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UNDERGRADUATE ENROLLMENT

Introduction

Enrollment trends at NJIT largely reflect demographics, the market demand for programs offered, and the economy. Over a six-year period beginning in 1982, full- and part-time undergraduate enrollments experienced a decline of approximately seventeen percent from an all-time high of 5,672 to 4,704 in 1988. This was largely attributable to a decrease in the size of the traditional college-age cohort and, more particularly, a drop of as much as twenty-five percent in the eighteen to twenty-year-old population of the five northern New Jersey counties from which NJIT has historically attracted the largest proportion of its students. A modest decline in the demand for engineering education nationally may also have contributed to the downward trend.

The trend now appears to be reversing. Despite a continued decline in the number of recent high school graduates, full-time freshman enrollment began to increase in 1988 following a low of 462 in 1987; the 1991 incoming freshman class of 559 represents a four-year increase of more than twenty percent. The lowest point in total undergraduate enrollment occurred in 1988, with nearly a four percent increase over the subsequent three years; full-time students accounted for the most growth at 12%. (Table 5.1)

Other trends in undergraduate enrollment worth noting include a steady increase in ethnic diversity. As Table 5.2 indicates, under-represented minorities (Blacks and Hispanics) have constituted a growing proportion of NJIT's full-time undergraduate population, comprising 12.0% of the total in 1981, 20.2% in 1986 and

Table 5.1
Full-Time First-Time Freshmen and Total Undergraduate Enrollment
Fall 1981 – Fall 1991

Year	Freshmen		Total Undergraduate		Total (Undergraduate and Graduate)	
	#	% change	#	% change	#	% change
1981	658	-.15	5,405	4.40	6,483	4.55
1982	687	4.41	5,672	4.94	6,874	6.03
1983	574	-16.45	5,663	-.16	7,285	5.98
1984	502	-12.54	5,543	-2.12	7,235	-.69
1985	475	-5.38	5,375	-3.03	7,495	3.59
1986	465	-2.11	5,191	-3.42	7,591	1.28
1987	462	-.65	4,983	-4.01	7,711	1.58
1988	510	10.39	4,704	-5.60	7,668	-.56
1989	607	19.02	4,847	3.04	7,801	1.73
1990	540	-11.03	4,957	2.27	7,670	-1.68
1991	559	3.99	4,876	-1.63	7,397	-3.56

Percent Change: Percentage change between current and prior year

Table 5.2
Full-Time Undergraduate Minority Enrollment
Fall 1981 – Fall 1991

Year	Black			Hispanic			Total Full-Time Undergraduate		
	#	%	% change	#	%	% change	#	%	% change
1981	191	5.65	-16.59	214	6.33	9.18	3,380	100.00	6.26
1982	278	7.81	45.55	278	7.81	29.91	3,558	100.00	5.27
1983	294	8.42	5.76	319	9.14	14.75	3,491	100.00	-1.88
1984	270	8.30	-8.16	315	9.68	-1.25	3,254	100.00	-6.79
1985	279	8.61	3.33	346	10.68	9.84	3,239	100.00	-.46
1986	287	8.99	2.87	356	11.15	2.89	3,192	100.00	-1.45
1987	312	10.18	8.71	362	11.81	4.62	3,064	100.00	-4.01
1988	284	9.74	-8.97	354	12.14	-2.21	2,915	100.00	-4.86
1989	320	10.61	12.68	373	12.37	5.37	3,016	100.00	3.46
1990	344	10.93	7.50	395	12.55	5.90	3,147	100.00	4.34
1991	335	10.32	-2.61	398	12.24	.76	3,247	100.00	3.18

Percent: Percent of full-time undergraduate enrollment

Percent Change: Percentage change between current and prior year

22.6% in 1991. Much of the growth occurred during years when minority enrollments were decreasing at the state and national levels. NJIT's record of minority enrollments in engineering is, in fact, among the strongest in the nation. In 1990, NJIT ranked twenty-first among the more than 250 colleges that offer engineering majors with respect to the average freshman enrollment of minority students. Seven of the other top schools were historically Black colleges and universities, and one had an almost exclusively Hispanic enrollment. Excluding these institutions, NJIT effectively ranked fourteenth in the nation.

The full-time undergraduate proportion of Asian students also increased, from 11.5% in 1981 to 18.4% in 1991, as did the international student population (1.9% to 6.8% in the same years). These trends have contributed to a rich cultural diversity on campus.

In the first half of the decade, the percent of full-time undergraduate woman students also slowly increased, from 11.5% in 1981 to 15.5% in 1986. Over the subsequent years, however, this number appeared to stabilize. The

proportion of women in NJIT's engineering programs alone is just over twelve percent, compared with a national average of approximately 15.0%. The need to recruit additional women into the field is thus a national problem; it is exacerbated at NJIT largely as a result of its urban location. On an encouraging note, women comprise 17.5% of the 1991 full-time first-time freshman, an all-time high.

Transfer students also account for a significant proportion of the undergraduate enrollment. The number of new transfers tends to fluctuate, but on average they comprise approximately half of NJIT's student intake annually.

Finally, with the opening of the third residence hall, the proportion of full-time undergraduate students living on campus increased to 25%. The movement toward a more residential campus is consistent with the university's plan to attract more students who live beyond commuting distance.

Enrollment Management

The recent positive enrollment trends are a result of a considered decision to engage more actively in enrollment management. In 1987, the position of Dean of Enrollment Planning was established. At that time, Enrollment Planning included undergraduate admissions, registration and records, and financial aid. This structure was broadened in 1989 to include graduate admissions and the marketing of off-campus credit bearing courses and degree programs.

Institutions that embrace the enrollment management concept seek to influence public perception, meet market demands for educational programs, provide a positive institutional climate, and strive for pricing competitiveness, both through tuition sensitivity analysis and financial aid strategies. At NJIT, enrollment management is closely linked to the university's planning process. An enrollment forecasting model has been developed, which provides semester-by-semester forecasts of future enrollments and includes a tuition revenue component in order to establish fair and competitive tuition pricing.

The marketplace for New Jersey students pursuing higher education is very competitive. Nearly 40% of the State's high school graduates who attend college do so at out-of-state institutions. Among NJIT's in-state competitors, Rutgers University captures a large percentage of New Jersey students and Stevens Institute of Technology attracts many high ability students through a strong financial aid program and a marketing strategy which emphasizes Stevens' reputation. This competition is considered very positive. NJIT also regularly crosses applications with some of the finest institutions in New England and the Middle Atlantic states, e.g., MIT, RPI, NYU, VPI, Georgia Tech, and Cooper Union.

According to research studies conducted by the Office of Enrollment Planning, prospective freshmen who apply to NJIT do so because of the university's strong academic reputation, the range of majors, low tuition, financial aid, and cooperative education program.

Accepted freshmen who do not enroll at NJIT most often cite location as their reason for selecting another institution. Another factor influencing enrollment planning at NJIT is the previously cited decreasing college-age population in the university's traditional primary markets (Essex, Hudson, Middlesex, Bergen, and Union Counties). At the same time, population increases have been occurring in parts of New Jersey where the university has not attracted students in significant numbers (Ocean, Burlington, Atlantic, and Mercer Counties).

This combination of factors has resulted in important changes in marketing strategies and activities. Increased emphasis is being placed on high school visitations, as well as information programs for students and their parents, guidance counselors, and school superintendents from throughout the State. Overnight campus experiences have also been introduced in order to give prospective students a better sense of the campus environment and to step up recruitment in regions where NJIT is less well-known.

Student Diversity

To attract and serve the range of students who attend NJIT, the university offers a number of programs directed at specific populations. These include initiatives in support of underrepresented minorities, women, honors students and transfers.

Programs for African American and Hispanic Students

— NJIT's strong record of minority enrollment is the result of a comprehensive, integrated effort that serves the educational continuum from elementary through graduate school. There are three key components to the minority initiative and a number of related programs and activities. The Center for Pre-College Programs (see Chapter X), the Educational Opportunity Program (EOP), and Project CAP, a career advancement plan for women and minorities, operate independently but share common goals and similar strategies.

Because many undergraduate minority students at NJIT come from economically and educationally disadvantaged backgrounds, the majority are enrolled in EOP. The number of EOP students has approximately doubled since 1982 when 300 students were enrolled in the program. Established in 1968 as the Engineering Opportunity Program, this was one of the earliest programs in the United States designed to increase the number of minorities in engineering. It was re-named in 1975 when the university began to receive support from the State's Educational Opportunity Fund. The name change also reflected the inclusion of the university's other majors in the program.

In addition to financial support, EOP offers a number of support programs:

- The University Learning Center, staffed principally by trained peer tutors, provides assistance to students and faculty in most academic areas. Operated under the auspices of the EOP Office, the Center provides mandatory tutoring to EOP and conditionally admitted students; it also works closely with faculty who teach first year courses and offers its services to all students upon request.
- The Pre-Freshman Summer Residency is a required intensive eight-week program to orient students to NJIT, motivate them and identify academic weaknesses.
- The BETAA Scholars Program (Black Engineering and Technology Alumni Association) offers full tuition and other support to Black EOP students who are graduates of Newark public high schools. Encouraged in its initiation by BETAA alumni, the program provides one-to-one mentoring by members of the Association, practicing professionals who were once students in the EOP program.
- The Newark Scholars Program also operates under the auspices of the EOP office, although this scholarship program serves Newark high school students who by traditional measures are more academically qualified than the typical EOP student. Owing to their disadvantaged backgrounds, however, program participants require financial assistance and special support programs. An important objective of this initiative is to enroll more regularly admitted minority students.
- The Undergraduate Research Experience is a new state-funded initiative designed to increase the number of minority students in engineering who pursue graduate degrees in science and engineering. It supports students working with faculty on research projects throughout the academic year, as well as a Science Immersion Program offered during the summer and the winter intersession.

The following externally funded programs have been offered by EOP in the past with considerable success. Innovative approaches to fund raising are being explored with the intent of reinstituting the programs as soon as possible.

- The Freshman Winter Intersession is a two-week program designed to address first-semester academic problems and minimize further academic difficulties.
- The Math and Science Articulation Program is a six-week summer residency program for students planning to transfer from community colleges.
- The Minority Engineering Scholars Program is designed to attract talented minorities into engineering; it offers a combination of instruction and work experience.

- The Minority Advising Program is a mentoring program that matches upper division students with professionals, preferably EOP alumni, working in the student's major field.

Project CAP is administered by the Office of Co-op Education and Internships. The program offers scholarships and an array of career services to African Americans, Hispanics and women who occupy the middle ground economically and academically. These are students who tend to fall through the cracks because they do not qualify for any special programs. The centerpiece of the program is job preparation and co-op placement. Participants are also offered a special pre-freshman orientation program and provided corporate mentors.

Programs for Women — NJIT has not had similar success in enrolling women in recent years, particularly in the College of Engineering. The reasons are complex. Historically, this university and the profession of engineering have been male dominated. Not only are young women discouraged at an early age from pursuing careers in science and engineering, but those who persist encounter attitudinal and behavioral obstacles throughout their professional education and beyond. At NJIT, the problem may also be a function of changes in institutional culture, as well as location. The transition in barely two decades from a small homogeneous college to a much larger research university has resulted in an old guard generally inclined to resist change and a number of more recent hires accustomed to non-Western cultures. It is reasonable to expect among both groups instances of sexual stereotyping and related behaviors, not necessarily intended but nevertheless unacceptable. The problem is further compounded at NJIT by negative perceptions of Newark among prospective women students and their parents.

Notwithstanding these obstacles, the very fact of steady growth in the enrollment of women between 1971 and 1986 is evidence of NJIT's long-term commitment to serving women and the success of its programs in meeting that goal. The increase in the number of women in the freshman class this year is testimony to a willingness to continue to explore new ways to make NJIT more inviting and hospitable. The summary that follows includes long-standing and very recent programs directed at changing both perceptions and reality. (The CAP Program described above also enrolls a large number of women.)

- FEMME (Females in Engineering - Methods, Motivation, Experience) is a four-week summer program for local students entering tenth grade. It exposes the participating young women to successful role models, introduces them to career opportunities in engineering and science, and provides hands-on laboratory experiences.
- The Residence Life program was designed, in part, to increase the population of women on campus. From the opening of the first dormitory in 1979, women have comprised a significant proportion of NJIT's residential population; they presently account for approximately 40% of the nearly 1,000 students living on campus.
- The Associate Dean of Student Services is designated as the university's advocate for women. She is available to advise and support women in any aspect of life. A search will begin shortly for an individual to fulfill this function on a full-time basis.
- NJIT maintains a local chapter of the Society of Women Engineers, a national professional organization open to all women students.

- The Big Sister Program matches upper class women with first year students. The big sisters write to incoming freshmen before they arrive on campus and offer organized and informal events throughout the academic year.
- Women Students Over 25 is a program that provides professional and social support to all women students over the age of twenty-five.
- Athletics facilities and programs for women have been significantly upgraded. This includes an addition to the gymnasium in response to the needs of a growing female population on campus and the expansion of intercollegiate and intramural teams for women.
- The Task Force on the Recruitment of Women was organized in 1991 to make recommendations for recruitment materials directed at women and to identify problem areas which might discourage women from enrolling at NJIT and suggest possible solutions. Its report has been accepted by the administration, with implementation steps being planned.
- Women in Engineering, Science and Technology (WEST) was established in July 1991 with a grant from the National Science Foundation. It seeks to increase the number of woman transfers from community colleges in New Jersey to NJIT. Working with Bergen and Middlesex County Colleges, the WEST office coordinates seminars and career days and a telecourse on the principles of engineering. It also helps community colleges to recruit more women into pre-engineering and science curricula.
- Beginning in Fall 1991, all freshman women are scheduled for three interviews during the academic year to explore

perceptions, identify areas of concern and address needs.

University Honors Program — Established in 1985, the Honors Program enrolls forty to fifty high ability freshmen each year. The combined average SAT score for these students is nearly 1300. The majority also rank within the top six percent of their high school graduating class, and approximately seventy percent were designated as either New Jersey Edward Bloustein Distinguished Scholars or Garden State Scholars. Program participants are offered special honors courses and seminars, a colloquium series, financial incentives, intensive freshman advising, a designated lounge, a designated computer room, and the opportunity as upper division students to take graduate level seminars and work with faculty on research projects. A 1989 addition to the program was the seven-year accelerated BS/MD/DMD option in cooperation with the University of Medicine and Dentistry of New Jersey.

Programs for Transfer Students — Formal agreements of articulation have been developed with almost all two-year institutions in New Jersey. Joint admissions programs are also currently in place with four community colleges. To ensure an efficient transition for these students at NJIT, a counselor in the Office of Enrollment Planning is assigned responsibility for transcript review, and the Office of Freshman Studies offers academic and other support.

Pricing and Financial Assistance

NJIT's tuition is the highest of any public university in New Jersey and ranks in the top 5% of four-year public institutions in the nation. This is primarily a function of our mission as a technological university with higher faculty salaries and the costly equipment, laboratories, and specialized facilities which characterize such institutions. Nevertheless, NJIT's tuition structure compares favorably with technologically-oriented universities in the

Northeast, all of which are private. The long-term pricing strategy is designed to enable NJIT to continue to be affordable to low and middle income families. It is based on the following assumptions:

1. Tuition rates should be consistent with NJIT's mission as a public university to serve a predominance of undergraduate students, that is, three times the graduate student population.
2. As a state university, a predominance of graduate and undergraduate students should be state residents; the tuition rates should reflect this priority.
3. In accordance with Board of Higher Education policy, for reasons of equity and affordability, the undergraduate tuition should not exceed 30% of the Educational and General costs per student (E & G); undergraduate tuition for non-residents should be approximately double; and graduate tuition levels should be approximately 45% of cost.
4. Tuition rates should be affordable and competitive with other public institutions, in- and out-of-state, in order to attract a high quality and diverse student population.

Financial aid programs reach approximately 75% of the university's full-time undergraduate students. Unfortunately, state and

federal funding sources are covering an increasingly smaller percentage of college costs and the burden is shifting to students' families and NJIT. This trend is likely to continue. Accordingly, an important goal is to increase institutional funding for need-based grants and academic scholarships through a major commitment to the development of a Scholarship Endowment.

Framework for Marketing

As NJIT projects, plans and manages undergraduate enrollment for the 1990s and beyond, the university will be guided by four priorities. Recruitment and marketing strategies have been developed by the Office of Enrollment Planning to achieve these:

1. Maintaining an undergraduate student population of approximately 5,000 students with a minimum of 3,000 full-time students.
2. Increasing the market share in northern New Jersey and developing new markets in growing New Jersey counties and contiguous states.
3. Maintaining a strong proportion of Black, Hispanic, and Asian students.
4. Increasing the percentage of full-time enrolled women.