standard 9 (Student Support Services). As the 2007 review noted, graduation rates remain a challenge to NJIT. While the *NJIT Strategic Plan, 2010-2015* calls for a first-time, full-time retention rate of 86% and a graduation rate of 60%, we want to be certain that we have in place a strategy to assure that these goals will be met. Therefore, Working Group 5 will answer questions designed to allow the creation of an enhanced student-centered campus. We will focus on issues of diversity, planned enrollment growth, attention to at-risk students, and the potential for an integrated model of student and academic support services.
- Working Group 6 will focus solely on Standard 10 (The Faculty). This group has divided its research questions into three thematic areas: the formation of the faculty regarding qualifications, recruitment, and diversity; the health of the faculty in the areas of resources, support, retention, and growth; and the role of the faculty in the curriculum, research, service, governance, and environment of the university. Just as the *NJIT Strategic Plan, 2004- 2010* identified core thematic areas—recognized in the 2007 MSCHE review as successful—so, too, does the new *NJIT Strategic Plan, 2010-2015* advance thematic areas in applied life sciences and engineering, sustainable systems, digital ubiquitousness, and professional design. Key to the continued integration of these themes is the support of the faculty researchers; hence, Working Group 6 will query faculty recruitment and retention, mentoring processes, and tensions between research and instruction.
- MSCHE Standard 11 (Educational Offerings) Standard 12 (General Education) and Standard 13 (Related Educational Activities) will be addressed by Working Group 7. Taking as its theme evidence-centered research and professionally-based instruction, colleagues will document the ways that NJIT is addressing what the 2007 MSCHE review identified as “the single most important factor affecting undergraduate student success at any institution”—student learning. The impact of new degree programs, the relevance and impact of the core curriculum, the significance of eLearning, and the assessment functions associated with such activities will be addressed by this committee.

Intended Outcomes of the Self Study

The NJIT self study is intended to use its research-based models to judge how well the institution is meeting the *Characteristics of Excellence*, an embodiment of the standards of judgment that determine the success of a 21st century science and technology research university.

Specifically, the NJIT community intends to

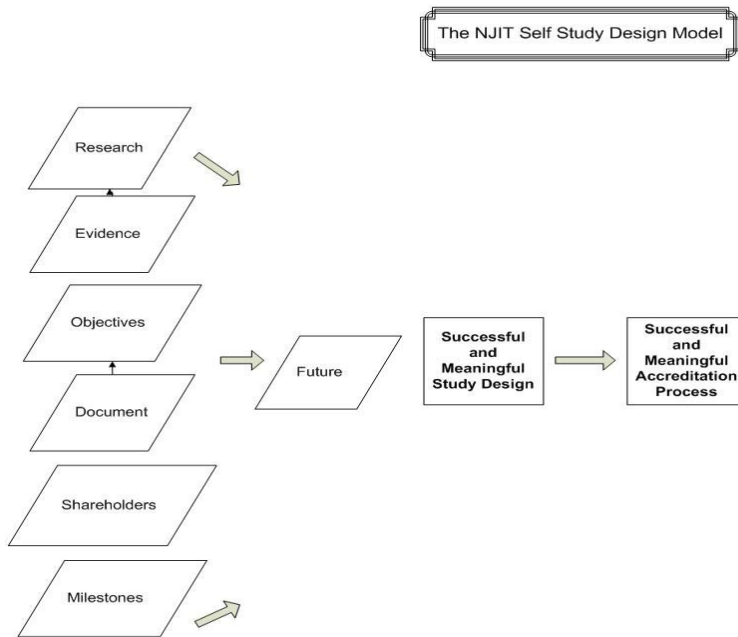
- launch and sustain a process of community renewal associated with the MSCHE self study, with special attention to use of social media;
- document the viability of the NJIT mission and its articulated commitment to education, research, economic development, and service;
- examine the resonance between the university strategic planning process (concretized in the *NJIT Strategic Plan, 2004-2010* and the *NJIT Strategic Plan, 2010-2015*) and the MSCHE *Characteristics of Excellence* to better understand the relationship between institutional planning and successful accreditation;
- identify prominent issues that have emerged since the submission and review of *An Emerging Presence: Self Study and Strategic Plan, 2002*; and *The Future's Edge: New Jersey Institute of Technology Periodic Review Report, June 2007*;
- unify existing outcomes assessment efforts in student learning, demonstrate their effectiveness, and explore new methods of gathering evidence and refining curriculum;
- create a final self study report in 2012 that will stand as the centerpiece of a recorded past, a common present, and a planned future; and
- ensure that the MSCHE self study process does not deteriorate to an archiving project but, rather, comes to be viewed as an on-going, vibrant system of information-based decision making that fosters institutional renewal.

The Self Study Design

Among the continuum of reporting systems offered by MSCHE, NJIT has elected to pursue a comprehensive self study. Because NJIT remains ambitious in its goals, a thorough accounting and review of every aspect of our programs and services, governing and supporting structures, resources, and educational outcomes in relation to our mission will allow us to achieve the intended outcomes of our study.

Because we are approaching the self study as a research venture, we have conceptualized our design as the variable model shown in Figure 1,

Figure 1. The NJIT Self Study Design Model



As Figure 1 shows, the steering committee and working groups have identified and validated six predictor variables (or independent variables) that, when executed successfully, will allow us to achieve a successful self study design (the dependent, or outcome, variable of the model). This design will, in turn, allow us to create a successful and meaningful accreditation process that will conclude in the spring of 2012.

The first variable, research, is congruent with the university’s mission. Since NJIT is driven by an emphasis on applied, interdisciplinary efforts, it is appropriate that the self study be understood as a research project undertaken as a study of institutional effectiveness. Hence, models from the physical and social sciences will provide us with meaningful ways to gather evidence and form heuristics that will, in good scientific fashion, allow us to test the validity of our claims.

The second variable, evidence, is informed by the evidence-centered design movement in educational measurement. Evidence-centered design, as explained by Robert J. Mislevy, yields an articulated framework for designing, producing, and delivering educational assessments (“Validity by Design,” *Educational Researcher* 36.8 [2007]: 463-469). In that Mislevy advocates building models that feature complex learning systems, evidence-centered design has allowed the working groups to establish a cohesive framework for the self study through the research question design process. Adherence to evidence-centered design will also allow our working groups to gather information and report the evidence needed to complete the self study report.

The third element of the model, establishing objectives, lends a behavioral framework to the self study design. This variable of the model is informed by the NJIT ViSTa model. This framework has helped us create a vision for the self study described above in the intended outcomes of the

self study, design strategies that will allow us to examine the validity of our work , and identify tactics that will allow us to prepare for the 2012 team visit.

The fourth variable requires that our work be document-centered. At the end of the day, the self study report itself will carry the accountability argument for NJIT. Hence, our model is focused on ways to capture the efforts of our working groups, analyze the information gathered, and design a document that is audience-centered in orientation.

The fifth variable, awareness of shareholders, is informed by the diverse constituencies at NJIT. Indeed, in metaphor, our vision of shareholders—students and faculty, administrators and board members, neighbors near and far—is informed by the work of steering committee member Marguerite Schneider and her proposal for understanding organizations not as hierarchical agencies but, rather, as communities linked by values (“Organizations as Complex Adaptive Systems: Implications of Complexity Theory for Leadership Research,” *The Leadership Quarterly*, 17 [2006]: 351-365).

The sixth variable defines an emphasis on milestones, the time sensitive demands that much be in place as we ask for meetings, reports, and review from the seven working groups who will perform the research and write the final report.

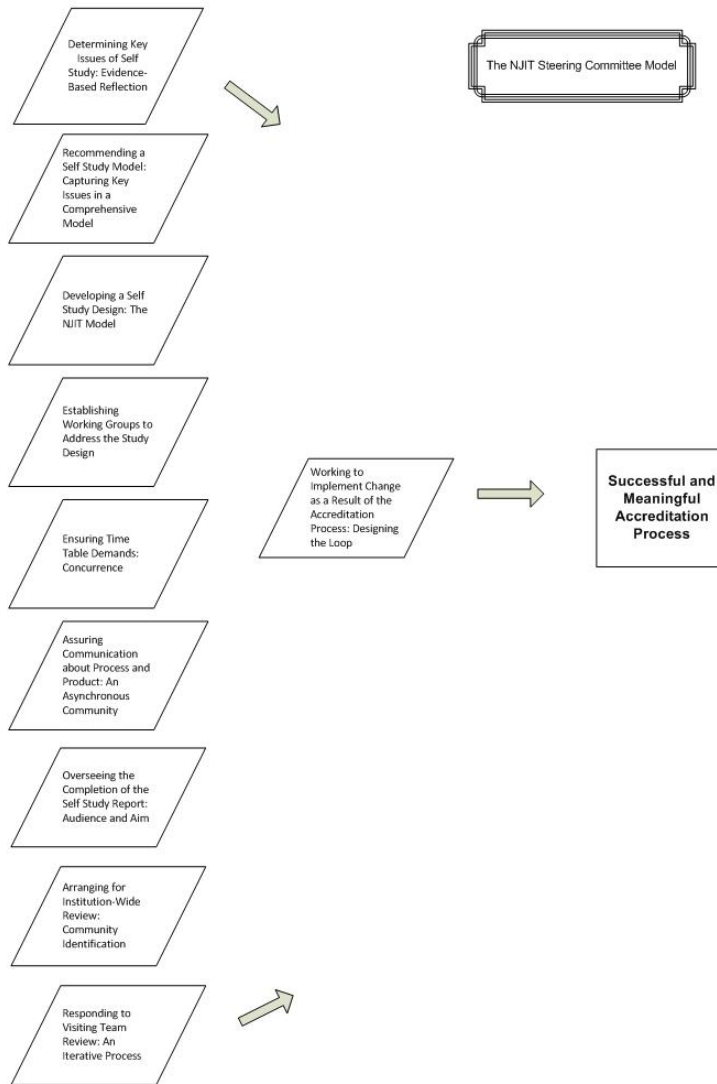
Taken together, the unique study design model will allow NJIT to create a meaningful self study process and an enduring final report.

The NJIT Steering Committee Model

From July of 2009 through February of 2010, the steering committee has served a function of providing rapid assessment. During this period, key faculty and administrators have worked in a focused fashion to design the unique NJIT models, define areas in need of study, draft the research questions, and nominate colleagues for working group membership. Comprehensive in membership, the steering committee has a vital role in the self study process and has already demonstrated ownership of all aspects of the effort.

Figure 2 describes the variables that are even now allowing the NJIT community to begin to implement change as a result of the self study process.

Figure 2. The NJIT Steering Committee Model

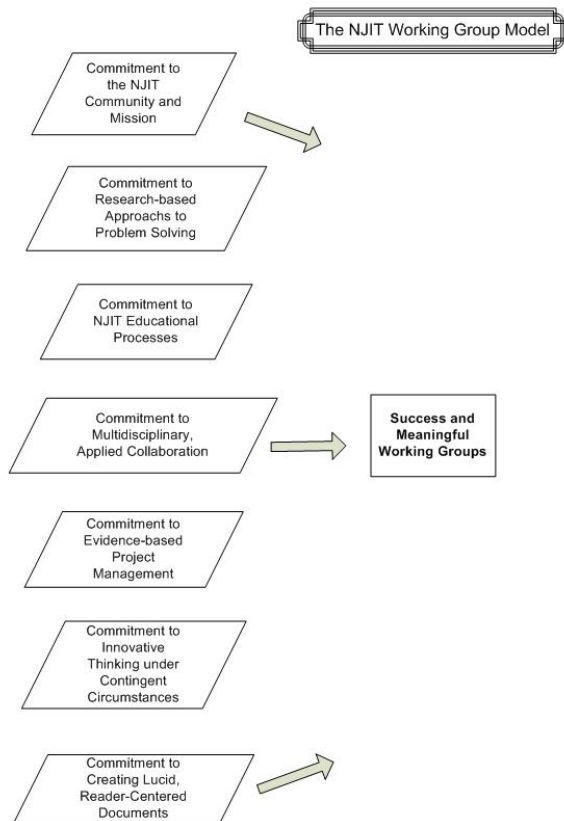


Because each member of the steering committee is a specialist with defined areas of expertise within the NJIT community, a demand for evidence—not anecdote—has established an environment of accountability that is based on information. In that the committee has advocated a comprehensive self study model, key areas of interest were captured in the research questions. The steering committee drafted, debated, and finalized the variable elements in Figure 1 and nominated chairs, vice-chairs, advisors, and members of the seven working groups. The steering committee finalized the time line and the communication model, both discussed below. Adding validity to the self study, the steering committee is dedicated to the three-year process that lies ahead, including communication with the visiting team after 2012 visit and subsequent articulation of the goals of the self study.

The NJIT Working Group Model

After considerable steering committee discussion, seven working groups were formed. The NJIT Working Group Model is described in Figure 3.

Figure 3. The NJIT Working Group Model



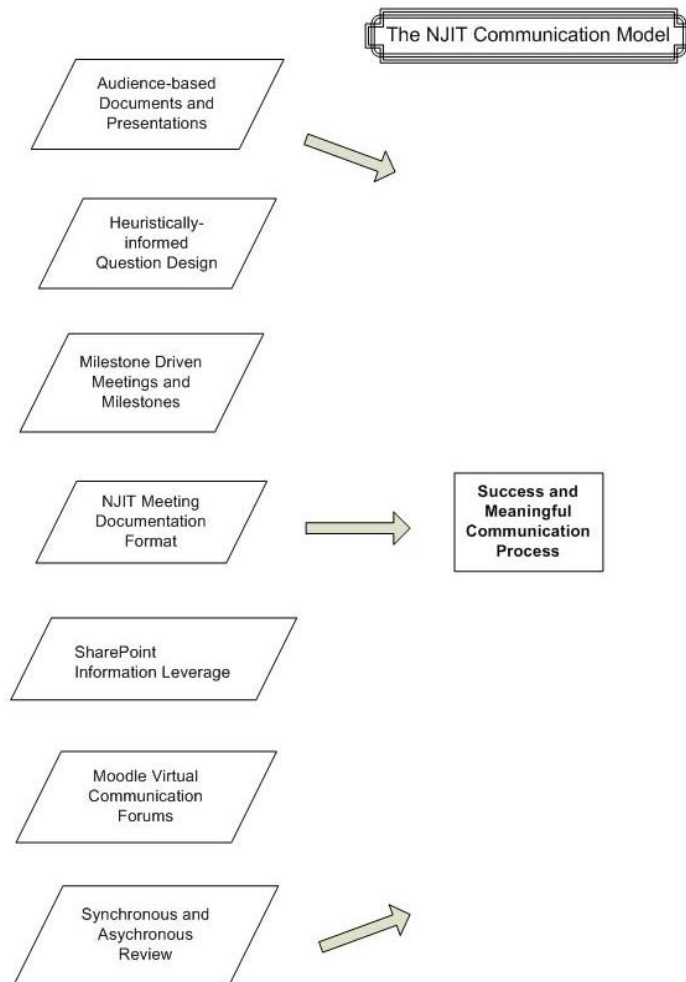
Each working committee member has a demonstrated record of commitment to the university. Special effort was made to identify faculty researchers who, through their scholarship, have achieved a deep bond with the NJIT mission. As individuals with a research-based approach to instruction, each member will demonstrate an investigative approach to the work at hand. The committee members identified below are skilled collaborators within the university, with a firm grasp of the need for evidence-based decision making, an ability to make decisions under complex conditions, and proven talents in creating documents that meet audience needs.

The NJIT Communication Model

Early in the self study design, the steering committee recognized that a defined communication model would be required if the three-year process were to be successful. Figure 4 is the result of

discussions based on ways to ensure that information would be identified, analyzed, and interpreted in a meaningful fashion.

Figure 4. The NJIT Communication Model



The communication model recognizes the need to create a living document that will serve the needs of the university reaccreditation process as it is articulated to the visiting evaluation team. The research questions, heuristic in design, will allow the working groups to deepen institutional understanding in the context of the MSCHE 14 standards. To meet the demands of the time table, a format has been developed for working group transactions that allows for agenda setting, defined action, and record keeping. SharePoint is being used by the steering committee for document archival and discussion, and Moodle is being used for asynchronous communication among the working groups. The questions provided below were reviewed by the working groups in face-to-face meeting, Moodle forum discussions, or a combination of both modes. In its use of anytime, anywhere digital technology, the university seeks to leverage its national leadership in this field to strengthen the self study process.

Role of the President and Board

Because of his own commitment to strategic planning, NJIT President Robert A. Altenkirch is a valued colleague in the self study process. His perspectives have been invaluable in the early stages of the self study process, and his experience with evidence-based decision making will be important in ensuring that a nuanced view of the university will be presented throughout the reporting process. Kathleen Wielkopolski, Chair of the Board of Trustees, has been similarly engaged in the planning process and hosted a detailed presentation of the self study design to the Board on November 5, 2009.

Profile of the Steering Committee

We now turn to an identification of the university leaders who are members of the steering committee. Each colleague exceeded the characteristics of university leaders identified in Figure 2.

Name	Title	NJIT Unit	Years of Service
Robert B Barat	Professor, Otto H. York Department of Chemical, Biological and Pharmaceutical Engineering	Newark College of Engineering	20
Edward J Bishof	Associate Vice President, University Budgeting	Senior Vice President for Administration and Treasurer	22
Joel S Bloom	Vice President for Academic and Student Services; Dean, Albert Dorman Honors College	Vice President for Academic Support Program Area	19
Fadi Deek	Dean, College of Science and Liberal Arts	College of Science and Liberal Arts	23
Eugene P Deess	Director, Institutional Research and Planning	President's Area	10
Self Study Chair: Norbert Elliot	Professor of English, Department of Humanities	College of Science and Liberal Arts	21
Laurence A Howell	Executive Director, Educational Opportunity Program	Vice President for Academic Support Program Area	16
Marguerite A Schneider	Associate Professor, School of Management	School of Management	10
Richard T Sweeney	University Librarian	Provost and Senior Vice President for Academic Affairs	14
Self Study Vice Chair: Stephen J Tricamo	Associate Provost for Academic Affairs	Provost and Senior Vice President for Academic Affairs	15
			Average. Service: 17

Profile of the Working Groups

Membership in the working groups is described below. Colleagues in each working group were selected on the basis of the criteria identified in Figure 3; each colleague who accepted exceeded those identified characteristics. As well, student leaders were also identified for group membership, and those students who will graduate before the self study concludes will be invited to remain on committees as other student leaders are added.

Group 1	NJIT Mission: Commitment to the Pursuit of Excellence
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Name	Title	NJIT Unit	Years of Service
Committee Chair: Nancy W Coppola	Professor of English, Department of Humanities	College of Science and Liberal Arts	25
Committee Vice-Chair: Sanchoy K Das	Professor, Department of Mechanical and Industrial Engineering	Newark College of Engineering	21
Advisor: Joel S Bloom	Vice President for Academic and Student Services; Dean, Albert Dorman Honors College	Vice President for Academic Support Program Area	19
Advisor: Fadi Deek	Dean, College of Science and Liberal Arts	College of Science and Liberal Arts	23
Nirwan Ansari	Professor, Department of Electrical and Computer Engineering	Newark College of Engineering	21
Treena L Arinzeh	Chair and Associate Professor, Department of Biomedical Engineering	Newark College of Engineering	8
Matthew P Deek	Undergraduate Student; Technology Observer Co-Chair, Albert Dorman Honors Council	College of Science and Liberal Arts; Albert Dorman Honors College	N/A
Muhammad Elgammal	Vice President of Administration, Student Senate	Student Senate	N/A
Robert English	Dean, School of Management (Interim)	School of Management	20
Urs P Gauchat	Dean, College of Architecture and Design	College of Architecture and Design	19
Narain Gehani,	Dean, College of Computing Sciences; Program Director, B.S. Information Technology	College of Computing Sciences	6
Jorge P Golowasch	Chair and Associate Professor, Department of Biological Sciences	College of Science and Liberal Arts	8
Shanthi Gopalakrishnan	Associate Dean for Academic Affairs, School of Management	School of Management	10

Kathryn Kelly	Associate Vice President, Enrollment Services and Dean of Admissions	Enrollment Services	24
Scott C Kline	Associate Director, Office of International Students	Enrollment Services	13
James McHugh	Professor, Department of Computer Science	College of Computing Sciences	32
Leean Orama	President, Student Senate	Student Senate	N/A
Peter C Papademetriou	Professor and 3 rd Year Undergraduate Architecture Program Coordinator, College of Architecture and Design	College of Architecture and Design	22
Manuel Perez	Professor, Department of Mathematical Sciences	College of Science and Liberal Arts	38
Sunil Saigal	Dean, Newark College of Engineering	Newark College of Engineering	3
Cheickna Sylla	Associate Professor, School of Management	School of Management	20
Jaskirat Sodhi	President, Graduate Student Association	Graduate Student Association	N/A
			Average Service: 18

Group 2	The NJIT Strategic Planning: The Resource Allocation Process
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Name	Title	NJIT Unit	Years of Service
Committee Chair: Gabrielle Esperdy	Associate Professor, College of Architecture and Design	College of Architecture and Design	8
Committee Vice Chair: Nancy L Jackson	Professor, Department of Chemistry and Environmental Science	College of Science and Liberal Arts	17
Advisor: Edward J Bishof	Associate Vice President, University Budgeting	Senior Vice President for Administration and Treasurer	22
Layek Abdel-Malek	Professor, Department of Industrial and Mechanical Engineering	Newark College of Engineering	23
Lisa B Axe	Associate Dean for Research, Newark College of Engineering	Newark College of Engineering	14
Michael P Bieber	Chair and Professor, Department of Information Systems	College of Computing Sciences	17

Stephen M Eck	Director, University Admissions	Enrollment Services	21
Rose M Federici	Assistant to the Provost, Finance and Budget	Provost and Senior Vice President for Academic Affairs	7
William Garcia	Associate Vice President, Finance and Controller	AVP Finance and Controller	8
Margaret M Kenrick	Assistant to Dean, School of Management	School of Management	1
Burt J Kimmelman	Chair and Professor of English, Department of Humanities	College of Science and Liberal Arts	21
Somenath Mitra	Chair and Professor, Department of Chemistry and Environmental Science	College of Science and Liberal Arts	19
Thomas R Navin	University Lecturer, College of Architecture and Design	College of Architecture and Design	22
Thomas Ogorzalek	University Lecturer and 2 nd Year Undergraduate Architecture Program Coordinator, College of Architecture and Design	College of Architecture and Design	5
Jacquelyn G Rhodes	Associate Vice President for Development	Vice President University Advancement	19
Norma Y Rubio	Director, Sponsored Programs Administration	Senior Vice President Research & Development	18
Anthony W Schuman	Director, Graduate Architecture Program; Associate Professor	College of Architecture and Design	30
Joseph F Tartaglia	Associate Vice President, Facilities Management	Senior Vice President for Administration and Treasurer	20
David F Ullman	Associate Provost for Information Services & Technology and Chief Information Officer	Information Services & Technology	21
			Average. Service: 16

Group 3	The NJIT Leadership Process: Institutional Constituencies and the Assurance of Integrity
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Name	Title	NJIT Unit	Years of Service
Committee Chair: Dale E Gary	Distinguished Professor, Department of Physics	College of Science and Liberal Arts	13
Committee Vice Chair Vincent Oria	Associate Professor, Department of Computer Science	College of Computing Sciences	10
Advisor: Sunil Saigal	Dean, Newark College of Engineering	Newark College of Engineering	3
Advisor: Richard T Sweeney	University Librarian	Provost and Senior Vice President for Academic Affairs	14
Advisor: Nicholas P. Tworischuk	Associate Treasurer	SR. VP. Admin. and Treas. Area	32
George Abdou	Associate Professor, Department of Mechanical and Industrial Engineering	Newark College of Engineering	16
Asokan Anandarajan	Professor, School of Management	School of Management	15
Matthew Anderson	Major Representative, Applied Physics, Student Senate	Student Senate	N/A
Marybeth Boger	Director, Center for Academic and Professional Enrichment	Student Services	5
Bruce G Bukiet	Associate Dean for Science	College of Science and Liberal Arts	20
Jonathan R Curley	University Lecturer, Department of Humanities	College of Science and Liberal Arts	9
Robert Dresnack	Professor, Department of Civil and Environmental Engineering	Newark College of Engineering	43
Jean E Feeny	Ethics Liaison Officer	Human Resources	2
Clarisa Gonzalez-Lenahan	Associate Director, Graduate Studies	Provost and Senior Vice President for Academic Affairs	22
Leonard I Kaplan	Senior Administrator, Athletics, Intramurals, Physical Education, and Recreation	Vice President for Academic Support Program Area	9
Morty D Kwestel	University Lecturer, College of Computing Sciences	College of Computing Sciences	11

Ellen Lerner	Assistant to Provost, Academic Affairs	Prov. and Senior VP for Academic Affairs	21
Victor N Mwangi	Graduate Student	Newark College of Engineering	N/A
Hindy L Schachter	Professor, School of Management	School of Management	30
Andrew Sohn	Associate Professor, College of Computing Sciences	College of Computing Sciences	18
Georgeen Theodore	Assistant Professor, College of Architecture and Design	College of Architecture and Design	4
Leroy Thomas	Associate Dean of Students	Student Services	15
			Average. Service: 16

Group 4	Educational Outcomes: The Measurement of Learning Ability
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Name	Title	NJIT Unit	Years of Service
Committee Chair: John K Bechtold	Professor, Department of Mathematical Sciences	College of Science and Liberal Arts	15
Committee Vice Chair: Katia Passerini	Associate Professor, School of Management	School of Management	6
Advisor: Eugene P Deess	Director, Institutional Research and Planning	President's Area	10
William Barnes	Associate Professor, Department of Engineering Technology	Newark College of Engineering	24
Phyllis Bolling	Director, Counseling Center	Student Services	25
Nicholas J Carlson (Adjunct)	Adjunct, Department of Civil and Environmental Engineering	Newark College of Engineering	Adj.
John M Cays	Associate Dean for Academic, College of Architecture and Design	College of Architecture and Design	4
Carol S Johnson	Associate Professor, Department of Humanities	College of Science and Liberal Arts	7
James M Lipuma	University Lecturer, Department of Humanities; Coordinator, Teacher Education Programs	College of Science and Liberal Arts	13

Thomas G Moore	Assistant Director, Center for Academic and Professional Enrichment	Student Services	8
Sharon E Morgan	Associate Dean for First Year Students	Student Services	22
Mary K Naatus	Undergraduate Program Director and Advisor, School of Management	School of Management	7
Marvin K Nakayama	Associate Professor, Department of Computer Science	College of Computing Sciences	15
Naomi G Rotter	Professor, School of Management	School of Management	32
Oleksandr Rudniy	Assessment Analyst	President's Area	2
Mohamad A Saadeghvaziri	Associate Dean for Academic Affairs, Newark College of Engineering	Newark College of Engineering	21
			Average Service: 14

Group 5	Admission and Retention: Designing the Student-Centered Campus
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Name	Title	NJIT Unit	Years of Service
Committee Chair: Sui-Hoi E Hou	Associate Chair for Undergraduate Studies and Associate Professor, Department of Electrical and Computer Engineering	Newark College of Engineering	21
Committee Vice Chair: Barry Cohen	Associate Dean, College of Computing Sciences	College of Computing Sciences	8
Advisor: Eugene P Deess	Director, Institutional Research and Planning	President's Area	10
Advisor: Laurence A Howell	Executive Director, Educational Opportunity Program	Vice President for Academic Support Program Area	16
Piero M Armenante	Distinguished Professor, Otto. H. York Department of Chemical, Biological, and Pharmaceutical Engineering	Newark College of Engineering	26
John D Carpinelli	Professor, Department of Electrical and Computer Engineering	Newark College of Engineering	23
Margaret F Fitzpatrick	Associate Dean for Administration, College of Architecture and Design	College of Architecture and Design	3

Jack G Gentul	Dean of Students	Student Services	8
Ronald S Kane	Dean, Graduate Studies	Provost and Senior Vice President for Academic Affairs	19
Kathryn Kelly	Associate Vice President, Enrollment Services and Dean of Admissions	Enrollment Services	24
Talina N Knox	Assistant Director, Murray Center for Women in Technology	Provost and Senior Vice President for Academic Affairs	14
Jonathan H Luke	Professor, Department of Mathematical Sciences	College of Science and Liberal Arts	20
Gregory Mass	Executive Director of Career Development Services	Career Development Services	24
Rajiv Mehta	Professor, School of Management	School of Management	10
Risa L Ott	Assistant Athletic Director for Compliance	Vice President for Academic Support Program Area	3
Ronald H Rockland	Chair, Department of Engineering Technology	Newark College of Engineering	14
Julian M Scher	Associate Professor, Department of Information Systems	College of Computing Sciences	38
Marc T Sequeira	Associate Director, Information Technology Program	College of Computing Sciences	7
			Average Service: 16

Group 6	Faculty: A Tradition of Instruction, Research, and Service
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Name	Title	NJIT Unit	Years of Service
Committee Chair: Robert B Barat	Professor, Otto H. York Department of Chemical, Biological and Pharmaceutical Engineering	Newark College of Engineering	20
Committee Vice Chair: Marguerite A Schneider	Associate Professor, School of Management	School of Management	10
Advisor: Walter Konon	Professor, Department of Civil and Environmental Engineering	Newark College of Engineering	35

Reggie J Caudill	Professor, Department of Mechanical and Industrial Engineering	Newark College of Engineering	20
Janice R Daniel	Associate Professor, Department of Civil and Environmental Engineering	Newark College of Engineering	10
Blake Haggerty	Assistant Director for Instructional Design	Instructional Technology/Media Services	9
Ann D Hoang	Assistant University Librarian	Provost and Senior Vice President for Academic Affairs	3
Boris Khusid	Professor, Otto H. York Department of Chemical, Biological and Pharmaceutical Engineering	Newark College of Engineering	11
Farzan Nadim	Professor, Department of Biological Sciences and Department of Mathematical Sciences	College of Science and Liberal Arts	11
William V Rapp	Professor, School of Management	School of Management	9
Judith A Sheft	Associate Vice President for Technology Development, Enterprise Development Center	Senior Vice President Research & Development	8
Laurent Simon	Associate Professor, Otto H. York Department of Chemical, Biological, and Pharmaceutical Engineering	Newark College of Engineering	8
Nancy L Steffen-Fluhr	Director, Murray Center for Women in Technology; Associate Professor, Department of Humanities	College of Science and Liberal Arts	38
			Average Service: 15

Group 7	Curriculum: Evidence-centered, Research and Professional-based Instruction
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Name	Title	NJIT Unit	Years of Service
Committee Chair: Robert S Friedman	Associate Dean for Liberal Arts	College of Science and Liberal Arts	16
Committee Vice Chair: Taha F Marhaba	Chair and Professor, Department of Civil and Environmental Engineering	Newark College of Engineering	14

Advisor: Stephen J Tricamo	Associate Provost for Academic Affairs	Acting Provost and Senior Vice President for Academic Affairs	15
Advisor: Gale T Spak	Associate Vice President for Continuing & Distance Education	Continuing Professional Education	17
Raymond A Calluori	Senior Institutional Research Systems Manager	President's Area	10
Jerry L Fjermestad	Associate Professor, School of Management	School of Management	16
Eric D Hetherington	Associate Chair and University Lecturer, Department of Humanities	College of Science and Liberal Arts	8
George G Laskaris	President and CEO, NJEDge.net, New Jersey Higher Education Network	Senior Vice President for Administration and Treasurer	9
Norman Loney	Associate Chair and Professor, Otto H. York Department of Chemical, Biological, and Pharmaceutical Engineering	Newark College of Engineering	18
Swathi Manchikanti	Undergraduate Student; Vice President, Biology Society; Secretary, Albert Dorman Honors Council	College of Science and Liberal Arts; Albert Dorman Honors College	N/A
William F Reynolds	Director, Media Services	Instructional Technology/Media Services	32
James C Robertson	Director, University Web Services	President's Area	17
Haymwantee P Singh	Technical Reference Librarian	Prov. and Senior VP for Academic Affairs	17
Jamil E Wilkins	Major Representative, Communications and Media, Student Senate	Student Senate	N/A
			Average Service: 16

The Research Question Design Process

Considerable time has been spent from the summer of 2009 through the spring of 2010 in designing the research questions. We turn now to the five step process we have employed.

In the first step of the process, the steering committee drafted research questions based on the 14 MSCHE standards according to the matrix shown in Figure 5. Heuristic in design, the matrix

compelled steering committee members to craft questions that would stimulate thinking about issues central to the NJIT community; to address issues raised by the 14 standards; to identify issues that would reach across standards and, thus, across working groups; and to prompt both documentary and analytic effort within each working group.

Figure 5. The Core Charge Research Questions: Heuristic Analysis

Designing Analytic Charge Questions (process adapted from *Self Study: Creating a Useful Process*, p. 34)

MSCHE Standard	Identify the key components of the standard that are most relevant to the institution's own goals and activities	Determine how this standard relates to other standards and the Seven NJIT Groups.	What assessment has occurred in this area?	What improvements should we consider?	Analytic Charge Questions for the Seven NJIT Groups	What existing documents can be used (and cited) to fulfill this Charge?	What new research, if any, should be undertaken during the self-study?
1. Mission and Goals							
2. Planning, Resource Allocation, and Institutional Renewal							
3. Institutional Resources							
4. Standard 4: Leadership and Governance							
5. Administration							
6. Integrity							
7. Institutional Assessment							
8. Student Admissions and Retention							
9. Student Support Services							
10. Faculty							
11. Educational Offerings							
12. General Education							
13. Related Educational Activities							
14. Assessment of Student Learning							

After each question was subjected to detailed scrutiny, the core research questions were posted on NJIT's MSCHE Self Study web site on October 26, 2009, for review by the university community. An example of the original research questions, Figure 6 shows the original questions designed to address MSCHE Standard 1: Mission and Goals.

Figure 6. The Original Research Questions



Date: October 26, 2009

Middle States Charge Questions for the Seven Working Groups

Standard 1: Mission and Goals

- 1) Has the institution's stated mission evolved since the 2002 publication of *An Emerging Presence: Self Study and Strategic Plan*?
- 2) What has been the impact of the *NJIT Strategic Plan, 2004-2010* on the NJIT community?
- 3) Is there a present alignment between NJIT's mission, vision, core values, value propositions, and goals as articulated in the *NJIT Strategic Plan, 2004-2010*?
- 4) How have we achieved mission differentiation?
- 5) Which new opportunities has NJIT adopted, and which has it excluded, given the desire for a focused mission strategy?
- 6) Are we identifying markets that are congruent with our mission, and are we reaching those markets?
- 7) How has NJIT dealt with the challenges of global initiatives while serving its traditional community?
- 8) How well are NJIT's mission and goals communicated to the NJIT community?
- 9) How does the mission allow NJIT's schools and colleges to maintain their unique identities?
- 10) What is the relationship between the present MSCHE self study and the emerging *NJIT Strategic Plan, 2010-2015*?

In the third step of the process, the steering committee attended carefully to determining how each standard might extend across the working groups. An important part of the design process, this step assured that efforts would not be duplicated across groups. More importantly, this step allowed the steering committee to see how key issues, such as student retention, ranged across working groups—thus prompting more refined questions of cause and effect. An example of this process of analysis across the working groups is shown in Figure 7. Again, the example is drawn from MSCHE Standard 1.

Figure 7. Heuristic Questions across the Working Groups

2	NJIT Middle States RASC							
3	September, 2009							
4								
5		Work Groups						
6								
7	Standards,			3: Leadership Process:	4: Educational	5: Admissions and	6: Faculty:	7: Curriculum: Evidence-
8	Questions, and Other Standards			Institutional	Outcomes:	Retention:	A Traditional of	centered, Research &
9	Related to each Question	1: NJIT Mission:	2: Strategic Planning:	Constituencies & the	Measurement of	Designing the Student:	Instruction,	Professional-based
10	(in parentheses)	Pursuit of Excellence	Allocation Process	Assurance of Integrity	Learning Ability	Centered Campus	Research, & Service	Instruction
11	1: Mission and Goals							
12	How does the NJIT mission achieve uniqueness within the state?							
13	How has the mission of NJIT changed with the new millennium? (also 2)	1		2				
14	Have the institution's stated goals evolved since the 2002 accreditation visit? If there has been evolution, at which level has this evolution occurred? (Related to Standards 2, 7, and 14)							
15	Are we identifying markets that are congruent with our mission, and are we reaching those markets?							
16	Are the institution's goals clearly communicated? How?							
17	What are the internal and external barriers to mission realization?							
18	Which new opportunities has NJIT included in its mission, and which has it excluded, given the need for strategy to be focused due to limited resources? (also 4, 5, 7)	1	2	3				
19	How has the mission changed over the last 5 years?							
20	How will it likely change over the next 5 years?	1						

Figure 7 exemplifies the critical thought that has gone into the self-study design. Working across standards, steering committee colleagues defined aspects of each standard that impacted a spectrum of institutional contexts. While Working Group 1 would focus on Standard 1 (Mission and Goals), attention would have to be paid to the ways that the mission drove resource allocation—the domain of Standard 3 (Institutional Resources). Similarly, questions regarding opportunity cost are clearly related to Standard 2 (Planning, Resource Allocation, and Institutional Mission); hence, Working Group 2 (addressing both Standards 2 and 3) would have to draft its reports with Working Group 1. By means of such an iterative process, the self study questions have become sufficiently robust to allow vigorous analysis of the university’s context and its educational effectiveness,

Once questions that ranged across groups were identified, they were again reviewed and placed into the matrix shown in Figure 5. This step, a quality assurance measure, allowed the steering committee to be certain that the questions were sufficiently well designed so that the working groups would be able to provide a detailed analysis of the strengths of the university, as well as identify areas for improvement. Showing a charge question for Standard 1, Figure 8 demonstrates the analysis the questions received before they were released by the steering committee.

Figure 8. The Heuristic Questions within Groups

MSCHE Standard	Identify the key components of the standard that are most relevant to the institution's own goals and activities	Determine how this standard relates to other standards and the Seven NJIT Groups.	What assessment has occurred in this area?	What improvements should we consider?	Analytic Charge Questions for the Seven NJIT Groups	What existing documents can be used (and cited) to fulfill this charge?	What new research, if any, should be undertaken during the self-study?
1. Mission and Goals	The institution's stated goals, consistent with the aspirations and expectations of higher education, clearly specify how the institution will fulfill its mission.	Standard 2: How do we get the resources to execute the stated goals? Standard 5: Is the strategic plan administration or faculty governed? Standard 7: How is the Strategic Plan assessed? 2004-2010? 2010 – 2015?	How does resource planning occur at various levels—university, college, department/administrative unit? How do we know if the resource allocation plans are effective? What is the impact of decreasing state support on the resource allocation process?	Does the university community know we are engaged in strategic planning? How can we identify ways to increase knowledge of—and participation in—the process?	Group 1 (Coppola & Das; Deek): Have the institution's stated goals evolved since the 2002 accreditation visit? If there has been evolution, at which level has this evolution occurred? <u>A reflective and documentary charge</u>	University Strategic Plan 2004-2010? 2010 – 2015? Board Actions? CAA Actions? Accreditation reports from ABET, AACSB, NAAB? CSLA Strategic Plan, September 2004 through June 2009 and January 2009 through June 2014	How do our benchmark institutions engage in strategic planning? Which appears to be the best methods of planning, engagement, and assessment? <u>A progressive charge</u>

In the fifth and final step, the research questions were reviewed by the seven working groups. This unusual step allowed the working groups to become owners of the self study. Additionally, as Figure 9 illustrates, the questions were made more explicit by this peer review and, thus, more valuable.

Figure 9. The Charge Questions—Peer Review



Please note that the underlined segments of the study design questions below were updated in response to feedback from Group 1 Meeting 1.

**Study Design Questions for Group 1
Revised with feedback from Meeting 1 – 11/12/09**

Standard 1: Mission and Goals

- 1) Has the institution's stated mission evolved since the 2002 publication of *An Emerging Presence: Self Study and Strategic Plan*? Does the current NJIT mission statement reflect this evolution?
- 2) (was #3) Is there a present alignment between NJIT's mission, vision, core values, value propositions, and goals as articulated in the *NJIT Strategic Plan, 2004-2010*?
 - a. Are there other existing planning initiatives to consider?
 - b. What are the causal factors for change?
- 3) (was #2) What has been the impact of the *NJIT Strategic Plan, 2004-2010* on the NJIT community?
- 4) How have we achieved mission differentiation? How have we achieved mission differentiation relative to other universities in our state?
- 5) Which new opportunities has NJIT adopted, and which has it excluded, given the desire for a focused mission strategy? Why were some opportunities adopted and others rejected?
- 6) Are we identifying markets that are congruent with our mission, and are we reaching those markets?
- 7) How has NJIT dealt with the challenges of global initiatives while serving its traditional community?
- 8) How well are NJIT's mission and goals communicated to the NJIT community?
- 9) How does the mission allow NJIT's schools and colleges to maintain their unique identities?
- 10) What is the relationship between the present MSCHE self study and the emerging *NJIT Strategic Plan, 2010-2015*?

Detailed and time consuming, this five step process yielded the carefully constructed questions that follow.

The Research Questions

The final research questions for each working group, along with the names of the committee chair, vice chair, and advisors, are provided below.

Group 1	NJIT Mission: Commitment to the Pursuit of Excellence
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MSCHE Standard: Standard 1—Mission and Goals

Chair: Nancy Coppola
Vice Chair: Sanchoy K. Das
Advisor: Joel Bloom
Advisor: Fadi P. Deek

1.0 Has the institution's stated mission evolved since the 2002 publication of *An Emerging Presence: Self Study and Strategic Plan*? Does the current NJIT mission statement reflect this evolution?

1.1 Is there a present alignment between NJIT's mission, vision, core values, value propositions, and goals as articulated in the *NJIT Strategic Plan, 2004- 2010*?

1.2.1 Are there other existing planning initiatives to consider?

1.2.2 What are the causal factors for change?

1.3 What has been the impact of the *NJIT Strategic Plan, 2004-2010* on the NJIT community?

1.4 How have we achieved mission differentiation? How have we achieved mission differentiation relative to other universities in our state?

1.5 Which new opportunities has NJIT adopted, and which has it excluded, given the desire for a focused mission strategy? Why were some opportunities adopted and others rejected?

1.6 Are we identifying markets that are congruent with our mission, and are we reaching those markets?

1.7 How has NJIT dealt with the challenges of global initiatives while serving its traditional community?

1.8 How well are NJIT’s mission and goals communicated to the NJIT community?

1.9 How does the mission allow NJIT's schools and colleges to maintain their unique identities?

1.10 What is the relationship between the present MSCHE self study and the emerging *NJIT Strategic Plan, 2010-2015*?

Group 2	The NJIT Strategic Planning: The Resource Allocation Process
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MSCHE Standard: Standard 2—Planning, Resource Allocation, and Institutional Renewal
Standard 3: Institutional Resources

Chair: Gabrielle Esperdy

Vice Chair: Nancy Jackson

Budget Advisor: Edward Bishof

Questions Regarding Planning, Resource Allocation, and Institutional Renewal

2.0 How does the institution design its strategic planning process?

2.1 How does the institution assess its success in meeting its strategic priorities and objectives?

2.2 What new strategic priorities, objectives, and metrics have been developed since the 2002 self study regarding the allocation of resources?

2.3 Has the institution's planning process—as opposed to the elements of the strategic plan—changed since the 2002 self study? If the process has evolved, what has been the impact of that process?

2.4 How do NJIT's major constituencies, both inside and outside the university, inform the planning process?

2.5 How are differences in perspectives among constituencies included in strategic planning?

2.6 How does NJIT use the results of strategic planning to initiate renewal?

2.7 How might the strategic planning, resource allocation, and assessment processes at NJIT be made more sustainable, meaning there is an expectation that they can and will be renewed and extended from year to year?

2.8 How might the strategic planning, resource allocation, and assessment processes at NJIT be made more transparent?

2.9 How is NJIT's strategic planning process integrated with its budget planning process?

2.10 What processes and controls are in place to assure that resources are allocated in a manner consistent with the strategic plan?

2.11 What external, environmental issues, at municipal, state, and/or regional levels, require increased attention?

2.12 What internal issues, those that have a direct impact on the NJIT university community, require increased attention?

Questions Regarding Institutional Resources

2.13 What are the most significant challenges facing NJIT regarding its human, financial, technological, and physical and facilities resources? How are these challenges identified? How are they addressed?

2.14 In light of challenges to its human, financial, technological, and physical resources, does NJIT have sufficient institutional resources, including personnel, to achieve mission success? Are available resources allocated to strategic priorities?

2.15 During the period of the present strategic plan, how will NJIT assure sufficient resources to foster education, research, economic development, and service? How can an assessment plan be designed to better reveal the effective and efficient use of resources to NJIT stakeholders? In other words, beyond mere transparency, how can assessment be qualitative in what it reveals?

Group 3	The NJIT Leadership Process: Institutional Constituencies and the Assurance of Integrity
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MSCHE Standard: Standard 4—Leadership and Governance
Standard 5—Administration
Standard 6—Integrity

Chair: Dale Gary

Vice Chair: Vincent Oria

Leadership and Governance Advisor: Sunil Saigal

Quality Improvement and Institutional Constituency Advisor: Richard Sweeney

Risk Management Advisor: Nicholas P Tworischuk

Questions Regarding Leadership and Governance

- 3.0 How may we best describe the leadership and governance processes at NJIT, and is that process captured in the *Faculty Handbook*?
- 3.1 How does NJIT work to ensure that its governance promotes adequate checks and balances?
- 3.2 What are the roles of the governing and advisory boards at NJIT?
- 3.3 What is the balance of diversity in the governing and advisory boards in terms of backgrounds, e.g. profit, not-for-profit, and non-profit sectors? How is diversity ensured and maintained?
- 3.4 What are the processes in place to assure the leadership future of NJIT in the areas of education, research, economic development, and service?
- 3.5 How are early career faculty, instructional staff, and administrators identified for their leadership potential, and how does the institution develop their potential?
- 3.6 How are ethnic and gender diversity issues incorporated in decision making?
- 3.7 What processes are in place for communication between the university community and the governing board?

Questions Regarding Administration

- 3.8 How may the NJIT administrative structure best be described?
- 3.9 Since the 2002 self study, what have been the most significant changes in the structure of NJIT's administration?
- 3.10 Generally, how have the university's strategic priorities, objectives, and metrics impacted administrative needs?
- 3.11 Specifically, how does NJIT adjust its administrative organization to meet newly emerging enrollment patterns and demand for new academic programs?
- 3.12 What metrics are used in assessing the effectiveness of administrative units at all levels, and how were they selected? How have these metrics changed since the 2002 self study?
- 3.13 Does the current administrative structure facilitate productivity improvements in education, research, economic development, and service?

Questions Regarding Integrity

3.14 How does NJIT achieve and communicate its integrity as the state's public science and technology university?

3. 15 How does the university maintain an effective framework for ethical conduct in the areas of education, research, economic development, and service?

3. 16 How do we foster, assess, and maintain the integrity of faculty, instructional staff, and administrators?

3. 17 How do we foster a climate that demonstrates respect among students, faculty, staff, and administration for a range of backgrounds, ideas, and perspectives?

3. 18 How does NJIT meet the standards of the New Jersey State Conflict of Interest statutory mandates, as well as ensure that the NJIT community is aware of, and complies with, the New Jersey State ethics laws, regulations, and executive orders?

3. 19 How does NJIT demonstrate integrity in faculty selection, promotion, tenure, retention, compensation, and administrative review?

3. 20 How does NJIT instill integrity across its colleges, student athletics, and other endeavors so that students adhere to principles of academic integrity while enrolled in our academic programs?

3. 21 How does NJIT instill integrity across its colleges so that students are educated to become ethical professionals upon graduation?

3. 22 How do NJIT's integrity policies compare to science and technology universities nationwide?

Group 4	Educational Outcomes: The Measurement of Learning Ability
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MSCHE Standard: Standard 7: Institutional Assessment
Standard 14: Assessment of Student Learning

Chair: John K. Bechtold
Vice Chair: Katia Passerini
Institutional Research Advisor: Eugene P. Deess

Questions Regarding Institutional Assessment

4.0 How can NJIT best expand its university-wide assessment activities?

4.1 Does NJIT's comprehensive assessment plan serve as this university-wide, cohesive assessment plan?

4.2 How might NJIT's comprehensive assessment plan for institutional effectiveness be described in its relationship to the strategic planning process?

4.3 In what ways has NJIT's institutional assessment resulted in institutional renewal as a result of assessment reports and balanced scorecards?

4.4 How does institutional assessment inform the strategic planning process?

4.5 How does institutional assessment influence resource allocation?

4.6 Is there understanding and acceptance of the NJIT community regarding existing institutional assessment?

Questions Regarding Assessment of Student Learning

4.7 How does NJIT demonstrate that the institution's students have knowledge, skills, and competencies consistent with the NJIT mission?

4.8 Specifically, does assessment yield performance-based evidence regarding the General University Requirements?

4.9 Specifically, does assessment yield performance-based evidence regarding the degree programs?

4.10 Have our current student learning outcomes led to curriculum transformation in terms of consistently achieved program objectives?

4.11 Have our current student learning outcomes led to curricular adjustments in terms of increased student engagement?

4.12 Have our current student learning outcomes led to curricular adjustments in terms of increased student retention and consistent quality of admitted students?

4.13 Have existing assessment results led to informed decisions about curricular planning and resource allocation?

4.14 How has assessment of student learning influenced instruction?

4.15 During the period of the present self study, is there a need to develop a university-wide outcomes assessment plan that unifies existing efforts? How might such a plan be developed?

MSCHE Standard: Standard 8—Student Admission and Retention
Standard 9—Student Support Services

Chair: Sui-Hoi (Edwin) Hou
Vice Chair: Barry Cohen
Admission Advisor: Eugene P. Deess
Advisor: Tony Howell

Questions Regarding Admissions

5. 0 What is the record of admissions at NJIT since the previous self study with attention to quality, diversity, and growth? In terms of admissions, how have we met the challenges of quality, diversity and growth? How will we meet these challenges during the period of the present self study?
5. 1 In a period of planned growth, are our academic standards and admission goals aligned? How are we meeting the challenges of enrollment growth and student quality?
5. 2 Are we prepared to meet possible future decline in enrollment cohorts?
5. 3 How are our current measures of predicting success identified? What new measures might we consider as predictors of success?
5. 4 What have been our admission patterns regarding the following student groups since the last self study: men, women; African American; Native American; Asian; Hispanic; and white students?
5. 5 What have been our admission patterns for students in the Albert Dorman Honors College?
5. 6 What have been our admission patterns for students in the Educational Opportunity Program?
5. 7 What have been our admission patterns for students in the athletic program?
5. 8 How well does the SAT Reasoning Test predict student success?
5. 9 Are sufficient resources allocated to undergraduate and graduate admissions?
5. 10 How is the admission function assessed?
5. 11 Has the institution assessed its recruiting material, website, and processes so that they are geared toward both undergraduate and graduate admission goals?

- 5. 12 What are our strategies for the recruitment of international graduate students?
- 5. 13 What are our strategies for the recruitment of domestic graduate students?
- 5. 14 Is full-time MS and PhD student support competitive with peer research universities?
- 5. 15 Is the projected enrollment sufficient to support the institution's projected financial needs?
- 5. 16 What is the relationship between retention and revenue?

Questions Regarding Retention

- 5. 17 What is the record of retention at NJIT since the previous self study? In terms of retention, how have we met the challenges of attending to quality, diversity and growth in the past? How will we meet these challenges during the period of the present self study?
- 5. 18 What are the barrier courses for retention? What programs would facilitate retention?
- 5. 19 How do our retention rates compare to peer and aspirant schools?
- 5. 20 Is there an observable relationship between admissions growth and enrollment trends?
- 5. 21 What is the relationship between new academic programs and student recruitment?
- 5. 22 What is being done to identify and address the needs of students who are at risk of leaving the institution?
- 5. 23 What are the variables that most impact retention at NJIT, and what is being done to improve retention as these variables are identified?
- 5. 24 What steps have been taken to improve retention by improving curriculum delivery?
- 5. 25 How can we design and structure the following to improve retention and graduation: placement procedures; curriculum reform; and advancement and progression guidelines within the academic major?
- 5. 26 How does NJIT's combination of tuition/financial aid affect retention?
- 5. 27 What advisement models would facilitate retention?

Questions Regarding Student Support Services

5. 28 What changes in student services have occurred since the previous self study? What are the reasons for these changes?

5. 29 How might the functions and impacts of the following student support services best be described: admissions, financial aid, registration, orientation, advising, counseling, tutoring, academic discipline, health, housing, placement, student organizations and activities, cultural programming, child care, security, and athletic activities? What metrics are used to assess these impacts?

5. 30 To what degree have each of these student support services improved NJIT student satisfaction?

5. 31 Is there a need for an integrated model of student support services? If so, what steps might be taken to achieve it?

5. 32 How convenient is access to NJIT's various student support services?

5. 33 How effective are student support services? What metrics are used to measure them?

5. 34 Given projected enrollment growth, how does NJIT plan to serve greater numbers of students?

Group 6	Faculty: A Tradition of Instruction, Research, and Service
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MSCHE Standard: Standard 10—Faculty

Chair: Robert Barat
Vice Chair: Marguerite Schneider
Advisor: Walter Konon

The Formation of Our Faculty: Qualifications, Recruitment, and Diversity

6. 0 Is there a cohesive, institute-wide plan for faculty recruitment and retention that is aligned with NJIT's strategic plan? Does this plan meet the needs of NJIT's academic programs and the teaching of core courses within them?

6.1 What are the current demographics of our faculty? How do they compare to those of our peer universities? Are there differences between departments?

6.2 What are our strategies for ensuring a diverse faculty? What are the results of such efforts?

What is the institution's strategic plan for the replacement of retiring faculty?

6.3 Has the utilization of lecturers and adjunct faculty changed since the previous self study? If so, how? What is the current and future impact of such changes?

The Health of Our Faculty: Resources, Support, Retention, Growth

6.4 Are expectations regarding faculty teaching load and aggregate faculty student load clearly defined and feasible, given expectations for scholarship and service?

6.5 Are mentoring plans in place to assist new faculty to develop their skills to achieve excellence in instruction, research, and service? Are these plans in place at departmental, college-wide, and institute-wide levels? Are they comparable to those at our peer institutions?

6.6 Are there comparable plans in place to assist established and mid-career faculty?

6.7 What internal resources are available to help early career faculty obtain financial support for their research?

6.8 Are there adequate resources for mid-career and senior faculty to explore new research initiatives?

6.9 Is there overall equity in internal resource allocation?

6.10 What mechanisms and resources are in place for maintaining and supporting faculty productivity? How is success measured?

6.11 Are there differences in departments in faculty appointment, tenure and promotion? If such differences exist, how may they be identified and evaluated? Are they reasonable?

The Role of Our Faculty in the Life of NJIT: Curriculum, Research, Service, Governance

6.12 How are faculty involved in academic program development, assessment, and improvement? How is such involvement recognized and encouraged?

6.13 To what extent are faculty adopting new technologies to enhance instruction and curriculum delivery?

6.14 What mechanisms are in place to document faculty participation in curriculum development?

6.15 How are faculty research interests considered during the formation of research plans on the departmental, college, and institute levels?

6.16 How are faculty research interests integrated into the curriculum?

6.17 What is the state of faculty governance at NJIT? Is it consistent with governance at our peer universities?

6.18 How extensively does our faculty provide service to the institute? How are such efforts recognized and rewarded?

Group 7	Curriculum: Evidence-centered Research and Professionally-based Instruction
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MSCHE Standard: Standard 11—Educational Offerings
Standard 12—General Education
Standard 13—Related Educational Activities

Chair: Robert Friedman
Vice Chair: Taha F. Marhaba
Curriculum Advisor: Stephen J. Tricamo
eLearning Advisor: Gale T. Spak

Questions Regarding Educational Offerings

- 7.0 How do NJIT’s academic programs display academic content, rigor, and coherence appropriate to our mission?
- 7.1 How does the university’s ensure the maintenance of such academic content, rigor, and coherence? What role do accreditation agencies play in this assessment process?
- 7.2 Does each degree program have articulated core competencies, learning outcomes, student advancement and progression standards, and an outcomes assessment plan?
- 7.3 How well do we disseminate the purpose and interrelationship of the requirements of their students’ degree programs?
- 7.4 How are students taught to think critically, analytically, and creatively within their majors?
- 7.5 How has the curriculum been improved since the last self study in order to increase student engagement and retention engagement?
- 7.6 How do new degree programs emerge at NJIT? What standards and processes are required for program approval on the institutional and state level?

Questions Regarding General Education

- 7.7 Do the General University Requirements (GUR)— NJIT’s undergraduate general education program—lead to students acquiring and demonstrating college-level proficiency in general education and essential skills, including oral and written communication, scientific and quantitative reasoning, critical analysis and reasoning, information literacy, and technological competency?
- 7.8 Can we demonstrate outcomes in the GUR?

7. 9 How does the GUR serve the NJIT mission?
7. 10 What is the orientation of the GUR? Is the general education program designed to meet the needs of students in their respective professional degree programs? Or is the general education program designed to be a cohesive force independent of student major?
7. 11 How are learning outcomes and assurance of learning integrated into the GUR?
7. 12 How does NJIT assess that students are meeting the institution's goals for written communication, quantitative reasoning, and information literacy?
7. 13 How and why has the GUR changed since the previous self study?
7. 14 Is there need to undertake review of the GUR in light of new degree program initiatives during the period of the current self study, and if so, how can the GUR be structured to engage and retain students?

Questions Regarding Related Educational Activities

7. 15 How may we best describe the existing efforts and future direction for our basic skills placement, instructional, and assessment efforts in writing and mathematics?
7. 16 When admitted students lack proficiency in written and oral English, what programs and procedures are in place to ensure that these students are prepared and engaged? What procedures are in place to assist international students in securing communicative competencies?
7. 17 How may we best describe the existing efforts, future directions, and outcomes assessment strategies for each of the following: E-Learning, Experiential Learning, Non-Credit Offerings, and Graduate Certificate Programs?
7. 18 How is quality assured for students in our certificate programs?
7. 19 What evidence exists that the achievements of learning goals of students in distance learning courses is similar to that of students in face-to-face courses?
7. 20 How has the NJIT concept of distance learning evolved since the last self study?
7. 21 What has been the impact of E-Learning upon NJIT's student engagement and retention?
7. 22 What affiliate relationships does NJIT have with other educational institutions, and how are these relationships maintained?
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Challenges of the NJIT Self Study

In its rapid assessment role, the steering committee has identified three challenges that must be addressed in the emerging self study process.

In her 2007 review of NJIT periodic review report, Katherine Mayberry recommended that a systematic review of the *Faculty Handbook* needed to be executed. Systematic revision of the *Faculty Handbook*, with specific focus on assuring that the tenure and promotion processes are rigorous, clear, and consistent across all colleges and departments, was recommended. Especially, the review recommended, the role of the deans in the promotion and tenure process needed to be well defined to ensure consistently formal roles in the tenure and promotion process. In 2008, a former faculty member and co-chair of the 2002 self study, Robert E. Lynch, voluntarily undertook the required systematic review. The resulting document, however, was not embraced by the NJIT Faculty Council. A section-by-section review of the handbook is now taking place, and the NJIT community realizes that an updated handbook will support compliance with Standard 4 (Leadership and Governance). While the present handbook is, of course, approved, a written statement of collegial governance, composition, duties, and responsibility held by both administration and faculty is needed. Present Faculty Council Leadership is working ardently to draft and approve revisions that will allow the Faculty Handbook to reflect more fully the contemporary institutional context.

The 2007 report also recommended that the library staff draw up a plan for adding 5,000 to 7,000 volumes to the Robert W. Van Houten Library collection. Since that time, it has been increasingly clear that the future of the academic library rests in digital technology. While the NJIT community has not “taken its eye off the ball,” as the 2007 report phrases the effort, it is nevertheless true that skyrocketing database cost and declining state support have created a condition in which library resources remain scaffolded from year to year. While this condition may indeed be a part of the foreseeable future, the final self study report must nevertheless give voice to the complexities of database maintenance within a research university in a period of a continued decline in state support.

While the 2007 report noted that “the practices that NJIT applies to learning outcomes assessment are varied, exemplary, and, in some cases, unique,” it is now time advance a more cohesive view of outcomes assessment at NJIT. Central to this new paradigm of assessment will be a re-designed program review process that will focus on the demonstrations of institutional effectiveness offered by Michael. F. Middaugh in *Planning and Assessment in Higher Education* (San Francisco: Jossey-Bass, 2010). All of the outcomes assessment research identified in the 2002 self study and the 2007 periodic review report has been maintained and augmented, but a more unified reporting structure now needs to be established. The institutional planning process for the assessment of student learning, described by George Kuh and Stanley Ikenberry in *More Than You Think; Less Than We Need: Learning Outcomes Assessment in Higher Education* (Champaign, IL: National Institute for Learning Outcome Assessment, 2009), remains a challenge for NJIT.

Reporting Frame for the Self Study

In order to provide a detailed comprehensive review of the university, the working groups are using the research questions to study the university in the period from the spring of 2002 (the time of the last MSHCE Team Visit) to the fall of 2011 (the semester before the forthcoming Team Visit). This time frame will allow us to undertake a self study that will allow us to demonstrate our successes, meet our challenges, and plan for the future. Equally important, this timeframe will allow the MSCHE self study to inform, and be informed by, the emerging *Strategic Plan, 2010 to 2015*.

Inventory of Support Documents

During the spring of 2010, the working groups will be involved in identifying existing documents and new studies needed to answer the charge questions. Among the documents that have thus far been identified, we include the following: all Institutional Resource and Planning Reports from 2002 onward; all data analyses, including enrollment information, migration studies, retention comparisons, and revenue analyses; all annual reports and university planning documents; and reports specific to academic planning, such as the recent study of placement into first-year writing courses; all reports from program accreditation agencies (i.e., Accreditation Board for Engineering and Technology, Association to Advance Collegiate Schools of Business, and the National Architectural Accrediting Board); and all handbooks and catalogues. We will also include all information pertaining to our participation in the Voluntary System of Accountability (VSA) and the National Survey of Student Engagement (NSSE), including our forthcoming information from our new participation in the NSSE Consortium for the Study of writing in College.

Among the studies we have recently undertaken in Institutional Research and Planning, we include the following as representative:

Grade Distribution Report

Spring 09: S09 NJIT by Section, S09 NJIT by Instructor

Summer 09: U09 NJIT by Section, U09 NJIT by Instructor

Fall 09: F09 NJIT by Section, F09 NJIT by Instructor

FTFTF who received GPA less than 2.0 (Fall 2009 FTFTF).

Average section sizes by type and term for fall semesters.

With concurrent sections (Fall 05—Fall 09 Average Section Sizes)

Without concurrency (Average Section Size F05-F09)

Faculty Load Reports, multiple types (Spring 2009 Credit Hours Summary by School, Department and Faculty Rank)

Newly Added Programs (New Programs rev 2)

Enrollment by Program and Class Level 5 years

FTFTF Retention by Department 5 years

Fall to Spring Retention Study 06.07.08

Fall to Fall Retention Study 06.07.08

Estimated Degrees 2009-2010 (Degrees Aug 09, Jan 10, May 10)

5 years section count, enrollment, credit hours, load hours report (Section, LH, CH, Enr Summary)
 Fall 2009 Non-Honor Student Study (Breakdown of Non-Honors)
 Excelsius Estimation Project
 F08—F09 Full-Time Degree-Seeking Undergraduate Students Retention Rates (F08—F09 Full-Time Deg-Seeking Undergraduate Retention)
 F08-F09 Major Migration by School and Program
 F08—F09 Degree-Seeking Undergraduate Students Retention
 All Levels Retention: Fall 2008—Fall 2009 by Multiple Metrics (Retention F08-F09 Report)
 FTFTF Average SAT Scores by School (F09 and F08 Avg FTFTF SAT Scores by School)
 Fall 2009 Study
 Fall 2006—Fall 2008 School of Engineering Enrollment by Ethnicity (NCE ethnicity breakdown 2006-2008)
 Graduation Rates Study: by Program, by Honor, by EOP, by Athletics (Graduation Rates)
 Retention Rates Study: by Program, by Honor, by EOP, by Athletics (Retention Rates)
 Percentage of Women Students F08 by level
 CSLA Students with Undeclared Major Study
 Chemical Engineering Study
 IE and ME Departments Comparison: Undergraduate and Graduate Data
 Application, Acceptance, Matriculation, Retention, Graduation Rates
 Fall to Spring Retention Report: 2006—2007, 2007—2008, 2008—2009
 Information System Study on International Students
 Southern Jersey Enrollment and Transfers

Because of the university's commitment to the use of digital media for reporting transparency, all supporting documents are presently available for review on the Web. Studies containing information that might be linked back to individual groups will be available during the visit.

Organization of the Self Study Report: Proposed Outline

While seven working groups will write a report that will be coordinated by the steering committee, the final report will provide a chapter-by-chapter analysis based on each of the 14 MSCHE standards. The report will also contain an executive summary, an introduction to the university, and a summary of conclusions based on the 14 chapters of analysis. Each chapter will begin with précis (a map of the chapter, highlighting significant changes since the 2002 self study), followed by an exposition of the content of the chapter. The exposition will be followed by a critical analysis and a summary of conclusions. The proposed report outline follows:

Executive Summary

Précis: A Vision for the Technological Research University of the 21st Century

Introduction: NJIT at its Decennial Review

Précis: The University from 2002 through 2012

A Portrait of NJIT in 2012

The NJIT Self Study Design Model

The NJIT Steering Committee Model

The NJIT Working Group Model
The NJIT Communication Model
Role of the President and Board
Profile of the Steering Committee
Profiles of the Working Groups
Outcomes of the Self Study

Chapter 1. Standard 1: Mission and Goals

Précis: The NJIT Mission and the Commitment to the Pursuit of Excellence

Mission Articulation since 2002
Impact of *NJIT Strategic Plan, 2004- 2010*
Causal Factors Associated with Change
The NJIT Mission and the Campus Culture
Mission Differentiation for Existing and Potential Markets
Captured and Potential Opportunities
The Traditional NJIT Community
The Challenges of Global Initiatives
Potential Impact of *NJIT Strategic Plan, 2010-2015*

Critical Analysis

Summary of Conclusions

Chapter 2. Standard 2: Planning, Resource Allocation, and Institutional Renewal

Précis: NJIT Planning and the ViSTa Model of Vision and Strategy

The Design of NJIT Strategic Planning Processes and the ViSTa Model
New Directions of Strategic Priorities, Objectives, and Metrics since 2002
An Evolved Strategic Planning Process
Communication of Strategic Planning Processes
Integration of Perspectives
Strategic Planning and Renewal
Strategic Planning and Budget Allocation
Strategic Planning, Mission, and Controls
Strategic Planning and Sustainability
Strategic Planning and Transparency
Internal Variables Impacting Strategic Planning
External Variables Impacting Strategic Planning

Critical Analysis

Summary of Conclusions

Chapter 3. Standard 3: Institutional Resources

Précis: NJIT Planning and Resource Allocation under Conditions of Scarcity

Presentation of NJIT Institutional Resources

Finance
Budget
Fiscal Planning
Internal Audit
Physical Plant

- Security
- Facilities Planning
- Construction
- Risk Management
- Human Resources
- Compliance
- Training
- Community Relations
- Analysis of NJIT Institutional Resources
- Human, Financial, Technological, and Facilities Challenges
- Resource Allocation, Effective, and Efficient Planning for the Future
- Critical Analysis
- Summary of Conclusions

Chapter 4. Standard 4: Leadership and Governance

- Précis: Planning for a Common NJIT Future
 - The NJIT Leadership and Governance Process
 - The Assurance of Checks and Balances
 - Roles of the Governing Board
 - Roles of Advisory Boards
 - Balance of Board Membership
 - Leadership Processes
 - Gender, Diversity, and Leadership
 - Communication Processes
- Critical Analysis
- Summary of Conclusions

Chapter 5. Standard 5: Administration

- Précis: The NJIT Reporting Structure
 - The NJIT Administrative Structure
 - Office of the President
 - Academic Affairs
 - Research Administration
 - Fiscal Administration
 - Academic and Student Services
 - University Advancement
 - Human Resources
 - Strategic Planning and Administrative Needs
 - Administrative Functions and Enrollment Growth
 - Assessment of Effectiveness of Institutional Units
 - Administrative Structure and the Facilitation of Productivity
- Critical Analysis
- Summary of Conclusions

Chapter 6. Standard 6: Integrity

Précis: The NJIT Model of Integrity

NJIT Core Values: Excellence, Integrity, Student-Centeredness, Civility, and Diversity

Benchmarking the NJIT Model of Integrity

Role of the Ethics Liaison Officer

Fostering, Assessing, and Sustaining the Core Values

Fostering Diversity

Integrity and the Faculty Review Process

Integrity and Campus Culture

Integrity and the Graduated Student

Critical Analysis

Summary of Conclusions

Chapter 7. Standard 7: Institutional Assessment

Précis: NJIT Planning and The ViSTa Model of Tactics and Metrics

A University-wide, Cohesive Plan for Institutional Assessment

The ViSTa Model and Institutional Renewal

The NJIT Strategic Plan, 2004- 2010

The NJIT Strategic Plan, 2010-2015

Institutional Assessment and the Strategic Planning Process

Institutional Assessment and the Resource Allocation Process

Institutional Assessment and the NJIT Community

Critical Analysis

Summary of Conclusions

Chapter 8. Standard 8: Student Admissions and Retention

Précis: The Emerging NJIT Model of Growth and Sustainability

The NJIT Admissions Record, 2002 through 2012

Challenges of Enrollment Growth for a Science and Technology University

Barriers to Enrollment Growth

Measures of Success Prediction

Admission Patterns and Diversity

Admission Patterns and the Albert Dorman Honors College

Admissions Patterns and Student Athletes

Admissions Patterns and the Educational Opportunity Program

Admissions Patterns and Standardized Testing

Admissions Patterns and Undergraduate Remediation

Admissions Patterns and International Students

Admissions Patterns and Graduate Students

Resource Allocation and the Admissions Function

Assessment of the Admissions Function

Retention and Revenue Analysis

The NJIT Retention Record, 2002 through 2012

Time to Graduation Studies

Benchmarks of Time to Graduation Studies

Challenges to Retention at NJIT

- Enrollment and Retention Studies
- New Program and Retention Studies
- Identification of the At-Risk Student
- Models of Improvement: Placement Procedures
- Models of Improvement: Curriculum Reform
- Models of Improvement: Academic Advancement and Progression Guidelines
- Retention and Tuition
- Retention and Financial Aid
- Traditional Advisement Models and Retention
- Innovative Advisement Models and Retention
- Critical Analysis
- Summary of Conclusions

Chapter 9. Standard 9: Student Support Services

Précis: The NJIT Student-Centered Campus

Portrait of NJIT Support Services, 2012

- Financial Aid
- Registration
- Orientation
- Counseling
- Tutoring
- Academic Discipline
- Health
- Housing
- Student Organizations and Activities
- Cultural Programs
- Child Care
- Athletic Activities
- Assessment of Support Services
- Expansion of Support Services
- Critical Analysis
- Summary of Conclusions

Chapter 10. Standard 10: Faculty

Précis: The NJIT Mission and the University Faculty

Portrait of the NJIT Faculty, 2010

A Cohesive, Institute-wide Plan for Faculty Recruitment and Retention

Strategies for Ensuring Faculty Diversity

Strategies for Replacement of Retiring Faculty

The Role of Lecturers at NJIT

The Role of Adjunct Instructors

Expectations of Faculty Mission Fulfillment

Faculty Mentoring Processes

Equity in Recruitment of Faculty

Equity in Resource Allocation to Faculty

Measuring Faculty Mission Fulfillment

- The Faculty and Education
- The Faculty and Research
- The Faculty and Economic Development
- The Faculty and Service
- The Faculty and Outcomes Assessment
- The Faculty and Student-Centered Learning Technologies
- The Role of Faculty Governance
- Critical Analysis
- Summary of Conclusions

Chapter 11. Standard 11: Educational Offerings

- Précis: The NJIT Mission and the University Curriculum
 - The NJIT Mission and its Academic Programs
 - The Role of Program Accreditation at NJIT
 - The Role of Program Review at NJIT
 - The MSCHE Outcomes Assessment Process at NJIT
 - Communication with Students Regarding Academic Expectations
 - Analysis of Curriculum Improvement Processes
 - The Process for New Program Approval
- Critical Analysis
- Summary of Conclusions

Chapter 12. Standard 12: General Education

- Précis: The NJIT Mission and the General University Requirements
 - The General University Requirements and the NJIT Mission
 - GUR Changes Since 2002
 - Outcomes Assessment and the General University Requirements
 - The Future of the General University Requirements
- Critical Analysis
- Summary of Conclusions

Chapter 13. Standard 13: Related Educational Activities

- Précis: The NJIT Student-Centered Effort
 - Placement Processes for Admitted Students
 - Placement Processes for English as Second Language Students
 - The Role of E-Learning
 - The Role of Experiential Learning
 - The Role of Non-Credit Offerings
 - The Role of Graduate Certificate Programs
 - Inter-institutional Relationships with Two-Year Colleges
 - Inter-institutional Transfer Relationships
 - Inter-institutional Accelerated Program Relationships
 - The Center for Pre-College Programs
- Critical Analysis
- Summary of Conclusions

Chapter 14. Standard 14: Assessment of Student Learning

Précis: The NJIT Outcomes Assessment Model: A Cohesive Presence

The Office of Institutional Research and Planning and the Assessment of Student Learning

The ViSTA Model of Institutional Assessment and the Assessment of Student Learning Towards a Cohesive Plan for the Measurement of Learning Ability

Outcomes Assessment within the NJIT Colleges

Newark College of Engineering and the Accreditation Board for Engineering and Technology

The College of Art and Design and the National Architectural Accrediting Board

The School of Management and the Association to Advance Collegiate Schools of Business

The College of Computing Sciences and the Accreditation Board for Engineering and Technology

The College of Science and Liberal Arts and *The Strategic Plan for the College of Science and Liberal Arts, 2009-2014*.

The Albert Dorman Honors College Strategic Planning Process

Innovative Outcomes Research in Student Performance

Closing the Loop in Outcomes Assessment

Critical Analysis

Summary of Conclusions

Chapter 15: Conclusions

Précis: A Realized Vision for the Technological Research University of the 21st Century

Conclusions for the 14 Standards

Goals for the *Periodic Review Report, 2017*

A Roadmap for the Future of NJIT

Editorial Style and Format

The final report will follow the guidelines for manuscript preparation, editing, and documentation specified by the 15th edition of *The Chicago Manual of Style*. The format will follow those evidenced in the present document.

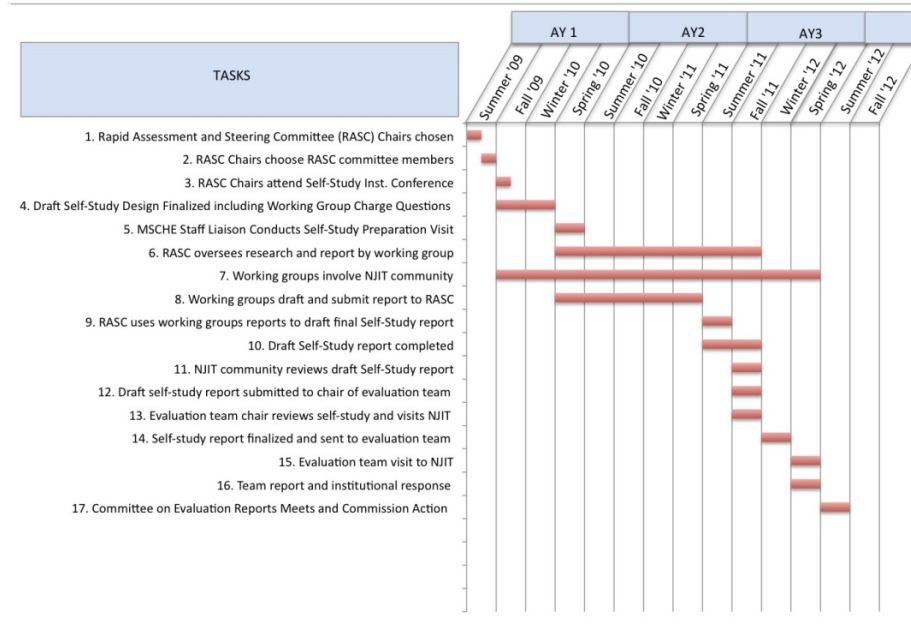
Budget

The steering committee has prepared a detailed three year budget to cover the costs associated with the self study process. At present, the total budget allocation is \$144,109 (AY1: \$42,088, AY2: \$38,364, and AY3: \$63,657)—a substantial re-allocation of resources from the 2002 budget of \$35,504 for the last decennial self study.

Time Line

The time line for the self study is shown in Figure 10.

Figure 10. NJIT Self Study Milestones



The timeline is divided into three phases: Invention—Summer 2009-Spring 2010; Arrangement—Fall 2010-Spring 2011; and Delivery—Fall 2011-Spring 2012.

As we present this self study design in February of 2010, we have been hard at work since July of 2009. We have attended both the fall self study institute hosted in Philadelphia by the Middle States Commission, and we have attended the annual conference. Our MSCHE staff liaison, Vice President Mary Ellen Petrisko, PhD, has been selected, and we have already drafted a self study model, formed the steering committee and working groups, and drafted our research questions. We have now just finalized our peer review of these questions with our seven working groups. Our progress is documented on our Middle States home page at NJIT.

In our arrangement stage, we will continue to address the research questions posed by the self study committee and identify documents and needed studies that will be required to answer our research questions. By the spring of 2011, our working groups will have their reports finalized and ready for review by the steering committee.

Because ours is a document-based approach to MSCHE review, by the third year, we will concentrate in the fall of 2011 on completing a near-final draft of our self study report and seeking review from the visiting team chair. During that fall, our appointed team chair will visit

our campus and meet with our NJIT community; during the spring, we will host the visiting team. That will be a time of celebration for us as we present the results of the work of three years from a wide spectrum of NJIT shareholders.

In essence, we see the self study process timeline as an opportunity for institution-wide review of the documents we will produce. As committees meet and text is produced, we are certain that we will gain an enhanced sense of community. Together, the self study will allow us a unique opportunity to document our institutional effectiveness and to plan a common future within the NJIT community.

Requested Profile of the Visiting Team

NJIT would like to have a Visiting Team with the following expertise: administrators knowledgeable in the area of public science and technological institutions; researchers dedicated to innovative forms of instruction; outcomes assessment specialists interested in traditional and innovative methods; student services professionals committed to diversity and retention; specialists in urban university planning; and a representative from a large state university with a mission encompassing science, technology, and athletics.

Concluding Statement

As we prepare for the March 2010 visit from our MSCHE liaison, we are increasingly aware that we must make decisions in a period of contingency. We are dedicated to planned enrollment growth as we prepare to admit a first year 2010 undergraduate class larger than the 988 students we admitted in the fall of 2009. At the present writing, we have just admitted a total headcount of 8,840 students; by the time the visiting team arrives, we plan to admit 10,200 students.

Planning for the assurance of an excellent institutional context and superior educational effectiveness is paramount to the NJIT mission. We therefore welcome the self study process as a time of reflection, analysis, and planning—undertaken within the context of MSCHE accreditation.