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Educating Professionals For Leadership In A Global Economy

*Self-Study and Strategic Plan
1992*

**Prepared for the Commission on Higher
Education of the Middle States
Association of Colleges and Schools**



**New Jersey
Institute of
Technology**

New Jersey Institute of Technology

**Educating Professionals
For Leadership In
A Global Economy**

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MISSION STATEMENT

New Jersey Institute of Technology is a comprehensive technological university committed both to anticipating and responding to change. The university's primary function is to broadly educate a wide range of students to achieve their full human potential, preparing them for entry into professional positions, continued formal studies and lifelong learning. The university seeks to expand knowledge through research and scholarly activities with a strong applications orientation.

As a public institution, NJIT is closely linked to the State's economy. As an urban institution, NJIT is an active member of a complex and dynamic community. In all elements of its mission, the university focuses on the development of the technological enterprise, strives to be responsive to its many constituencies and aspires to the highest standards of excellence.

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PLANNING /SELF-STUDY COMMITTEE MEMBERSHIP
PLANNING/SELF-STUDY TASK FORCE MEMBERSHIP
BOARD OF TRUSTEES AND UNIVERSITY ADMINISTRATION
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Executive Summary

New Jersey Institute of Technology entered its second century just over a decade ago, immediately prior to the last Middle States Association visit. Built upon the solid foundation established over the first one hundred years, the last ten have been a period of unprecedented growth and development. As a result of a carefully planned evolutionary process, NJIT has assumed full status as one of the State's three public research universities, among other achievements.

Institutional progress has been characterized by continued strengthening of traditional areas and dramatic growth in areas of increased emphasis. The principal thrusts outlined in previous plans and accreditation reports have served the university well and, accordingly, are the foci of this most recent self-study, which is also a strategic plan for NJIT's future. It is a comprehensive analysis of the institution's accomplishments, strengths and weaknesses within the context of external and internal environments, leading to a set of goals, objectives and strategic steps to take NJIT into the next century.

NJIT is fully committed to a strong undergraduate mission, as evidenced by student recruitment efforts and curricular developments. Following a decline in freshman enrollment during the first half of the decade consistent with national trends, there has been a twenty percent growth in the incoming freshman class over the last five years, owing largely to increased attention to enrollment management. Special efforts have been directed at student diversity, with minorities comprising nearly 23 percent of the full-time undergraduate population in Fall 1991. The enrollment of women at NJIT has lagged behind the national average, however, for locational and other reasons. The recruitment and

retention of women is, therefore, a high priority, with new strategies planned to augment existing programs. The initial results are positive, with the enrollment of freshman women at an all-time high of 17.5% this year.

Undergraduate students have also become more diverse with respect to academic preparedness. There is both a strong and growing Honors Program and an increasing number of economically and educationally disadvantaged students. Enrolling and educating the latter group is viewed by NJIT as not only a matter of equity appropriate to a public, urban university, but critical to the nation's economic future as well. NJIT's extensive efforts in the area of pre-college education have gained national recognition for their innovative approaches and successful outcomes. Scholarship aid to maintain the balanced student body is an issue of grave concern. With state and federal sources covering a diminishing proportion of the cost of education, NJIT is looking to increase institutional funding for need-based support through the development of a scholarship endowment.

A strong curriculum, regularly evaluated and revised, is critical to the success of all undergraduate students. NJIT seeks to maintain a balance between professional and general education. In the last five years, more than a dozen new degree programs were introduced, a fourth college — the School of Industrial Management — was established, and the Co-operative Education program was significantly expanded. Innovative changes in the delivery of general education have resulted from the introduction of core requirements and a flexible system of curriculum modification. Continued attention is being focused on communication skills, critical thinking, ethics, global perspectives, and support programs for incoming

students who are underprepared for the typically rigorous freshman curriculum.

Building a strong program of graduate studies and research is another area of institutional emphasis, although clearly not at the expense of the undergraduate experience. There is a sense, in fact, that classroom vitality is enhanced by faculty actively engaged in state-of-the-art research. The identification and promotion of superior undergraduate teaching remains the subject of continuing attention.

Graduate students presently account for approximately one-third of the total enrollment, up from sixteen percent a decade ago. During that same period, research funding increased by nearly 600 percent. The rapid development in both areas is the result of careful planning and implementation. New graduate programs and research projects are focused in areas identified as critical to the State's and nation's economies. The establishment of research centers in such fields as environmental engineering and science, manufacturing systems and transportation studies are central to this approach. New and proposed policies and practices are designed to encourage the continued development of research and graduate programs at NJIT. These include administrative reorganization of Graduate Studies, increasing the number of doctoral students, a policy on the establishment of research centers, and further diversification of funding sources for research.

Faculty hiring has been consistent with the growth in research and graduate studies. Nearly 100 new faculty members have joined NJIT in the last five years, many of them in targeted specialty fields. The underrepresentation of certain groups is a continuing concern, however. Efforts to increase the number of minorities and women include the creation of extra faculty lines for targeted hires without counting them against budgeted lines and the recruitment of NJIT bachelor's and master's degree recipients and support of their doctoral studies.

The use of new technologies has become

ubiquitous at NJIT. Special emphasis has been placed on the development of a computing intensive campus, with microcomputers distributed to all incoming freshmen, full networking and the integration of computing across the curriculum. Advanced computing programs are also available to facilitate library use and registration.

Another area of emphasis is related to NJIT's role as an urban university. Two recently established offices provide evidence of this commitment. The Office of Economic Development is directed by a vice president with responsibility for an array of business assistance initiatives and the development of plans for a science park in Newark's University Heights community. The Office of Public and Community Service links students, faculty and staff with numerous service activities.

Continued development of the physical plant to support all of these activities is yet another area of emphasis. New facilities have been designed and developed primarily to enhance the quality of life of the existing NJIT community, rather than to foster expansion. These include additional residence halls, a new library, and expanded classroom and laboratory capacity.

An array of increased services has accompanied the expansion of programs and facilities. In addition to the rapid growth in computing services, sophisticated media services have been introduced, campus security has been significantly upgraded, additional internal and external communications organs have been introduced, construction is to begin shortly on a new parking deck, and plans are being developed for a child care facility. Expectations with respect to university services have also risen, however. This is an area of continuing university concern, as evidenced most recently by the formation of a broadly representative committee on campus life.

Consistent with the university's growth and development, fundraising activities have increased significantly. NJIT's largest capital

campaign was concluded in 1990, one year ahead of schedule and, at \$34 million, nearly \$10 million over the original goal. Recent efforts have been directed at the development of private giving and federal support. In just over a year, NJIT received its first three \$1 million individual gifts, and federal funding has nearly quadrupled in the last three years. A campaign to expand NJIT's endowment fund is the newest advancement initiative.

The continuing challenge is not only to maintain and effectively utilize the resources developed over the past decade, but to maintain the vision of continued progress in a period of economic decline. The development of additional funding sources to meet escalating student financial needs and an increased emphasis on cooperative efforts with other institutions, most notably Rutgers University - Campus at Newark, are key strategies to achieve these objectives.

NJIT also recognizes the importance of remaining accountable to its many constituencies. A multi-tiered program of outcomes assessment is in place. The development of internal assessment systems specific to the university's unique needs and programs is the newest and most innovative element. Improved integration of the various elements of assessment is an appropriate next step. The budget process is another accountability system and is closely linked to institutional planning. Ongoing efforts to refine the process are directed primarily at the need for more effective universitywide participation.

This self-study is yet another step in the continuing process of institutional self-examination. The process was designed not only

to review achievements and analyze strengths, but to identify areas requiring improvement as well. Attention was focused on the need to serve women more effectively, to recruit a more diverse faculty, to address concerns related to the administration of the rapidly growing graduate programs, and to develop a library that more fully meets the needs of a research university. The process has been very effective. There was broad-based participation and an urgent attention to the problems identified. Such critical early recommendations as increased attention to the hiring of a University Librarian and the upgrading of the senior research officer to a vice presidency were, in fact, implemented before completion of the final plan.

NJIT recognizes that excellence results from a process rather than from a single program. This is consistent with the new emphasis on Total Quality Management, an approach being carefully evaluated for implementation at the university. It is also reflected in the continuing efforts to identify new program areas and research themes consistent with the university's mission, critical to the State's future and important to the education of professionals who will provide leadership in a changing world economy.

To ensure the human, physical and financial resources necessary for NJIT to fulfill its mission, goals and objectives, the university must have a profile appropriate to its accomplishments and vision. Increased national status is thus a continuing goal, even in this era of fiscal constraint.