

Spring 4-4-2012

## Report to the Faculty, Administration, Trustees and Students of NJIT by Evaluation Team

Robert Palazzo

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### Recommended Citation

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# ***Report***

*to the*

**Faculty, Administration, Trustees and Students**

*of*

**New Jersey Institute of Technology  
Newark, NJ 07102**

*by an*

**Evaluation Team**

*representing the*

**Middle States Commission on Higher Education**

**Prepared after study of the institution's *Self-Study Report* and a visit to campus April 1-4, 2012**

## **Members of the evaluation team:**

Robert E. Palazzo, Rensselaer Polytechnic Institute, *Chair*

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*This report represents the views of the evaluation team as interpreted by the chair. An earlier draft went directly to the institution before being considered by the Commission. It is a confidential document prepared as an education service for the benefit of the New Jersey Institute for Technology. All comments are made in good faith in an effort to assist the New Jersey Institute of Technology. This report is based solely on an educational evaluation of the university and of the manner in which it appears to be carrying out its educational objectives.*

**Administrative Officers of  
The New Jersey Institute of Technology**  
(at the time of the visit)

*President*  
Joel S. Bloom

*Provost*  
Ian Gatley

*Chair, Board of Trustees*  
*Kathleen Wielkopolski*

## **I. Context and Nature of Visit**

### *Institutional Overview and Summary of Findings*

The New Jersey Institute of Technology (NJIT) is now in its 131<sup>st</sup> year as the major science and technology university of the state of New Jersey. A nonsectarian, coeducational university, NJIT supports over 9,500 students at the undergraduate and graduate level, and a significant cohort of working professional students. NJIT offers 125 degrees (47 bachelors, 59 masters, and 19 doctoral) and additional certificate programs.

NJIT is organized into five colleges and one school:

Newark College of Engineering

College of Science and Liberal Arts

Albert Dorman Honors College

College of Architecture and Design

College of Computing Sciences

School of Management

In addition, NJIT offers education for working professionals through the Division of Continuing Professional Education.

In 2012, Dr. Joel S. Bloom was named the 8<sup>th</sup> President of NJIT. Dr. Bloom follows the 9 year tenure of Dr. Robert A. Altenkirch, under whose leadership two strategic plans were developed, *Strategic Plan 2004-2010 and Strategic Plan 2010-2015*. Fundamental to the 2004-2010 plan was/is a commitment to the development of a core of nationally recognized programs, improvement in research and intellectual property development, enrichment of the quality of life for the academic community while retaining focus on students, become nationally recognized for attracting students from diverse national and international populations, and improve fund raising. The 2010-2015 plan continues most of these initiatives with additional focus on interdisciplinary research and education in Sustainable Systems, Life and Healthcare Science and Engineering, and the growingly Digital world. The result of the 2004-2010 plan was considerable investment in the physical plant, growing relationships with the city of Newark and sister institutions in the University Heights district, growth in scholarship and research expenditures, commendable performance in assuring the success of underrepresented women and minority groups, and growth in international students. In many ways, NJIT has become more competitive as a national and international institution as a result of this progress. In addition, the success of the Honors College has contributed to the overall improvement in student quality at NJIT, and the emphasis on student life has improved the atmosphere for all members of the NJIT community.

### **Summary of The Evaluation Team's Findings**

The Evaluation Team read the New Jersey Institute of Technology's *Self-Study Report*, considered numerous detailed reports on each standard, and considered substantial additional documentation. The Team visited NJIT April 1-4, 2012, and interviewed members of the Board of Trustees, academic administrators and other members of the administration, faculty, staff, and students.

### ***The New Jersey Institute of Technology meets or exceeds all fourteen standards outlined in the Characteristics of Excellence in Higher Education.***

The New Jersey Institute of Technology is making a disproportionate impact in higher education given its means. In particular, NJIT is providing an admirable service to first-in-family students attending college. The students are excellent, well trained, and graduates are highly successful after leaving the university. NJIT's success in providing a first-class education and college experience to a diverse student body is enviable.

The team suggests that special attention be given to the following areas in the future:

1. *Faculty Development*: Given the expected faculty retirements in the near future, NJIT has a unique opportunity to strengthen the tenure track faculty base. Continued declines in state support may compromise NJIT's ability to meet its mission in the future. In particular, to assure continuance of its ascendancy in student draw and economic impact, the university must increase the critical mass of tenured and tenure track faculty, while reducing reliance on the use of contingent faculty. The current faculty is performing admirably under the conditions, but there is a risk of emerging faculty retention problems in the near future unless an appropriate critical mass of tenure track faculty can be achieved. The expected faculty turnover coupled with an increase in the overall size of the tenure track faculty offers a historical and unique opportunity to drive NJIT to a new threshold of performance, thus serving the interests of the university, the city of Newark, and the State of New Jersey.
2. *Women and Underrepresented Groups*: Given the diversity profile of NJIT students, the university should seek strategies and best practices aimed at increasing the number of women and underrepresented minority faculty. Although challenging for a STEM institution, balance in the form of a faculty that reflects the nature of the student body and the society that the university serves will pay rich dividends in terms of future student recruitment, retention, graduation, and ultimate success.
3. *Shared Governance and Communications*: The University is encouraged to complete current efforts to redesign shared governance structure(s) as soon as possible to resolve all matters and controversies related to shared governance. Appropriate and agreed upon mechanisms of shared governance and adherence to those agreements will help to build trust and strength within the university community, remove distraction, potential barriers to progress, and loss of energy that could otherwise be applied to moving the university forward.

4. *Outreach:* NJIT is encouraged to continue its aggressive pursuit of corporate, government (federal, state, and city), and academic partnerships to drive innovation and economic development in the city and state, thus providing prosperity and future opportunities for NJIT graduates, as well as reputation and alternative revenue sources through licensing and philanthropy that will result from success in these efforts. NJIT is already skilled in these areas, and continuation is encouraged.
5. *Institutional Assessment:* The University is encouraged to strengthen institutional assessment practices focusing on data informed decision making in strategic planning and annual progress reviews to assure timely progress to achieving goals. The data gathering capability of the university is very strong. Use of this well organized data to inform decisions will speed university progress.
6. *Student Recruitment:* The University is encouraged to consider increasing the number of international and out of state undergraduate students. By improving its national brand and reach, NJIT is encouraged to develop strategies to increase the number of student applications overall and increase the number of undergraduate students admitted from out of state. Such a plan could increase revenues, improve student quality and success rates, and extend the use of proven NJIT approaches to provide opportunities to underrepresented minority students nationally.
7. *Student Life:* The University is commended and encouraged to continue to develop its unique approach to student life, providing a hybrid model that brings high quality student life and extra-curricular experiences to both resident and commuter students.

**Scope of Institution:** Doctoral/STEM dominant, research-high, public

**Self-study process and report:** The self-study process involved a comprehensive approach that was transparent and assured broad-based community involvement to evaluate each of the 14 standards. While each of the self-study team reports were extensive and well done, the final presentation was somewhat compromised. In particular, the self-study report failed to provide concise data and evidence that standards are being met by the university in a single document. Rather, a web-site was developed that contained links to many documents leaving reviewers to search institutional documents and reports for information needed. This approach was not helpful and a different strategy aimed at making the case for NJIT in a final self-study document is encouraged in the future.

## **II. Affirmation of Continued Compliance with Eligibility Requirements**

Based on a review of the self-study, various other institutional documents, interviews with institutional leaders, faculty, staff, and students, the team affirms that NJIT meets eligibility requirements 1-7.

## **III. Compliance with Federal Requirements**

Based on review of the self-study, other institutional documents, interviews with institutional leaders, faculty, staff, and students, the team affirms that NJIT meets eligibility requirements 1-7 (institutional Context) and 8-14 (Educational Effectiveness). The institutions Title IV cohort default rate is within federal limits.

## **IV. Evaluation of Individual Standards**

A summary of the Evaluation Team's findings for each individual standard follows. Each discussion includes a summary of findings as relevant to the standard, and as appropriate offers suggestions for possible improvement. Each standard includes a list of documents reviewed, in addition to *the Self-Study Report*, and interviews conducted.

## Standard 1: Mission and Goals

*The institution's mission clearly defines its purpose within the context of higher education and indicates who the institution serves and what it intends to accomplish. The institution's stated goals, consistent with the aspirations and expectations of higher education clearly specify how the institution will fulfill its mission. The mission and goals are developed and recognized by the institution with the participation of its members and its governing body and are used to develop and shape its programs and practices and to evaluate its effectiveness.*

### **The University meets this standard.**

#### Summary of evidence and findings

Consistent with the guidelines of the MSCHE “*Characteristics of Excellence In Higher Education*”, NJIT has clearly defined core values. In 1992 NJIT developed a mission statement expressing the vision of the university as an urban focused institution. The mission and vision statements were revised in 2002. The mission statement expresses a commitment to student success, and the revised vision statement emphasizes the educational, economic development, community service, and cultural vision of the university. NJIT seeks to become a preeminent science and technology research university known for innovation, entrepreneurship, and engagement. As New Jersey’s technological research university, NJIT is committed to the pursuit of excellence--

- in undergraduate, graduate, and continuing professional **education**, preparing students for productive careers and amplifying their potential for lifelong personal and professional growth;
- in the conduct of **research** with emphasis on applied, interdisciplinary efforts encompassing architecture, the sciences, including the health sciences, engineering, mathematics, transportation and infrastructure systems, information and communications technologies;
- in contributing to the state's **economic development** through the state's largest business incubator system, workforce development, joint ventures with government and the business community, and through the development of intellectual property;
- in **service** to both its urban environment and the broader society of the state and nation by conducting public policy studies, making educational opportunities widely available, and initiating community-building projects

To achieve the mission, NJIT has been guided by a well-defined *Strategic Plan (2004-2010)* and the more recent *NJIT Strategic Plan (2010-2015)* developed under former president Robert A. Altenkirch, approved by the Board of Trustees, and now led by President Joel S. Bloom. The strategic planning process has led to the development of a comprehensive planning framework, *Vision-Strategy-Tactics (ViSTa)*, designed to engage the broader community of shareholders in



development and planning. ViSTa is an excellent planning tool that is useful for planning at both the College and University level, and serves to align NJIT's mission, traditions, and history with future aspirations while engaging broad swaths of the community. Finally, the planning process is used to develop and evaluate programs, providing progress assessment tools and guidance for annual resource allocation.

In order to assure mission penetration, the President and Planning Committee developed five strategic priorities with specific objectives and metrics as documented in the university's 2007 Middle States Periodic Report, titled, "*The Future's Edge*." Those objectives included: to enhance and enrich the quality of life of the university community and to ensure a focus on the students; to increase revenue from private sources; to develop a core of nationally recognized programs; to improve nationally rankings in research and intellectual property development; and to become nationally recognized for attracting high achieving students from diverse national and international populations. The university utilized a balanced scorecard approach to summarize its progress on goal accomplishment.

In May 2009 a strategic planning steering committee proposed a vision, strategy, tactics and metrics to strengthen the mission, vision, core values, value proposition, goals, strategic priorities, and strategic objectives of the university. With the approval of the Board of Trustees in September 2010 the university established a new *Strategic Plan 2010-2015* with four priorities: to enhance the quality of academic and campus life for the university and community; to sustain a base of private support; to be nationally recognized for multidisciplinary, thematic core areas of integrated research and learning in sustainable systems, life and healthcare science; and to be nationally recognized for attracting high achieving students and faculty from diverse populations.

The University has a set of clearly defined core values.

### Observations

- The university developed a series of brief pod casts to share the university mission, planning process, background for accreditation, and to provide accreditation examples from other universities.
- The university has built national prominence in several specific programs.
  - In 2007 the Mathematics Department was ranked 10<sup>th</sup> in the nation by Academic Analytics based on specific faculty productivity criteria.
  - The University established a College of Architecture and Design and added a BS degree in Industrial Design (2005), Digital Design and Interior Design (2008); and Fine Arts in 2009.
  - The university has current efforts underway in the area of wireless technology.
- The *Princeton Review* has ranked NJIT among the nation's top 50 public undergraduate institutions for outstanding value. According to *The Princeton Review*, NJIT "stands today as one of the nation's most prominent research schools, specializing in nanotechnology, solar physics, and polymer science... and retains its reputation as New Jersey's top choice for the hard sciences." The *Princeton Review* also named NJIT among its Best 371 Colleges for 2010.

- *U.S. News & World Report's 2011 Annual Guide to America's Best Colleges* named NJIT among the nation's top tier of national universities. In addition, it was featured among a new list of 100 national universities: 'A-plus schools for B students.' NJIT also ranked fourth in Campus Diversity.
- The *Bloomberg Business Week* survey of U.S. colleges ranked NJIT in the top 10 percent of 852 colleges and universities for return on investment and classified the university as one of four undergraduate higher education "best buys" in New Jersey based on potential income earned.
- NJIT was named a member of the worldwide Open Courseware Consortium organization created by MIT to provide free and open digital publication of high quality educational materials, organized as courses. Some 35 NJIT courses are available through the consortium. NJIT is the only institution of higher learning throughout New Jersey and New York to have achieved this distinction.
- NJIT is the 2009 recipient of the Rising University Star Award from the National Action Council for Minorities in Engineering. The award recognizes the achievements of universities that are contributing to increased diversity in engineering, science and technology.
- *Diverse Issues in Higher Education* once again listed NJIT among the nation's top 100 college and universities for awarding undergraduate degrees to students from underserved groups.
- In 2010 the university placed in the upper quadrant of High Activity Research Universities by the Carnegie Higher Education Classification.
- NJIT placed in the top 100 of all universities for growth in federal funding.
- Between 2003 and 2009 13 faculty members were awarded NSF-Career Awards.
- Over the past four years, the university invention disclosure per million dollars of sponsored research has been .90, better than the national average at 0.45.
- The NJIT Enterprise Development Center has launched 85 businesses with a 5-year survival rate of over 85% and was awarded the National Business Incubation Association award in 2010 for its success in assisting nondomestic firms entering the US Market.
- The university moved to NCAA Division I Athletics while improving many of its athletic facilities.
- The university is engaged in a Campus Gateway Project to improve, housing, commercial shops, and various amenities available to the university to revitalize the surrounding community.
- The university has concluded Project Orbit which employs technology to solve complex social problems allowing students, faculty and staff easy access to information through web browsers.

### Suggestions

The team supports the institution's suggestion to continue to focus on cohesive integration of academic unit planning with the overall strategic goals at the institutional level.

The team supports the university's suggestion to enhance mission penetration of strategic planning initiatives through increased communication that leverages digital, web-based environments where outcomes are reported and posted for shareholder view.

Interviews Conducted

Members of the Board of Trustees  
President of the University  
Provost of the University  
Deans of Schools  
Members of the Faculty Council  
Members of the Faculty  
Students

Documents Reviewed

Institutional Profile Report (2011)  
Strategic Plan (2004-2010)  
NJIT Strategic Plan (2010-2015)  
Albert Dorman Honors College Strategic Plan (2008-2012)  
CSLA Strategic Plan  
State Strategic Plan: NJ's State Development and Redevelopment Plan (2011)  
NJIT Campus Master Plan (2008)  
Middle States Periodic Report, *The Future's Edge*, (2007)

## **Standard 2: Planning, Resource Allocation and Institutional Renewal**

*An institution conducts ongoing planning and resource allocation based on its mission and goals, develops objectives to achieve them, and utilizes the results of its assessment activities for institutional renewal. Implementation and subsequent evaluation of the success of the strategic plan and resource allocation support the development and change necessary to improve and to maintain institutional quality.*

### **The University meets this standard**

#### Summary of Evidence and Findings:

The foundation of the current strategic planning process at NJIT is ViSTa (Vision-Strategy-Tactics). Through this process the institution developed a Strategic Plan for 2004-2010 to establish itself as a student-centered environment for intellectual growth. The plan identified five strategic initiatives; Enhance and Enrich the Quality of Life; Become Nationally Recognized for Attracting High Achieving Students; Develop a Core of Nationally Recognized Programs; Increase revenue from Private Sources; Improve National Ranking in Research and Development. Major resource allocation to support the plan is managed centrally and critical decisions are made at the senior staff level. There is an abbreviated balanced scorecard to track goals and objectives with associated metrics by year.

There was a substantial growth in research and associated expenditures during the 2004-2010 strategic plan period. The institution has developed an enrollment plan that streamlines recruitment and enhances visibility of the 22 new degree programs. In addition the university presented a 2008 Gateway and Facilities master plan (2008 gateway. Final report). With declining state support, the institution is placing a greater emphasis on corporate giving and alumni support

In September 2010 the institution published a 2010-2015 strategic plan. This plan, again developed using ViSta, builds upon the earlier plan in a coherent manner. It includes four modified strategic priorities with accompanying objectives, tactics and metrics. However, while the mechanism for assessment is in place it appears that it has not yet been as rigorously applied and lacks base line metrics, targeted completion dates and progress reports. Importantly, it does add the opportunity to report expenses associated with each objective.

#### Observations:

- The institution developed clearly articulated goals and objectives for the 2004-2010 strategic plans.
- The institution appears has an on-going planning process as evidenced by the conclusion of the 2004-2010 strategic plans and the beginning of the 2010-2015 plans.
- The university recognizes it is operating with limited state support and has placed a greater emphasis on corporate and alumni giving.
- The university employs both planning assessment reports and balanced scorecards to chart institutional progress toward goals and objectives.
- The university presented a 2008 Gateway and Facilities master plan (2008 gateway. Final report)

- The institution listed a series of thematic areas with accompanying questions for the 2010-2015 strategic plans.

### Suggestions

The university is presently in the process of developing an academic plan integrated with program review, budget and assessment processes, and should be able to present documented proof of its completion.

It is unclear how institutional, operational, and unit-level goals are interrelated. The institution needs to clarify and document those relationships.

The institution needs to document internal best practice planning processes per department, academic unit, and the institution as a whole, such as in the College Science and Liberal Arts.

The 2008 Facilities Master Plan should be reviewed periodically to reflect changes in institutional academic plans and priorities.

While the institution employs both planning assessment reports and balanced scorecards, data used to chart the progress should be incorporated as appendices into these reports.

It is unclear if the institution employed a formal environmental scan or SWOT analysis as it prepared for the 2010-2015 planning process; these tools should be employed in future strategic planning exercises.

The team accepts the institution's suggestion to strengthen multidisciplinary, thematic relationships among institutional, operational, and unit-level management to ensure these are effectively aligned with the 2010-2015 strategic plans.

### Interviews Conducted

Standard Review Committee Chairs

Deans

Senior Managers

Finance Division Managers

### Documents Reviewed

Strategic Plan 2004-2010

Strategic Plan 2010-2015

Campus Master Plan 2009

Campus Gateway Project 2006-2012

Strategic Plan Tactics

Financial Statements and Budget Requests

### **Standard 3: Institutional Resources**

*The human, financial, technical, facilities, and other resources necessary to achieve an institution's mission and goals are available and accessible. In the context of the institutions mission, the effective and efficient uses of the institution's resources are analyzed as part of ongoing outcomes assessment.*

#### **The University meets this standard**

##### Summary of Evidence and findings

NJIT has managed through the financial declines of the past five years without major disruption of programs and services and has continued to advance and develop. While total state appropriation declined from \$68.2 million in FY 2007 to \$66.0 million in 2011 or 3.2%, appropriation available for general operating purposes other than fringe benefits declined from \$47.2M to \$39.2M or 16.9%. This \$8M reduction was offset by an increase in student tuition and fees of 32% from \$66.8M to \$88.3M, largely the result of a tuition rate (IS/FT) increase of \$2,182 or 24%, other fee increases, and enrollment growth of 1,270 or 15%. Total revenue over the period grew \$38.3M from \$233.4M to \$271.7M or 16%.

The University's financial projections through FY 2015 anticipate a continuation of the trend of an increasing proportion of costs being borne by students. It anticipates no increase in state support other than for fringe benefits, annual tuition and fee increases of 4%, and minimal enrollment growth of 1.5% annually.

The campus capital program is funded and financed through annual operating budget allocations and plant funds, bonds of several issuers, gifts, and a public/private partnership. The 2012 budget allocation for capital maintenance, repair and renovation is \$13.6M. Long-term debt at June 30, 2011 stood at \$173.2M with annual debt service (P&I) of \$14.5M.

A comprehensive fund raising campaign is underway with the goal of raising \$150 million.

##### Observations

- The NJIT strategic planning process, ViSTa, provides the administrative infrastructure and process to determine, assess, and measure the effective use of resources at the strategic level.
- A means exists by which long term financial projections are developed.
- Individual unit budgets are determined through an annual request and review process.
- In 2004 the institution established a "Reinvestment Fund" with an allocation of \$1.1M to support strategic priorities. It reports that through FY 2010 cumulative expenditures related to the five core objectives of the plan exceeded \$33 million. NJIT projects substantial growth in federal funded research.

- The institution published a comprehensive facilities master plan in 2008. The plan provides for the renovation of existing buildings, expansion of the library, and addition of 134,000 gsf. to support enrollment growth to 12,000 students, a mixed use student housing village, enhancement of athletic facilities to support Division 1 status and various aesthetic improvements are planned. However, some projects included in the plan and are not mapped to funding or financing sources.
- The University is engaged as lead developer of the Campus Gateway Project, an initiative using multiple partnerships to revitalize the area around the NJIT campus. The project includes a Greek Village student housing development project.
- Projects for facility repair, maintenance, and technology, and minor facility improvements are presented as part of the annual operating budget.
- NJIT is improving energy efficiency and developing alternate energy sources including on-site power generation and solar technologies to replace natural gas in one residence hall.
- NJIT appears to have adequate institutional controls as evidenced by annual independent audits carrying the auditor's unqualified opinion.
- There is no evidence of periodic assessment of the effective and efficient use of institutional resources below the strategic level.

### Suggestions

The cost of attendance at NJIT has increased significantly in the recent past and is expected to continue to do so. While this is a practical necessity even more should be done to increase the availability for financial assistance for lower income students.

The ViSta process serves well as a strategic planning and financing framework. In September 2010 the institution published a 2010-2015 strategic plan. This plan builds upon the earlier plan in a coherent manner. It includes four modified strategic priorities with accompanying objectives, tactics and metrics. However, while the mechanism for progress tracking is in place it appears that it has not yet been as rigorously applied and lacks base line metrics, targeted completion dates and progress reports. This should be completed and updated regularly.

The process of determining resource allocations to support strategic priorities should be made more apparent.

The process by which resource allocations to individual departments and programs are determined and the effectiveness of those allocations assessed should be articulated or such processes established and explained.

The planned or potential funding and financing sources for the various projects of the facilities master plan should be identified or established.

Conduct regular surveys of faculty and staff to determine their satisfaction with university provided services such as technology support.

Given the increasing use of lecture halls and the continued need for small group activities the university should consider using seating designs that enable group work.

The team supports the Recommendation for Improvement contained in the committee report to enhance transparency of the tracking, monitoring and reporting of institutional resources.

#### Interviews Conducted

Associate Vice President for Budget

Senior Vice President for Administration and Treasurer

Administration and Finance Division Managers

Senior Staff

Chairs of Self Study Committees

#### Documents Reviewed

MSA Self Study

Audited Financial Statements, June 2010 and June 2011

Budget Requests

Strategic Plans, 2005 and 2010

Facilities Master Plan

Campus Gateway Plan



#### **Standard 4: Leadership and Governance**

*The institution's system of governance clearly defines the roles of the institutional constituencies in policy development and decision-making. The governance structure includes an active governing body with sufficient autonomy to assure institutional integrity and to fulfill its responsibilities of policy and resource development, consistent with the mission of the institution.*

#### **The University meets this standard**

##### Summary of evidence and findings

The University's *Self-Study Report*, the by-laws and constitutions of key governance bodies demonstrate that NJIT has a well-defined system of governance. The expected role of key overseers, administrators, faculty, and student leaders is clear in the documentation openly available to the community and the public.

NJIT's governing body is the *Board of Trustees*, appointed by the Governor and confirmed by the New Jersey State Senate. Board Membership includes the Governor (or his designee) and the Mayor of Newark as ex officio nonvoting members and up to 15 state citizens. The Board has a well-developed system of committees which cover all aspects of expected Board responsibilities including fiduciary responsibilities. A separate *Board of Overseers*, consisting of up to 50 members, provides oversight for the Foundation which serves as the fund raising arm of the University.

Faculty and Student participation in governance is achieved through the Faculty Council and the Student Senate which report directly to the Office of the President. A detailed Faculty Handbook and Student Handbook outline processes and appropriate communication paths for all matters of governance, including promotion and tenure, administrative reviews, and grievance procedures. The roles of all parties in shared governance are well defined.

Input from the community at large is sought annually through the role of College Advisory Boards, which are a combination of academics, alumni, industry and community leaders, and potential donors. All Advisory Boards are invited to campus simultaneously each year, providing extensive input, communication, and institutional advising.

Opportunities for open communication appear abundant. In accordance with the New Jersey Open Public Meeting Act, The *Board of Trustees* publicly announces the schedule for open meetings, including an additional open annual budget meeting each year that is not required. Minutes of all meetings are made available to the public.

NJIT is now undergoing a major governance review process. As part of the decennial review process, the Rapid Assessment and Steering Committee (RASC) reported to the Committee on Academic Affairs a need for an enhanced model of governance to assure fulfillment of the NJIT mission, pointing out that silos remained between the Faculty Council, the Undergraduate Curriculum Review Committee, and the Student Senate. To further enhance collaboration among various governance bodies, RASC proposed a new governance system, resulting in a Board directive to design a contemporary governance system for NJIT by the fall of 2011. The results of this process are not clear in the report, nor are the mechanisms for assessment of the effectiveness of changes aimed at improving shared governance.

NJIT is seeking improved shared governance procedures to improve transparency and accountability. The roles, responsibilities, and mechanisms for appropriate interactions between the various governance components are outlined in the Faculty Handbook and the Student Handbook. However, there appears to be confusion regarding the roles, responsibilities, scope, and authority of various constituencies, eroding the general sense of trust, and potentially compromising the ability of the university to achieve its goals.

#### Suggestion

Develop mechanisms to monitor progress and effectiveness for changes in governance procedures in the future.

#### Recommendation

The University submit to the Commission a functioning plan for shared governance, adopted by consensus of the faculty, the President and Board of Trustees.

#### Interviews Conducted

Members of the Board of Trustees  
President of the University  
Provost of the University  
Deans of the Colleges  
Faculty Council Leadership  
Members of the faculty  
Chair of the Self-Study Steering Committee  
Student Senate Leadership  
Graduate Student Association Leadership

#### Documents Reviewed

Bylaws of the Board of Trustees  
Bylaws of the Board of Overseers  
Faculty Handbook  
Academic Honor Code Constitution  
Dean of Student Service Policies  
Student Professional Conduct Code  
Institutional Profile Report (2011)  
Student Handbook

## **Standard 5: Administration**

*The institution's administrative structure and services facilitate learning and research/scholarship, foster quality improvement, and support the institutions organization and governance.*

### **The University meets this standard**

#### Summary of evidence and findings

NJIT has an organization structure designed to support its mission. It is led by a *Board of Trustees*, most of who are appointed by the Governor and confirmed by the Senate. The Board is broadly based, including national and local representatives, as well as a number of alumni representatives. The board has an appropriate array of standing committees to help discharge its responsibilities.

The President reports to the board and is supported by six Vice Presidents, a General Counsel, and a Director of University Audits. All of these are well qualified for their respective roles. The key senior leadership team is unusually experienced with the new president and the vice president for administration/treasurer having more than 50 years of NJIT combined experience. In his first years at NJIT, the relatively new provost has had a positive impact on academic affairs. Their reporting relationships and areas of responsibilities are clearly outlined in a published organization chart. Their work is facilitated by the recently implemented Banner enterprise information system.

The President and executive staff are responsible for the development and execution of the strategic plan with each being assigned specific responsibilities and goals. The organization structure is responsive to the strategic plan and has changed and adapted to its requirements. It appears that the administrative structure has been flexible over the years, moving to new approaches when necessary or to meet the opportunities. The changes include greater policy formation and implementation through the provost's office, a change in focus on legal and human resource services, and an increased administrative commitment to research and development.

The President and executive staff establish the institutions budget and are responsible for efficient and effective staffing of all areas.

The effectiveness of faculty and staff are assessed through campus evaluation systems and a Master Audit Plan.

### Observations

- The administrative structure of the institution is assessed periodically and changed as needed to help accomplish the objectives of the strategic plan.
- A new Performance Based Salary Increase Distribution System for faculty is in place and all staff receive annual performance reviews.
- Effectiveness of administrative units is measured by surveys of shareholders and student satisfaction surveys.
- The internal audit plan includes reviews of unit performance.

### Suggestions

The team supports the focus of the Standard 5 working group suggestion related to the replacement process for administrative leadership positions and for a process for regular review of the effectiveness of administrative offices, policies, and procedures.

### Interviews Conducted

President

Vice Presidents

Deans

Working Group Chair and Vice Chair, and advisors

### Documents Reviewed

NJIT Organization Chart

Self-Study Document

NJ Higher Education Restructuring Act of 1994

Faculty Handbook

Performance-Based salary Increase Distribution

Faculty Separation Incentive Program

Committee on the Status of Women (2005)

Faculty Diversity Tactics (2005)

## **Standard 6: Integrity**

*In the conduct of its programs and activities involving the public and the constituencies it serves, the institution demonstrates adherence to ethical standards and its own stated policies, providing support for academic and intellectual freedom.*

### **The University meets this standard**

#### Summary of evidence and findings

Integrity is a stated core value of NJIT and integrated into expectations in the faculty and student handbooks. A comprehensive conflict of interest process consisting of both state wide and institutional procedures is in place. An Ethics Liaison Officer was appointed in 2008 to review and investigate ethics concerns and provide resources and training. Annual training is required of all professionals involved in the procurement process and an annual seminar on academic integrity is held. An ethics web site has been created with best practices, training events, regulations and required forms.

Extramural compensation and activities are monitored to prevent abuse and require permission of supervisors. An Institutional Review Board is in place to ensure that research subjects are treated appropriately and conflicts of interest are disclosed.

A student ethics policy has been developed and is enforced by appropriate committees. Academic standards for athletes are monitored as part of the NCAA certification process. Programs are in place to promote a diverse student and staff body and culture. Enrollments of women and minorities have increased during the evaluation period. Surveys measure students' satisfaction with fair treatment by administration and faculty, and show increased scores over time. Graduate and undergraduate catalogs, both current and past, are available on the NJIT website. Clearly defined promotion and tenure guidelines are published in the faculty handbook. The institution also has a clearly defined rubric for assessing faculty productivity and assigning annual merit raises.

There is a clear process for presidential search and selection laid out in section 2.5.3.1.4 of the Faculty Handbook, which was formally adopted by the Board of Trustees in May, 2011. The process was begun according to agreed upon guidelines, albeit at an accelerated pace. However, there is recognized conflict and controversy on shared governance matters.

#### Suggestions

While many regulations exist to encourage ethical behavior, no evidence of compliance with training requirements was provided. Software that enables assignment of training and tracking its compliance would be helpful to the institution.

Data were provided on student diversity but data on the diversity of the faculty and staff were incomplete. This should be tracked and provided as part of the next interim report.

The ethics web site does not appear high on the search results list when the University web site is searched. It is recommended that strategies be put in place to increase its relevance score. In

addition, the web site although in place for some time still has pages “under construction”. These sites should be completed as soon as possible and a training schedule posted.

### Recommendation

The University submit to the Commission a functioning plan for shared governance, adopted by consensus of the faculty, the President and Board of Trustees.

### Interviews Conducted

Members of the Board of Trustees

President

Provost

Deans

Members of the Faculty Council

Members of the Student Senate

Members of the Faculty and self-study groups

Holly Stern, University Counsel

### Documents reviewed

University web site

Catalog site

Integrity site

Faculty handbook

Merit pay policy

New employee PowerPoint

## **Standard 7: Institutional Assessment**

*The institution has developed and implemented an assessment process that evaluates its overall effectiveness in achieving its mission and goals and its compliance with accreditation standards.*

### **The University meets this standard**

#### Summary of Evidence and Findings:

- The institution employs ViSTa as its main institutional assessment tool.
- ViSTa is developed around three core elements: vision, strategy and tactic.
- Strategic plan objectives are written in the SMART Format: specific; measurable; actionable; realistic and time based.
- The institution employed color coded balanced scorecards and milestone assessment reports to chart progress in the 2005-2010 strategic plan.
- The institution employs benchmarks in a variety of areas with appropriate stem peer and aspirational public and private institutions.
- The Institutional Research and Planning Office was placed under the Provost's Office to promote uniformity and to oversee institutional assessment and student learning outcome processes.

#### Significant Accomplishments, Significant Progress, or Exemplary/Innovative Practices:

- The university has clearly articulated institutional goals and objectives pertinent to its mission and vision statements.
- Outcomes from both the balanced scorecards and milestone reports indicate the institution has been reasonably successful in achieving its measurable targets of the strategic plan.
- The College of Science and Liberal Arts uses its academic plan as the foundation for its strategic plan and appears to be an example of an institutional best practice in terms of planning, measuring and monitoring the progress towards implementation.
- The institution currently is accredited by the Accreditation Board for Engineering and Technology (ABET); Association to Advance Collegiate Schools of Business (AACSB); and National Architectural Accrediting Board (NAAB).
- The Institutional Research and Planning Office conducts a series of annual internal surveys to gather data about the student population while providing an abbreviated explanation of how most of the results are utilized for specific program improvements. These reports range from entering student surveys to student satisfaction surveys to alumni surveys to various ad hoc surveys.
- The institution employs an Efficiency Table which combines teaching load, budget, and research productivity reports into a clear set of normalized metrics for each academic unit.
- The institution appears to employ a variety of assessment tools to measure student learning outcomes including a valid and reliable indirect measure regarding Course Evaluations.

### Suggestions

The institution should develop and implement a set of key performance indicators (KPIs), which measure institutional values, are agreed upon by key stakeholders, are made public and used in institutional assessment and decision making. These KPIs should drive the formation of nested key performance indicators for each institutional unit.

The institution should engage in periodic evaluation of the effectiveness and comprehensiveness of the services it provides to its internal community and of its internal assessment process.

The team supports the NJIT strategy for the future that will bring consistency into the planning process in order to enhance project tracking and leverage strategies and tactics for success at the unit level.

The team supports the NJIT strategy to develop and use a formal mechanism to ensure all planning models across the university include clearly articulated accountabilities, timelines, anticipated outcomes, follow-up mechanisms, and reporting strategies.

NJIT should further develop its plans to implement an enterprise data ware house to capture and disseminate critical institutional data.

### Interviews Conducted

Director of Institutional Research and Planning

Steering committee chairs

Senior managers

Deans

### Documents reviewed

Strategic Plan

Milestone documents

VISTA strategic planning model

2007 PRR



## **Standard 8: Student Admissions and Retention**

*The institution seeks to admit students whose interests, goals, and abilities are congruent with its mission and seeks to retain them through the pursuit of the students' educational goals.*

### **The University meets this standard**

#### Summary of evidence and findings

NJIT notes that it is a "...equity-driven, retention-intensive institution" and the record reflects progress and commitment to this designation. The institution admits a broad range of students, with varying academic preparation, and well supports their educational goals.

NJIT offers degrees through undergraduate, graduate, and continuing education programs. Based on review of the self-study report, catalogs, promotional materials, the NJIT website, and interviews with leadership, faculty, staff, and students, it was concluded that Admissions policies support and reflect the mission of the institution. Considerable structure exists to support students who need remedial attention to improve skills as necessary to face the challenges and rigor of a science and technology curriculum. Students have adequate materials and advising to allow informed decisions. A significant proportion of NJIT students are first-in-family college students, providing special challenges.

NJIT has developed an admission and recruitment plan to help address concerns including:

- Reduction in the number of high school graduates in state,
- Declining state support,
- Declining student interest in STEM fields, and
- Outmigration of students from the state of New Jersey

While maintaining its academic admissions standards, NJIT has made good use of consulting services to reorganize and reinvigorate enrollment management. The size and profile of incoming classes are carefully reviewed to ensure that adequate consideration is given to current enrollments, degree program capacity, scholarship support, campus infrastructure, and institutional capacity.

Retention improvement is emphasized through a strong student advisement system, the work of the Center for First Year Students, and lower level preparation courses. Strategies for retention are sound, including student orientation strategies aimed at building the foundation for a successful college experience and connecting students to faculty advising and university resources through the Center for First Year Students.

NJIT is implementing the results of a recent Task Force study on retention and graduation, as well.

Improvements to campus life and the development of learning communities will assist in the advancement of better retention and graduation rates.

Policies and procedures regarding credit transfer and granting credit for previous college-level learning are published in the NJIT catalog.

Financial information is readily available to prospective students and families through various sources, including catalogs, website, and financial aid counseling.

### Observations

- From 2001-2011, first year student retention has been relatively flat, 80% vs 81% respectively.
- From 2001-2011, graduation rates increased from 46% to 55%, although the rate has been as high as 58% in recent years and the campus strives for a 60% rate based on peer institution analysis,
- Since 2002, SAT scores have held relatively constant (Math 590-608, and Critical Reading 520-546).
- Application acceptance rates have risen.
- There has been an increase in applications by women.
- In spite of the readiness challenges faced by a science and technology university committed to education of first-generation college students of diverse urban backgrounds, the university has been successful in providing remedial programs and appropriate advising to achieve notable success in graduation of diverse undergraduate students.
- Through the Educational Opportunity Program and Aptitude to Succeed program, NJIT has enjoyed success in graduating underrepresented minority students who entered NJIT with remedial training needs.
- National recognition has been gained for educating a diverse population in STEM fields.
- Robust web-based student college career planning materials exist.
- In 2011, a Task Force created a report with recommendations aimed at improving graduation rates through benchmarking.
- The Albert Dorman Honors College has been highly successful in improving recruitment. Representing a minimum of 15% of the undergraduate student body, in 2010 the average SAT for the College was 1335, well above the overall NJIT average and highly competitive nationally,. The College should have a positive impact on overall campus retention and graduation rates.
- Scholarships doubled from 1998-2007.
- USNews ranks NJIT 3<sup>rd</sup> in the nation for most international graduate students.

### Suggestions

From 2002-2010, applications grew from 2,550-4,398, with an increase in women applicants from 20.1% to 27.4%. While these gains are commendable, the number of undergraduate applications will need to increase in the future to achieve a suggested goal of 8-10,000. To assure improved quality and number of undergraduate applicants, NJIT should consider broadening its national reach in student recruitment, and possibly further extending its already strong reputation in international recruitment.

More specific plans for transfer and out-of-state student enrollment increases should be developed in the face of the expected undergraduate enrollment challenges on the horizon.

The undergraduate and graduate tuition has almost doubled in the past ten years. This could compromise NJIT's ability to compete. Pursuit of additional revenue sources, through endowed scholarships and increasing other revenue sources should be considered to offset cost of attendance for undergraduate students.

Graduate student enrollment has declined in the past 5 years. In the Strategic Plan, NJIT has set a goal of achieving 37% graduate enrollment, now 31%. Although the research expenditures have increased from \$69M to \$100M in the past ten years, the number of doctoral degrees awarded has remained flat and the number of masters degrees awarded increased by only 5%. Further, the number of full time faculty has declined from 381 to 367 during this period. Development of a strong graduate plan to optimize the opportunity for growth in research and scholarship of the institution to improve student recruitment is advised.

The university should continue to seek to identify the various causes of and populations at retention and graduation risk and work to address them, in an effort to reach stated institutional goals.

The team supports the campus efforts to improve advisement through centralization and the Degree Works initiative, intended to assist students in understanding their progress towards degree.

#### Interviews Conducted

Provost of the University

Vice President for Academic and Student Services

Staff from Admissions, Honors, Center for First Year Students, and EOP Students

#### Documents Reviewed

NJIT Catalogue

Strategic Plan 2010-2015

Fiscal Year 2012 Budget Submission to Office of Management and Budget

Final Report: Task Force on Undergraduate Retention and Graduation

Student Satisfaction Survey (2009) Long Version

Self-Study Working Group Report

Community Connections Assessment

## **Standard 9: Student Support Services**

*The institution provides student support services reasonably necessary to enable each student to achieve the institution's goals for students.*

### **The university meets this standard**

#### Summary of evidence and findings

The student support system at NJIT is designed to promote student success. From Orientation to Career Development, there is an appropriate internal network and services available to help NJIT students achieve institutional and personal goals, and the unit efforts wisely recognize the unique nature of the institution's student population (i.e. academic interests and first in family in higher education). The Campus Center well serves as an effective gathering spot for the entire community. Student housing needs are met by the campus and surrounding community. Development campaigns for Athletics and Honors have been successful.

#### Observations

Positive signs of a supportive student service environment include:

- Development of the student center this decade and the resulting expansion of student clubs and activities,
- Investment in Greek Village housing,
- Use of peer institution bench marking,
- Upgrades to athletics and recreation and related facilities,
- Development of Learning Communities with block scheduling and small group learning,
- Committed and experienced professional staff,
- Student satisfaction with their "voice" in the campus in addressing concerns, grievances, and opportunities,
- Expanded tutoring and health/wellness/counseling services,
- An impactful career services program, with strong ties to student development and academic engagement, and an
- Effective financial aid unit.

#### Suggestions

Consideration should be given to a more mission-focused articulation of the student service system, better unifying the various efforts around stated goals and purposes.

The team supports campus continuing efforts to improve the academic advisement system, including centralization as appropriate.

The university should consider more focused goals for the athletic program, based on original aspirations for the program (increased national recognition and improved campus life).

A significant focus on campus life is relatively new to the university and should be further supported and resourced.

### Interviews Conducted

Interim Vice President for Academic and Student Services  
Staff from Financial Aid, Residence Life, Athletics, CAPE Center, Activities, International Students, and Counseling and Psychological Services

### Documents Reviewed

NJIT Strategic Plan 2010-2015  
Albert Dorman Honors College Strategic Plan, 2008-2012  
Learning Communities Website  
Working Group Report  
2004 Resolution on NCAA Division I Athletic Program  
Greek Life Brochure  
Student Financial Aid Policies  
Task Force on Retention and Graduation

## **Standard 10: Faculty**

*The institution's instructional, research, and service programs are devised, developed, monitored, and supported by qualified professionals.*

### **The University meets this standard**

#### Summary of evidence and findings

The faculty (tenured and tenure-track) and other instructional staff (lecturers and adjuncts) are well-prepared and qualified for the positions they hold as evidenced by their education and achievements in teaching, research, and scholarship. A doctorate or terminal degree is held by 99% of full-time faculty and 91% of part-time faculty and instructional staff.

Faculty are effective in securing research awards, which over the last 10 years have increased 45% from \$69.1M to \$100.5M. National and international recognition has come in the form of 7 prestigious Presidential Early Career Awards from the National Science Foundation (the highest national honor for young scientists and engineers), election as fellows of national societies in their fields, Fulbright and Guggenheim awards, and other honors.

Teaching effectiveness is a critical part of faculty performance and the Teaching, Learning, and Technology groups provide support to faculty and instructional staff. Faculty research is incorporated into the classroom through special topics courses and embedding research into existing courses. Research-active faculty teach 2-3 courses per semester in the classroom and the laboratory; University lecturers teach 4. Teaching effectiveness is measured through student evaluations, faculty evaluations, and other student learning assessment techniques.

Consistent with NJIT's mission of economic development, faculty participate in NJIT's Enterprise Development Center and partner more than 85 high-tech and life science companies to help grow their businesses. Faculty are actively engaged in service to NJIT as members of departmental, college, and university committees that form the basis for faculty governance and provide links and communication across units and between faculty and administrators and to their professions at the local, national, and international levels. Many faculty are also active in their professional societies and frequently serve on program and proposal review committees for the National Science Foundation and other government organizations, peer-reviewed journal manuscripts, and workshops to set research priorities and scope new research directions.

Faculty achievements in teaching, scholarship, funded research, and service are annually assessed according to departmental, school, and college standards of achievement and recognized by individual salary increases. Individual faculty performance scores are weighted to produce a composite score and are entered in the Faculty Performance-Based Salary Increase Distribution System (PBSIDS; introduced in 2010), a digitally-based system—with templates to collect data on those key measures. Developed by the Professional Staff Association/American Association of University Professors (PSA/AAUP) and the University administration, PBSIDS information also forms a data base for faculty activity reports and the examination of historical trends

The faculty design, maintain and update educational curricula through a clearly defined process initiated at the department level and continued through the university level with the Undergraduate Curriculum Review Committee or the Graduate Council. New programs are reviewed by the Committee on Academic Affairs before consideration and passage by the full faculty.

The Promotion and Tenure (P&T) process is an important part of maintaining standards of faculty performance and providing professional guidance. The recently revised *Faculty Handbook* contains clearly defined policies and procedures on appointments, promotions, tenure, and terminations. Regular reviews and written performance evaluations of teaching staff are conducted by P&T committees. The mandated third year review of tenure-track faculty is also an important evaluation of teaching, scholarly, and service contributions and acceptable progress toward promotion and/or tenure and provides an opportunity for guidance in meeting those goals. Several departments have also developed mentoring programs to support new faculty.

At NJIT, the basic structure for faculty governance has been established primarily in the activities of two faculty-led bodies: the Faculty Council and the P&T committees at both the department and Institute levels. In response to the 2007 periodic review report, the Faculty Council in consultation with the Provost reorganized and revised the *Faculty Handbook* to clarify Section 2: Policies and Procedures Regarding Faculty and Instructional Staff in such areas as the role of deans in the P&T process, procedures for restructuring departments and colleges, and faculty governance. The Policies and Procedures for faculty are clearly defined in the Faculty Handbook. The PSA/AAUP union plays a major role in contractual obligations to faculty and University lecturers; both are included in the bargaining unit. Terms of employment, time standards for non-reappointment, and other employment policies regarding University lecturers are detailed in the PSA/AAUP contract. A salary matrix for University lecturers is covered in a 2007 memorandum of understanding. Letters of contract for University lecturers and for adjuncts (part-time, term-to-term employment) clearly outline conditions of employment. As noted in this report on Standard 4, a Shared Governance Initiative is under discussion but neither the results of this process nor the mechanisms for assessment of the effectiveness of changes aimed at improving shared governance have been finalized.

In 2005, the university made a commitment to enhance the diversity of the faculty to mirror the percentage of African-American, Hispanic, and women terminal degree recipients. The NJIT ADVANCE project funded by the National Science Foundation has successfully been used at NJIT to identify, understand, and implement knowledge of Science, Technology, Engineering, and Mathematics (STEM) research networks to create positional advantages for NJIT women faculty to diminish their potential isolation and increase their information access, career advancement, and retention. Work/Life Balance initiatives include committees and chapters of national organizations that support diversity (Murray Center for Women in Technology, NJIT Committee on Women's Issues, American Council on Education-Network [NJIT Chapter], The Open Partnership Linking Women Researchers in Academia & Industry, Hispanic Heritage, National Society of Black Engineers).

**Faculty renewal:** To meet difficult financial challenges, declining state support, increasing numbers of planned retirements, and growing enrollments, the Faculty Separation Incentive

Program (FSIP) was developed and successfully implemented for senior faculty. Resources made available by the FSIP are being directed to a faculty replacement plan (*Building the Future*) in focus areas identified in the *Strategic Plan, 2010-2015* to maintain and grow NJIT's position as a leading public research university.

**Instructional Support:** The \$10.3 million recently allocated to upgrade instructional computer labs and electronic classrooms will be a welcome improvement to what the faculty have termed out of date/substandard instructional facilities.

**Faculty Diversity:** Over the last 10 years, 2002-2012, the number of female faculty has dropped from 47 to 37, Native American faculty from 1 to 0, and African-American from 13 to 10. The number of Hispanic faculty has remained constant at 4.

#### Suggestion

A Faculty Diversity Task Force should be assembled to (A) benchmark the best practices of successful universities, (B) develop a plan to raise campus awareness of issues and best practices, and (C) develop a diversity plan to include time lines and expected outcomes.

#### Interviews Conducted

Provost

Deans

Associate Provost Judith Redling

Associate Dean Shanthi Gopalakrishnan, School of Management

Nancy Steffen-Fluhr, Director, Murray Center for Women in Technology

Katia Passerini

#### Documents Reviewed

Institutional Profile 2011

Strategic Plan, 2010-2015

Faculty Handbook 2011 rev.

Provost's website documents and presentations:

Provost's Initiatives

Shared Governance Initiative

Faculty Hiring Opportunities/Building for the Future

Committee on Academic Affairs

Undergraduate Curriculum Review Committee

Work/Life Balance

*Advantages of the System of Shared Governance Proposed by the Shared Governance Steering Committee* (September 2011)

*Committee on the Status of Women Faculty at the New Jersey Institute of Technology: Report Presented to Provost* (2005)

*More than the Sum of its Parts: Advancing Women at NJIT through Collaborative Research Networks* (2011)

*Recommended Tactics for Achieving Increased Faculty Diversity* (2005)

Retreat Report, Department of Computer Science (2011)



Faculty Mentoring Program, Department of Electrical and Computer Engineering (2012)  
BOT Campaign Update 10.15.11 (from Moodle site)

*STATUS OF COMPREHENSIVE CAMPAIGN* **October 2011**

Professional Staff Association (2012) website

2007 MSCHE Periodic Review Report

## **Standard 11: Educational Offerings**

*The institution's educational offerings display academic content, rigor, and coherence appropriate to its higher education mission. The institution identifies student learning goals and objectives, including knowledge and skills, for its educational offerings.*

### **The University meets this standard**

#### Summary of evidence and findings

NJIT provides a large array of course offerings in support of its 47 undergraduate and 78 graduate degree programs and its 17 graduate certificate programs. New programs are approved through a comprehensive process intended to assure an appropriate balance between resources needed, benefits provided and consistency with NJIT's core academic values and mission. The process involves an originating department, an appropriate faculty curriculum review body, an administrative Committee on Academic Affairs, approval by the faculty and instructional staff, the *Board of Trustees*, and then by mandated state bodies. This chain of consultation, seemingly cumbersome, nevertheless appears to operate effectively, so that a number of new programs have been introduced since the MSCHE five-year review in 2007. Architecture, business, computing, and engineering programs are accredited by appropriate national bodies. NJIT maintains an "outcomes-based, evidence-centered review of all ... degree programs through the NJIT Program Review Process." The Process has evolved from a burdensome audit of numerical data to a forward-looking focus on course and curricular revision that can aid student learning, a commendable transition that should enhance faculty buy-in and program effectiveness. It is unclear if any of this assessment activity has resulted in closure or consolidation of unproductive or outdated programs.

Students are afforded opportunities for feedback on courses and programs through semesterly Student Senate sessions and through exit surveys. The Van Houten Library provides not only traditional volumes and study spaces, but also some essential databases and group study/project space. It places a central role in the NJIT Information Literacy effort.

#### Suggestions

Continue to work on incorporation of aspirational learning outcomes into course syllabi and program goals, and on keeping them current and challenging.

It is gratifying to create timely and forward-looking new programs and courses, but equally important for institutional integrity and efficiency to close or consolidate no-longer-needed or not-in-demand programs. A more systematic effort at academic house-cleaning should be undertaken from time to time.

Enhance efforts explicitly to incorporate GUR skills "within degree or certificate programs so that students may become proficient in these skills as they are applied within [their] particular field of study." (*Characteristics of Excellence*, p. 42)

Interviews Conducted

Provost

Associate Provost Judith Redling

Academic Deans

Dean Fadi Deek

Associate Dean Shanthi Gopalakrishnan, School of Management

Senior Administrators

Faculty and Working Groups

Documents Reviewed

Self-Study Report

College of Science and Liberal Arts Strategic Plan, 2009-14

## **Standard 12: General Education**

*The Institution's curricula are designed so that students acquire and demonstrate college-level proficiency in general education and essential skills, including at least oral and written communication, scientific and quantitative reasoning, critical analysis and reasoning, and technological competency.*

### **The University meets this standard.**

#### Summary of evidence and findings

The required NJIT General University Requirements (GUR) component of undergraduate education provides students with 45 semester hours of studies (approximately one-third of coursework for undergraduate majors) that amply and fulfill this standard and are well-integrated with NJIT Core Values (education as a life-long activity, dedication to service, acceptance of leadership, promotion of technology, encouragement of entrepreneurship, adherence to civility, celebration of diversity) and NJIT Institutional Learning Goals (research-based inquiry, ethical conduct, economic opportunity, collaboration, and engagement). Uniformly measured in the GUR are the following: writing, reading, and critical thinking; qualitative reasoning; and information literacy.

The GUR disciplines are clearly identified in the Undergraduate Catalog as is the philosophy that underlies them. The chart provided in the self-study clearly links the GUR to the standards for General Education and also outlines assessment measures for each GUR discipline and the use of that area. These two areas reflect the ongoing monitoring of the courses and outcomes to ensure that they meet the philosophy and purposes of GUR courses. GUR assessments are used for curricular improvement as is evidenced by changes that have been made since the last decennial review and by current minutes of the Undergraduate Curriculum Review Committee (UCRC). Changes include an increase in computing science to meet needs identified from evidence-based assessment that engineering students needed increased instruction in computer programming and applications and conversely that alternatives were needed for students in majors in which programming is not a significant activity. A two semester writing course was implemented to increase writing and oral presentation proficiency and to facilitate the transfer of English composition credits from NJ Community Colleges, where a full year sequence is the norm. A recent review affirmed the goals of the math GUR as fundamental to reasoning in the modern world and concluded that proficiency in calculus was no longer required across all degree programs; calculus was removed from the GUR. Most recently, the UCRC approved a significant assessment policy that requires all syllabi to have identified course learning goals and plans for assessment of student learning. The committee further agreed that GUR would be considered a program, and that each of the nine GUR disciplines would be sequenced into the program review process.

As originally implemented, most of the general education requirements were addressed in

introductory courses. It is gratifying to note that more structure has been introduced (e.g. new course model for computing, addition of English prerequisite to Cultural History requirement) as a consequence of evidence-based assessment efforts. These changes, along with the junior and senior-level Humanities courses, have helped to make the GUR more structured, more a program and less a congeries of isolated courses.

#### Interview Conducted

President

Provost

Associate Provost Judith Redling

Deans

Faculty Council Leadership

Committee on Academic Affairs

Undergraduate Curriculum Review Committee

Members of Working Group 7

Undergraduate Student leadership

#### Documents Reviewed

Undergraduate Catalogue

UCRC agenda and minutes

Faculty Council minutes

Assessment of the NJIT Core Competencies (2011-2012)

UCRC Course Proposal Form Resolution

### **Standard 13: Related Educational Activities**

*The institution's programs or activities that are characterized by particular content, focus, location, mode of delivery, or sponsorship meet appropriate standards.*

#### **The University meets this standard**

##### Summary of evidence and findings

NJIT has systematic procedures for identifying students not fully prepared for the curriculum challenges of the University. Students who do not meet the General University Requirements (GUR) take an examination to assess mathematics and writing skills. Based on examination, students are placed into credit bearing or non-credit bearing courses. An English as a Second Language Program is offered to assure language proficiency for international students. A task force was formed to study retention and remediation and a plan has been developed to reduce the remediation rate and the number of basic skills courses offered in a) English Composition and b) by the Department of Mathematical Sciences, while seeking to maintain successful course completion rates. Emphasis has been placed on the development of learning communities, designed to engage students within a network of faculty, advisors, and peer mentors focused on facilitating student success in mathematics and english composition. This multi-touch system is designed to improve first year retention while decreasing remediation. It will be important to monitor and assess the effectiveness of these strategies in the future.

NJIT is a pioneer in Continuing Professional Education, with enrollments of approximately 9,500 students in degree programs and 7,000 professionals studying through non-credit bearing on-line learning annually. Programs offer certificates and include non-credit offerings. Graduate Certificates are characterized by 12-credit/4 course units. Academic decisions and advisement involve the departments and faculty through which the individual courses are offered. A university Distance Learning Advisory Committee, composed of faculty from each College or school, is responsible for student recruitment and student assistance. Continuing Professional Education and Instructional Technology and Media Services provides professional development for faculty and instructors to assure the skills needed as online instructors.

On line learning is a traditional strength of NJIT, and is incorporated into the institution's system of governance and academic oversight to assure quality instruction. Evaluation procedures through the NJIT Framework for Quality Assurance and ELearning, and through the use of the Quality Matters rubric for online course design, offer faculty and instructional staff evaluation tools to assure quality instruction through online courses.

A branch campus in Beijing, China was established in 2004 to provide an M.S. in Engineering Management. The program offers an NJIT degree. In 2009, MSCHE reviewers visited the campus and confirmed that the campus was within the scope of NJIT accreditation. A collaborative agreement between NJIT and Amity University in India has recently been developed and approved by the MSCHE Executive Committee in 2011.

The Division of Career Development Services administers experiential learning initiatives. Programs include internships and civic engagement. Approximately 1,700 students participate

annually, roughly 28% of undergraduates or 20% of total students. All experiential learning is linked to classroom experiences and includes workplace assignments, on campus research, community and public service, or capstone course projects. In addition, NJIT offers a credit bearing co-op program with 3 credits for each co-op course completed successfully. Each college participates in this program and the courses include faculty defined learning outcomes. The University has merged professional and co-op advising so that students learn about the co-op opportunities earlier in their academic careers.

### Suggestions

Mechanisms to assure the monitoring and success of efforts to reduce remediation rate while assuring continued success in course offerings should be designed and implemented in the future. Given the nature and needs of the student body, and the current graduation rates of 55%, this effort could prove to be challenging.

Implement a system for assigning and tracking faculty development in skills for online teaching and set annual targets to increase faculty participation.

### Interviews Conducted

Provost

Deans

Gregory Mass (Director, Division of Career Development Services)

Gale Spak (Associate Vice President of Continuing and Distance Education)

### Documents Reviewed

Institutional Profile Report (2011)

The Report of the Governor's Task Force on Higher Education (2011)

Final Report of the Task Force on Undergraduate Retention and Remediation (2011)

NJIT Framework for Quality Assurance in ELearning (2010-2012)

## **Standard 14: Assessment of Student Learning**

*Assessment of student learning demonstrates that, at graduation, or other appropriate points, the institution's students have knowledge, skills, and competencies consistent with institutional and appropriate higher education goals.*

### **The university meets this standard**

#### Summary of Evidence and Findings:

- The institution uses a variety of measures to assess student learning outcomes; they include but are not limited to the ETS Proficiency Profile and ISkills.
- The institution employs a number of surveys to measure indirect measures of student learning outcomes in addition to grade report distributions
- The institution has adopted a Program Review Process with four specific objectives; to provide a forum for the assessment and improvement of all degree granting and university programs; to demonstrate continuous improvement in the delivery of educational curricula; to promote a culture of assessment by building a cohesive assessment strategy; and to create a central, web-based repository for assessment design and supporting documents.
- Faculty syllabi are collected each semester and analyzed

#### Significant Accomplishments, Significant Progress, or Exemplary/Innovative Practices:

- The institution was a pioneer in electronic storage of student design work in the College of Architecture; portfolio approach to student writing in the College of Science and Liberal Arts; and the NJIT Program Review Process
- In 2008, a rigorous study was undertaken by the IRP and Department of Humanities (after the loss of the New Jersey Basic Skill Test) to successfully ascertain the value of the writing portion of the SAT for freshmen writing placement.
- The College of Science and Liberal Arts developed a system to “close the loop” on General University Requirements through on-line portfolios.
- In 2009 the institution adopted an information literacy assessment rubric (internally developed by NJIT librarians) to measure program effectiveness as evidenced by documents in a sample of student portfolios.
- The institution employed learning communities during the fall 2011 semester.
- The program review process includes a schedule that includes reviewing ten programs each semester according to a formal structure including one page summaries and a documented report that encompasses several key factors pertinent to the NJIT institutional learning goals.
- The 2010 strategic plan incorporated an objective to refine outcomes assessment efforts in student learning to achieve continuous curricular improvement. Seven tactics were proposed with corresponding metrics to measure progress toward meeting that objective
- A structured process is in place to internally review all degree granting programs on a five year cycle.
- The institution has effectively utilized two NSSE surveys by benchmarking them with Carnegie Peers, the writing consortium and all NSSE participants.



- The Institutional Research and Planning Office generate a variety of data on a number of topics directly or indirectly related to student outcomes assessment.
- The institution wishes to be a national leader in student learning assessment among science and technology universities.

### Suggestions

The institution should investigate and employ the concept of curriculum mapping as part of its learning outcome process.

The institution needs to formally focus on developing and tracking student learning outcomes on the graduate level.

When conducting various assessment studies, the institution should consider increasing sample sizes prior to generalizing results to the entire student population.

The institution should consider further support for student learning outcome coordination.

The team supports the institution's suggestion to ensure the sustainability of student learning assessment by enhancing the existing model and strengthening the culture of measurement and accountability

The team supports the institution's suggestion to improve analysis and reporting of data in support of assessment of student learning outcomes to drive curricular transformation and to inform shareholders of assessment results.

### Interviews Conducted

Provost

Deans

Director, Institutional Research and Planning

Interim Dean, Albert Dorman Honors College

### Documents Reviewed

Table 14.0. The NJIT Integrated Assessment System

Table 14.0. Transformation of Student Learning Assessment at NJIT

Table 14.1 Integrated Assessment Model at NJIT

Table 14.2. NSSE Results, 2008 and 2010

Table 14.4. NSSE Results, Writing Across the Curriculum, 2010

Dees, Perry, and Norbert Elliot. Assessment of Writing Ability at a Science and Technology University. Implementing an Effective Accreditation Process. Audience:

Advanced. Middle States Commission on Higher Education Annual Conference. Philadelphia, PA. December 10, 2010.

Deess, Eugene, Fadi Deek, Norbert Elliot. *NJIT Program Review Guidelines*. Newark: NJIT, 2011. Web.

(IRP) Institutional Research and Planning. *Assessment of NJIT Core Competencies*. Newark, NJ: NJIT, 2010. Web.

IRP (Institutional Research and Planning). *IRP Reports*. Newark: NJIT, 2011. Web.

Subcommittee on Assessment. *Assessment of the NJIT Core Competencies*. Newark: NJIT, 2011. Web.

**Podcast 10:** The NJIT Matrix of Student Learning and Assessment

**Podcast 12:** The NJIT Student Learning and Assessment Documentary Project

Program Review Process

[http://www.njit.edu/middlestates/docs/2011/NJITProgram\\_Review\\_Guidelines\\_8-03\\_2011\\_Final.pdf](http://www.njit.edu/middlestates/docs/2011/NJITProgram_Review_Guidelines_8-03_2011_Final.pdf)

[http://www.njit.edu/middlestates/docs/2010/SubCommRpt\\_Oct720101\\_\\_2\\_.pdf](http://www.njit.edu/middlestates/docs/2010/SubCommRpt_Oct720101__2_.pdf)

<http://www.njit.edu/president/docs/2010/2010-02-24-program-review.pdf>

<http://csla.njit.edu/strategicplan/index.php>