



STANDARD 8: STUDENT ADMISSION AND RETENTION



REPORT OF WORKING GROUP 5: ADMISSION AND RETENTION: DESIGNING THE STUDENT-CENTERED CAMPUS

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8.0 WORKING GROUP ASSESSMENT CHECKLIST FOR STANDARD 8

FUNDAMENTAL ELEMENTS OF STUDENT ADMISSIONS AND RETENTION	TEAM EVALUATION
<i>(From Characteristics of Excellence in Higher Education: Requirements of Affiliation and Standards of Accreditation. Philadelphia, PA: MSCHE, 2009)</i>	4=EXEMPLARY 3=EMERGING EXCELLENCE 2=MEETS STANDARD 1=DEVELOPING COMPETENCY
➤ admissions policies, developed and implemented, that support and reflect the mission of the institution;	3
➤ admissions policies and criteria available to assist the prospective student in making informed decisions;	3
➤ programs and services to ensure that admitted students who marginally meet or do not meet the institution's qualifications achieve expected learning goals and higher education outcomes at appropriate points;	3
➤ accurate and comprehensive information regarding academic programs, including any required placement or diagnostic testing;	3
➤ statements of expected student learning outcomes and information on institution-wide assessment results, as appropriate to the program offered, available to prospective students;	2
➤ accurate and comprehensive information, and advice where appropriate, regarding financial aid, scholarships, grants, loans, and refunds;	2
➤ published and implemented policies and procedures regarding transfer credit and credit for extra-institutional college level learning; and	4
➤ ongoing assessment of student success, including but not necessarily limited to retention, that evaluates the match between the attributes of admitted students and the institution's mission and programs, and reflects its findings in its admissions, remediation, and other related policies.	3

8.1 INTRODUCTION

8.1.1 *Précis: The Emerging NJIT Model of Growth and Sustainability*

The first element of NJIT's mission, as New Jersey's science and technology university, is "excellence ... in undergraduate, graduate, and continuing professional education, preparing students for productive careers and amplifying their potential for lifelong personal and professional growth" (NJIT, *Mission*, 2011). Admission, with the multiple aspects of formulation and statement of appropriate admissions criteria, is associated with the following: educational outreach to the broader community; efficient application and acceptance procedures; provision of financial aid (within the resources of the institution); clear policies with respect to transfer from other institutions; informed advisement; and provision of other timely and effective student support services. Each is central to the achievement of this component of NJIT's mission. In short, at NJIT we seek to attract students to careers in science and technology and then to provide a comprehensive environment that will guide them to the successful completion of their studies, prepared to commence productive professional careers in their chosen field.

Perhaps the best single metric of success in this regard is the graduation rate, which is still below 60 percent for entering freshmen in a six-year time frame. Our assessment, as documented in our Working Group Report, is that NJIT needs to examine and revise admission, retention, and student services in a comprehensive manner to achieve this mission better. Barriers to progress toward graduation need to be identified, and best practices, identified by evidence, need to be uniformly adopted. In doing so, NJIT will build on strong existing programs for reinforcing the progress of students of diverse backgrounds and of recent supporting curricular changes in mathematics, computing, and humanities undertaken with a view to increasing the graduation rate and decreasing time to graduation.

To ensure a clear understanding of the complexities of educating students in fields requiring advanced mathematics, science, and language skills, on February 3, 2011, President Altenkirch created a Task Force on Undergraduate Retention and Graduation. The Task Force was charged to examine recent national findings on college completion rates, benchmark NJIT's graduation rate, and identify strategies to improve that rate. The final report of the Task Force was submitted on May 15, 2011, and included a vision, strategies, tactics, and measures that are designed to increase the graduation rate for the state's sole public institution devoted to advanced instruction and research in the applied sciences and technology. The report is analyzed in Section 8.2.16 of this Working Group Report and serves as evidence of the NJIT model of continuous quality improvement through planned, collaborative, and timely action in the service of admission, retention, and graduation.

Because of the complexity of the topic at hand, we have organized our report into the following sections: a *profile* of the NJIT student population; a delineation of *challenges* to recruitment, retention, and graduation; an identification of recent *innovations* to facilitate retention and graduation; a description of two significant NJIT *cohorts* of students; an *analysis* of key information on demographics and performance; and a presentation of promising models for the

future.

8.1.2 An Overview of Group 5's Standard 8 Charge and Questions Addressed

The Steering Committee and Working Group 5 jointly developed the following charge questions to study student admission and retention as a means of mission fulfillment at NJIT:

1. What is the record of admissions at NJIT since the previous self study with attention to quality, diversity, and growth? In terms of admissions, how have we met the challenges of quality, diversity and growth? How will we meet these challenges during the period of the present self study? (Section 8.2.11)
2. In a period of planned growth, how are we aligning our academic standards and admission goals? How are we meeting the challenges of enrollment growth and student quality? (Sections 8.2.1 and 8.2.11)
3. Despite current growth trends, are we prepared to meet possible future decline in enrollment cohorts? (Section 8.2.10)
4. How are our current measures of predicting success understood and communicated to faculty and students? What new measures might we consider as predictors of success, and how might these new measures best be communicated and implemented? (Section 8.2.3)
5. What strategies might improve our admissions patterns regarding the following student groups since the last self study: men, women; African American; Native American; Asian; Hispanic; and caucasian students? (Section 8.2.11)
6. What strategies might improve our admission patterns for students in the Albert Dorman Honors College? (Section 8.2.4-8.2.4.1)
7. What strategies might improve our admission patterns for students in the Educational Opportunity Program? (Section 8.2.5-8.2.5.1)
8. How well does the SAT Reasoning Test predict student success? (Section 8.2.6)
9. How are resources sufficiently allocated to undergraduate and graduate admissions? (Section 8.2.1.4.3)
10. What strategies are used to assess the NJIT admission function? (Section 8.2.9)
11. What strategies have the institution employed to assess its recruiting material, website, and processes so that they are geared toward both undergraduate and graduate admission goals? (Section 8.2.13-8.2.15)
12. How effective, well formulated, and consistently implemented are our strategies for the recruitment of international graduate students? (Section 8.2.1.4.1)
13. How effective, well-formulated, and consistently implemented are our strategies for the recruitment of domestic graduate students? (Section 8.2.1.4.2)
14. What strategies are in place to assure that full-time MS and PhD student support is competitive with benchmark research universities? (Section 8.2.1.4.1)
15. How may we demonstrate that NJIT's enrollment projections are sufficient to support the institution's projected financial needs? (Section 8.2.1.4)
16. What is the relationship between retention and revenue? (Section 8.2.1.4)
17. What is the record of retention at NJIT since the previous self study? In terms of

- retention, how have we met the challenges of attending to quality, diversity and growth in the past? How will we meet these challenges during the period of the present self study? (Section 8.2.6-8.2.12)
18. How effectively do we identify barriers for retention? What strategies, informed by barrier analysis, would facilitate increased retention? (Section 8.2.1.4-8.2.1.4.3)
 19. How do our retention rates compare to benchmark and aspirant schools? (Section 8.2.2)
 20. What do we learn from our study of the relationships among admissions growth, enrollment trends, and student retention? (Section 8.2.6-8.2.12)
 21. What is being done to identify and address the needs of students who are at risk of leaving the institution? (Sections 8.2.2 and 8.2.13-8.2.15)
 22. What are the variables that most impact retention at NJIT, and what is being done to improve retention as these variables are identified? (Section 8.2.2)
 23. What steps, such as E-Learning and distributed scheduling, have been taken to improve retention by improving curriculum delivery? How may we demonstrate that curriculum delivery is a factor in retention? (Section 8.2.13-8.2.15)
 24. How can we design and structure the following to improve retention and graduation: placement procedures; curriculum reform; and advancement and progression guidelines within the academic major? (Sections 8.2.2 and 8.2.14)
 25. What is the impact of NJIT's financial aid on student retention? (Section 8.2.1.2)
 26. What best practice advisement models would facilitate retention? (Sections 8.2.2, 8.2.3 and 8.2.13-8.2.15)

8.2 SELF STUDY INQUIRY AND OUTCOMES

8.2.1 *The NJIT Admissions Record, 2002 through 2012—Profile of Quality, Diversity, and Growth Challenges*

Evolving from its earlier status as an engineering college (a topic covered in Working Group Report, Standard 1), NJIT is now a comprehensive institution of higher learning, one of the three senior public research universities in New Jersey. A strategic priority of NJIT is to develop and offer programs in engineering, architecture, science and liberal arts, computing, and management that will attract, retain, and graduate a diverse student body that is also strong in quantity and quality. Over the past decade, NJIT has focused on recruiting and supporting undergraduate and graduate populations consistent with this aim. Among the strategic priorities set out in the NJIT Strategic Plan 2010-2015 is to “be nationally recognized for attracting high achieving students and faculty from diverse populations” (Altenkirch, 2010). Specific targets include:

- an overall enrollment of 11,000.
- a diverse mix of undergraduates reflective as possible of the demographics of New Jersey and at least 25% women.
- an increase in the middle 50th percentile for enrolled FTFTF from 480-580 for SAT Critical Reading to 500-600 and from 550-650 for SAT Mathematics to 570-670.

- maintain a minimum in the entering freshman class of 15% Dorman Honors Scholars and 15% Education Opportunity Program participants.
- achieve an FTFTF retention rate of 86% and a graduation rate of 60%.

As these targets are pursued, the university is committed to maintain its pursuit of excellence in the delivery of undergraduate, graduate, and continuing professional education.

The natural tensions among NJIT's aspirations to increase significantly enrollment, diversity, and academic quality have required difficult decisions in recent years owing in no small part to the dramatic decreases in the state's financial support for the university. The past five years can be characterized as a period where aggregate academic quality of the freshman class has increased slightly but enrollment and diversity has increased robustly. Declining state funding has made tuition income a very important consideration with the constraints that quality measures and student diversity are maintained.

Managing the economically challenging times that NJIT, as well as other higher education institutions in New Jersey, is facing will necessitate a well-crafted student recruitment and retention plan. (For more on these economic challenges, see Working Group Report, Standard 3.) These challenges are made even more important because of the impending demographic changes, evident by a projected significant decline in high school graduates that will make the recruiting of undergraduate students and eventually potential graduate students even harder. Furthermore, NJIT faces a number of challenges in recruiting higher achieving students. Overwhelmingly, our applicants are from New Jersey, and the number of New Jersey high school students indicating an interest in STEM disciplines is declining in both absolute number and percentage.

While NJIT attracts a large number of high-performing students through the Albert Dorman Honors College, there remains a significant number of New Jersey high school students with strong academic credentials that view NJIT as, at best, a "back-up" school. Such observations are confirmed in *The Report of the Governor's Task Force on Higher Education* (Kean, 2010).

Despite the complete campus physical transformation in the past decade, NJIT's urban location is still somewhat unattractive to these students and their families; among out-of-state high school students, NJIT is becoming a better known place. Maintaining outreach to underrepresented groups that do not perform as well as other groups on standardized tests creates a tension between improving metrics of student quality such as the composite SAT scores of the FTFTF and enhancing the diversity of the student body. These demographics point for the need of a greater emphasis on graduate admissions; as well, increased enrollment in graduate programs will be required to build future enrollment—a strategy that itself brings a whole new set of challenges particularly for recruiting students from foreign countries that had been a reliable pool in the past.

8.2.1.1 Profile: Alignment of Academic Standards and Admission Goals

The general academic standards for the admission of first-time freshmen have not varied substantially over the past decade. Generally speaking the major criteria for admissions are:

- a minimum SAT composite of 1050, or ACT composite of 23;
- an academic record placing the applicant in the top 25% of his/her graduating class (or about a 3.0 GPA); and
- three or four years of mathematics as appropriate for the major.

With a very few exceptions the admission standards do not vary substantially among majors.

The Office of Admissions maintains awareness of the performance of students in the student cohorts through reports issued by the Office of Institutional Research. So far this feedback has not produced significant adjustments in the NJIT admission standards, but may provide future opportunities for improving admissions.

The size and profile of NJIT's entering classes are initially proposed by enrollment management, but the plan is discussed and reviewed by the deans and the Provost. Important factors that come into play are campus infrastructures, such as classrooms, laboratories, and residential space, and instructional capacity, including faculty and instructional staff. While the admission standards are reviewed each year with Deans, these standards have not varied significantly over the past decade.

8.2.1.2 Profile: Strategies for Growth Challenges

The strategies to overcome the growth challenges and obtain the goals of the strategic plan are as diverse as the challenges themselves. Growth in the enrollment in the Albert Dorman Honors College maintenance and improvements in the SAT scores of the FTFTF students—are an important quality metric. The Honors College is not expected to grow significantly in the future as growth targets have been reached. Nonetheless, a steady number should offer an opportunity to strengthen further academic quality. NJIT has seen a good measure of success in addressing growth challenges through the Educational Opportunity Program (EOP) and APT to Succeed (APT). EOP, a state funded program (established at NJIT in 1968) admits educationally and economically disadvantaged New Jersey students to full-time study who, although aspects of their record may not meet the admission profile, with some form of intervention have a likelihood of success at NJIT. Students are provided financial and/or academic assistance to facilitate overcoming the challenges they face in studying in a rigorous academic environment. APT, a program that began at NJIT in 2005, admits students with composite SAT scores generally lower than regularly admitted students but with good high school records. Early APT cohorts have achieved higher GPA's and have been retained at higher rates than regularly admitted students. It is clear that APT will broaden opportunities for underprepared groups as it identifies students likely to succeed at much higher rates than would be predicted on the basis of their SAT scores alone. The success that NJIT has had with providing opportunities to students

from underrepresented groups has been recognized in various forums including *Diverse: Issues in Higher Education* which in 2009 ranked NJIT 11th in the nation in graduation of underrepresented minority engineers (Weinstein, 2009).

Improved technology is expected to support improvements in admissions. The CRM system (the Enrollment Management component of Banner) allows for the following functions: targeted marketing to specific market segments; creation of year long campaigns to induce students to apply and enroll; key words on the website; and rotating feature stories about students, alumni and faculty on our website. Traditional advertising is no longer seen as an efficient/effective means of attracting students. Maintaining and increasing financial aid is an important factor in increasing and attracting students to NJIT. Scholarships have doubled in the period from 1998 through 2007. Financial awards are felt to be competitive with those of other public institutions but less so with private institutions.

The documented efforts to maintain high levels of safety on campus have mitigated many of the concerns of potential students and their families regarding crime (Sabattis, 2010). Our reputation for campus safety is very good; our own students say as much in student satisfaction surveys, and that reassures parents.

8.2.1.3 Profile: Enrollment Decline Contingency Plan

The Office of University Admissions is well aware that the demographics of New Jersey and the Northeast United States in general indicate a period of decline in the annual number of high school graduates is expected. Coupled with the apparent waning of interest of New Jersey high school graduates in STEM disciplines, this presents a challenge to recruiting. For this reason, the undergraduate headcount is expected to grow modestly beyond its current size. To continue enrollment growth the plan for the future is to increase the MS population, the number of transfer students, and the number of out-of-state students.

To adjust to the future NJIT has introduced new programs including new Masters degrees and graduate certificates. To guide development of MS programs, a study focused on the demand for new MS programs would be particularly useful.

Expansion of continuing education programs is a potential avenue to maintaining enrollment, but it is important to recognize how this market is changing. In the past NJIT had dozens of extension sites offering its programs all over the state to working adults. Online instruction virtually eliminated the demand for extension sites.

8.2.1.4 Challenges to Enrollment Growth

This section of our report identifies challenges to enrollment growth.

8.2.1.4.1 Challenge: International Student Recruitment Strategies

NJIT traditionally draws a large percentage of its graduate student population from outside of the United States; hence, international recruiting plays a major role in the formation of the university's overall student body. In previous years, student demand far outstripped the university's ability to accept students, and no international recruitment strategy was needed. The university had a large number of well-qualified applicants and could be very selective in its admission process. A lot has changed since the events of September 11, 2001. Visa restrictions have tightened, leading to fewer international students applying to US colleges and universities. Although recent enrollment trends indicate that these numbers are rising, we do not anticipate seeing applications at pre-9/11 levels again.

Graduate student enrollment has remained essentially flat over the past five years with a 2010 number of 2,824 students. Increasing our graduate student enrollment from its current 31% of total enrollment to 37% is a critical component of attaining our overall enrollment goals of nearly 10,000 enrolled students for fall 2013.

Targeted scholarships are used to recruit international students. At the undergraduate level, the Presidential Scholarship essentially waives the surcharge for out-of-state students with over 1200 SAT composite scores. International honors undergraduate students are also eligible for additional merit awards, paid by endowed funds only. Graduate students are eligible for the Masters Fellowship, which provides \$2000 per semester per student.

Past efforts in the area of international student recruitment have been sporadic, mostly involving one-time activities. NJIT has participated in some agency-sponsored overseas recruiting trips, and some faculty members have recruited in their home countries, primarily India and China, for targeted recruiting.

At the present time, the university seeks to implement a coherent, long-term strategy for international student recruitment. In addition to implementing a regular schedule of visits to foreign countries for recruitment, the university needs to implement a mechanism for individual follow-up with potential students, as well as to perform a needs analysis to measure the success of its recruiting strategies. NJIT has recently entered into an agreement with IDP, a company that has counseling centers worldwide, notably in countries in which NJIT recruits international students. In these countries, companies such as IDP run college fairs to recruit students. It is expected that a pilot program in India and China will be launched; the results will be evaluated to guide further efforts in this area.

New strategies have been developed to increase our enrollment with a major emphasis on increasing our out-of-country students. The implementation of the new Banner client relationship management system (CRM) is thought to be a key driver for increasing the graduate student applicant pool this year.

NJIT's newly formed affiliation with IDP Education is expected to produce significant applicants to NJIT from the Asian marketplace. IDP, the world's largest student placement firm, has been retained on a commission basis to expand NJIT's brand throughout India. Their team of counselors works to organize large-scale events that place NJIT representatives before highly qualified prospective graduate students. NJIT representatives are conducting recruitment visits at IDP organized events this spring 2011 term.

NCE Dean Sunil Saigal has developed the Overseas Partner Initiative to create graduate student education partnerships with technological universities in India. He is currently in negotiation with colleagues at five schools in India to create a new NJIT MS degree that would be earned by students taking graduate courses face-to-face in India, online in India and complete the remaining course or two at NJIT.

Additional strategies for growing our international student enrollment include expanding the number of Master's Fellowships awarded to students. NJIT is currently conducting a benchmarking study on graduate student support to determine where we rank within our benchmark research universities.

The admissions office will increase the number of GRE names purchased for recruitment purposes. This is viewed as a critical need for targeting prospective student applicants. A budget of \$10,000 has been set aside to fund this initiative for international and domestic student recruitment.

The Newark College of Engineering is considering a partnership program with overseas students in its masters program. In this pilot program, students would take 9 credits of designated courses at their local universities for transfer credit. Students would take approximately 15 credits of NJIT courses in their home countries through distance learning courses, and they would take the remaining six credits of coursework at NJIT during its summer session. It is expected that a pilot program will be run with students from India, and results will be evaluated to determine future expansion plans for this program.

A useful benchmark for such efforts may be found in the success, documented by the Middle States Commission on Higher Education (MSCHE), of the NJIT association with Beijing University Technology. Such success is documented in the December 17, 2008, MSCHE action: "To acknowledge receipt of the substantive change request to offer a master of science degree in engineering management in conjunction with Beijing University of Technology and to include this change provisionally within the scope of the institution's accreditation; pending evidence of government approval by the Ministry of Education of the People's Republic of China and a visit within six months of commencing operations at the site." That action was followed in June 25, 2009 by a successful site review by Mary Ellen Petrisko, Vice President at MSCHE and the NJIT liaison: "To thank the institution for receiving its representative and to affirm the decision to include the additional location at Beijing University of Technology within the scope of the institution's accreditation. To document receipt of the Certificate of Approval from the Ministry of Education of the People's Republic of China to operate the program." This program suggests

that the design and implementation of international programs of high quality are within the capability of the university (MSCHE Statement of Accreditation Status, 2011).

8.2.1.4.2 Challenges: Domestic Graduate Student Recruitment Strategies

NJIT has traditionally drawn a large percentage of its graduate student population from other countries, primarily China and India. However, the university does seek to increase its domestic graduate student population, particularly at the masters level. One particular challenge has been with companies that no longer offer tuition remission to its employees who pursue graduate degrees; this certainly has a negative impact on graduate enrollment. Financial assistance may be needed to increase graduate program enrollment.

NJIT has a significant enrollment in its graduate certificate programs. These programs typically consist of four NJIT graduate courses clustered in specific focus areas. Students who complete these certificate programs often apply these courses to one of NJIT's masters programs, consistent with degree program requirements. As such, the certificates serve as a feeder to the masters programs in many cases.

Currently, NJIT needs to implement a market study of its graduate programs to determine the best courses of action to pursue. Efforts to increase the use of distance learning and hybrid (half face-to-face, half distance learning) classes are underway, and the Civil and Environmental Engineering Department is developing a completely online masters program. The university will also consider offering more programs via on-site delivery to local companies that employ students who would be academically qualified to pursue graduate degrees offered by NJIT. Other new course delivery methods should also be considered.

8.2.1.4.3 Challenges: University Projected Financial Needs

The current fiscal climate in the State of New Jersey has impacted NJIT and all public universities within the state. Contributions from the State of New Jersey have decreased from a high of 70% of the university budget to less than 35% of the budget. As a result, the university's budget has become increasingly tuition-driven. This financial situation will impact enrollment. Additional funds are needed to offer services for students, which implies that the university will need to either increase enrollment, revise tuition substantially, or implement a mix of both to provide these funds. (For more on NJIT institutional resources, see Working Group Report, Standard 3.)

8.2.2 Innovation: The Task Force on Retention and Graduation

As of this writing, NJIT has completed a study on graduation and retention requested by NJIT President Robert Altenkirch on February 7, 2011 (Altenkirch, *Task Force*, 2011). The Task Force Charge was specific: "To be recognized for attracting high achieving students and faculty from diverse populations, the plan acknowledges, we must undertake an analysis of the reasons students withdraw and develop and implement retention tactics. It is the purpose of the Task Force on Undergraduate Retention and Graduation to complete an analysis of undergraduate

retention and graduation and to recommend tactics for implementation that will yield improvements on both areas.”

The Task Force, in turn, reported five motions: that students have access to timely and successful completion of an NJIT degree; that for both calculus-based and non-calculus based courses, there will be no more than one 3-credit intervention for underprepared students; that students will be placed through valid test scores and previous educational experience by mid-April (or when such information is available); that NJIT will create a uniform model of advisement with involvement of faculty in professional development; and that all first-year students will take at most 16 credits per semester, with 18 credits as the exception, not the rule.

The Task Force also made four recommendations: that NJIT examine and improve the placement rate of students into credit-bearing courses and develop an evidence-based plan to reduce substantially the remediation rate for first year students; that NJIT create a unified advisement system for undergraduate students; that NJIT continue to contribute to the state’s economic competitiveness by producing professionals who will graduate in a timely fashion and contribute to workforce development; and that the university further strengthen the academic environment at NJIT as demonstrated through retention, improved student achievement, and graduation by permanently establishing a mechanism to examine issues related to retention and graduation under a shared governance structure.

The work of the Task Force (Gatley, et al., *Final Report*, May 15, 2011) demonstrates that NJIT is committed to increasing retention and graduation rates, goals established in the *Strategic Plan, 2010-2015*.

8.2.3 Innovation: Development and Communication of New Measurers of Success Prediction

In addition to making use of the predictors of retention and graduation data, NJIT has begun putting a greater emphasis on collaborative learning and learning communities (Redling, 2011), both known strategies to increase student success. NJIT has also begun using the results of the National Survey of Student Engagement (NSSE) as a measure of student engagement, again as a predictor of student success.

8.2.4 Cohort: Admission Patterns and the Albert Dorman Honors College

The mission of the Dorman Honors College is to attract and retain high-achieving and highly motivated students at NJIT providing a challenging educational environment. To accomplish this mission, the Honors College employs the use of inquiry-based learning, research experiences, community service and civic engagement opportunities. The leadership experiences encourage students to prepare better for their professional careers and heighten awareness of their involvement within the global community.

The Dorman Honors College Strategic Plan (Honors Subcommittee, 2008), which was developed with the Board of Visitors, along with the University Strategic Plan prioritized strategies that

have led to the growth of the college student body. Honors College students choose to attend and remain at NJIT due to the enhanced “Honors Experience,” which provides numerous academic and active learning opportunities inclusive of research and leadership development. The Plan also included the Dorman Scholarship Fundraising Campaign with a goal of \$20 million dollars and achieved \$22.8 million to support the added student enrollment.

In the past ten years, there has been growth in student enrollment within the Honors College. In 2001, the undergraduate student enrollment was 508 as compared with fall 2010, with an enrollment of 665 students - an increase of 24% over the past decade. The Honors College has also attracted and retained an increasing number of women students. In fall 2010, the gender representation of the full-time undergraduate population within the university itself was 82% men and 18% women. The Honors College total enrollment of the full-time undergraduates in fall 2010 was comprised of 66% men and 34% women. Better evidence of this upswing of enrollment of women can be best seen with the fall 2010 Honors College first time full-time freshman (FTFTF) class, which is composed of 59% men and 41% women.

Since 2005, 17% to 20% of the total freshman (FTFTF) population at NJIT has been enrolled in the Honors College. When the university began to increase the size of its freshman class in 2008, the Honors College responded to this call by also increasing the size of its freshman class. The fall 2010 Honors College full-time freshman class comprised 19% of the total undergraduate student enrollment for FTFTF. Since 2002, the total number of Honors College students as part of the full-time undergraduate NJIT population has increased from 9% to 11% for total enrollment.

The profile of the first-time full-time freshman population has become more competitive. Although students accepted to the Honors College are required to have a minimum 1250 combined SAT score, the average SAT combined score for the fall 2010 class was 1335. There has also been an increase in the Advanced Placement (AP) and college credit courses freshman are receiving upon entry to their college career. In fall 2010, 65% of Honors College freshmen had such advanced credits accepted as compared to the 54% of the fall 2008 Honors College freshmen class.

Honors College students are enrolled in all of the disciplines across the university. The current fall 2010 student composition of the Honors College by major/college enrollments is as follows: School of Management(SOM)= 3%; College of Computing Science (CCS) = 12%; College of Architecture & Design (COAD) = 17%; College of Liberal Arts & Sciences (CSLA) = 27%; Newark College of Engineering (NCE) = 46%.

Retention rates of Honors College students surpass the general university population. In 2009-2010, 94% of Honors scholars were retained in comparison to 78% of non-Honors students. As well, the graduation rates for Honors students from 2004-2010 was 78% as compared to the non-Honors rate of 48% of university students.

The Albert Dorman Honors College has produced several students who have been named as Goldwater and Truman scholars. Research fellowships have been awarded to students in

foundations such as the National Institutes of Health, Exxon-Mobil Engineering and National Science Foundation.

Honors College students are involved as leaders within the NJIT community including executive positions within the NJIT Senate. They are editors and writers for NJIT publications such as the college newspaper, *The Vector*, and the university yearbook, *The Nucleus*. In addition, the Honors College students create and publish cover-to-cover the Honors College magazine, *Technology Observer*, and the *Dorman Honors College Newsletter*.

8.2.4.1 Cohort: Strategies in Place for Improvement of the Albert Dorman Honors College

- The number of honors courses has significantly increased in the last ten years. In 2001, there were 13 honors courses offered and in fall 2010, over 50 Honors courses were available to students. A major concern the Honors College is addressing is the inclusion of more upper level Honors courses within the majors since freshmen are enrolling with the greater number of AP credits for many of the introductory-level sciences, math and humanities courses.
- Introduction in spring 2011 of the Interdisciplinary Design Studio course, IDS 101. This course is an enhanced research, design and entrepreneurship program that embodies the essence of a learning community. Beginning in the freshman year, students work together in teams to develop innovative technical designs along with business plans that may have market value and an impact on the global society. Twenty-four freshmen, from all disciplines across the university, are enrolled within this pilot project and will be working with faculty advisors, industry mentors and project sponsors.
- Council of Honors College Liaisons was formed and is fully functioning. Faculty members of each of the NJIT colleges are included as well as selected academic support departments. The council works to coordinate Honors courses offered each semester, develop Honors learning opportunities including research, internships and graduate education.
- A greater emphasis on leadership skills and team work as part of the Honors College freshman seminar course. Effective collaboration with academic departments to assist students in academic planning and networking for research opportunities is a strategy worth investigating.
- The Honors College is fostering collaborative efforts with the Center for First Year Students and CAPE to give Honors College students meaningful community service opportunities. Honors College students are actively involved with tutoring programs and as peer mentors to NJIT freshmen who have academic difficulty. Numerous upper class Honors students are part of the Honors College Pass the Torch mentoring program to assist new freshmen in making a successful transition to college life.
- Creation of the Gil Glass Honors College Library and Roberta Renard Honors College Council Office within its physical structure. These new facilities provide areas for active student involvement with each other and with invited speakers.
- Expanded series of lectures, study tours and the creative arts as part of the Honors College colloquia program (Honors, *Colloquium Series*, 2011).

- Increasing interest in student participation in internship opportunities. Students have had exposure to hands-on learning in such companies as Goldman-Sachs; Siemens; US Army Corps of Engineers; McGraw Hill; Proctor and Gamble; Exxon-Mobil; Panasonic; Merck & Co.; NJ Department of Transportation; Intel; Lockheed-Martin; General Electric and NASA.
- Keeping an eye on the future for Honors College students, the highly-motivated Honors students prepare for graduate school by taking graduate courses within their majors, many in their NJIT senior undergraduate year. Honors College scholars have matriculated to masters and doctoral degrees at such institutions as Stanford University, Carnegie-Mellon University, Johns Hopkins University, Georgia Institute of Technology, MIT, and Columbia University.

8.2.5 Cohort: The Educational Opportunity Program

EOP has been in operation for 30 years. Each year students are admitted to summer academic pre-freshmen programs, preparing them for the rigors of college.

The Educational Opportunity Program (EOP) is a state funded program for New Jersey students who are educationally and economically disadvantaged. A significant match of NJIT funds is also dedicated to EOP. The primary objective of the EOP is to provide educationally-related services to students whose educational and economic circumstances have limited their post-secondary educational opportunities. The following are some of these services offered during a six-week summer program for students entering in the fall semester:

- On-going counseling (individual and group)
- Academic advisement
- Educational and career planning
- Financial advisement
- Tutorial assistance
- Study skills classes/orientation
- Financial assistance (the amount of assistance is based on need)
- Leadership development

In the area of ethnicity, NJIT has also set metrics and targets for students and faculty. This section of our report examines those metrics.

8.2.5.1 Cohort: Strategies in Place for EOP Enrollment

The strategic plan measures success against a 15% target for entering Hispanic and African-American students by fall 2010. Already NJIT has achieved an increase of 4% to a 16% rate for Hispanic students since fall 2004. This exceeds the average at universities nationally. The recruitment rate for African-American students remains stable and above the national average at approximately 11%.

Through a broad range of programs focused on making a university education accessible to economically challenged youth, NJIT has maintained a substantial population of students from urban areas. Through programs like the Educational Opportunity Program (EOP), which emphasize the recruitment of urban students with great potential and limited opportunity, NJIT has brought many minority students into technical fields. A high recruitment effort is emphasized on the underrepresented schools in North, Central and South Jersey. Every year NJIT has two open houses. In addition, the following initiatives have been implemented to increase recruitment efforts:

- Twenty (20) recruitment information sessions are conducted every year on Saturday mornings, in English and Spanish.
- High School Open Houses are attended with emphasis on meeting with guidance counselors and the Mathematics and Science teachers. Several presentations are made to Mathematics and Science classes to communicate directly with those students who are interested in Mathematics and Science.
- NJIT students who are in clubs such as National Society of Black Engineers (NSBE), Society for Hispanic Professional Engineers (SHPE), Society for Woman Engineers (SWE) are invited to come out to the NJIT Open House, and EOP information sessions to speak to prospective students.
- Collaboration is conducted with the Hispanic Scholarship Fund.
- After every recruitment event, follow-up is done with students and parents.
- Work is conducted with local base organizations in order to inform them of the EOP recruitment efforts.
- Tours are facilitated with guidance counselors to give students a tour of NJIT. These tours are facilitated through Admissions and EOP.

8.2.6 Analysis: Admissions Patterns and Standardized Testing

From previous studies, we have found that high school rank in class is a weak but statistically significant predictor of graduation and grade point average, as are student scores on the math portion of the SAT. Results of the math placement examination are a strong predictor of graduation. Students of African American and Hispanic ethnicity have a lower likelihood of graduating, and women students have a greater likelihood of graduating than their male peers.

An example of an institutional research project is a multiple-regression analysis to identify factors that drive student retention, and factors that place students at-risk for graduation. This important study established the importance of student academic preparation, academic performance, and student commitment to subsequent student persistence in the freshman to sophomore year.

Mean SAT scores for entering freshmen, 2002-2010, are shown in Table 8.0. N is the number of FTFTF students for whom SAT scores are available.

Table 8.0: Fall 2002-Fall 2010 Average SAT Scores

Year	Avg SAT Math	Avg SAT Verbal	Avg SAT Combined	N
2002	607	546	1,152	659
2003	608	540	1,148	698
2004	608	544	1,152	666
2005	593	529	1,122	756
2006	590	520	1,110	794
2007	602	536	1,138	713
2008	604	538	1,142	766
2009	605	538	1,143	916
2010	603	537	1,140	854

With some fluctuation, the scores are stable.

8.2.7 Analysis: Recruitment of Graduate Students

Strategies for the recruitment of domestic graduate students are derived through coordinated and independent initiatives implemented by the Office of University Admissions and by our Division of Continuing Professional Education (CPE).

The Admissions Office will purchase GRE names for use in promotion to selected international student populations. As with the international student recruitment this is projected to be an invaluable and a critical need for targeting prospective domestic student applicants. The office will leverage the strength of its CRM to maximize the applicant yield.

The office in collaboration with NJIT's Office of Graduate Studies will increase efforts to draw from the university's undergraduate population. The existing NJIT BS/MS Program has yielded good results in the past, and we think there is much greater potential from our BS market.

NJIT established a budget to award merit scholarships to full-time NJIT masters degree candidates. The Masters Fellowship provides qualified full-time masters degree students a tuition award of \$2,000 per semester to approximately 500 students. The goal of the initiative is to increase our full-time MS student enrollment from both domestic and international markets.

The Division of Continuing Professional Education has signed a partnership with Embanet-Compass Knowledge Group, a third party education service provider specializing in the recruitment of online part-time MS students. The first initiative with them will be an MS in Civil Engineering offering.

CPE will continue the practice of strategically helping NJIT graduate student faculty to convert to an online format the graduate courses they traditionally teach face-to-face. This is expected to open new markets for enrollment.

CPE will strategically focus on growing the NJIT Graduate Certificate program, which from its inception has documented that 50% of those who earn a 12-credit credential applied for and /or entered the corresponding NJIT MS degree. The office will enhance the Weekend University Program, which includes opportunities for returning graduate students to pursue both a Certificate and an MS degree through blended formats on Friday and Saturdays.

A primary objective for CPE is expanding programs that offer employees of corporations the opportunity to obtain an NJIT MS degree part-time either on their company premises or online as is currently in place at Boeing.

Specific examples of marketing strategies/tactics deployed separately and coordinated with the NJIT Office of Admissions include:

- The development and continuous updating of financial assistance information via a specialized webpage and a FAQ publication. Particular targets are part-time graduate students and military personnel in order to provide graduate students with a wide variety of information about how to pay for college.
- Web-based marketing and advertising using portals, e.g., Google, elearners.com, gradschools.com, allstardirectories.com to acquire “leads”
- Targeted websites and landing pages (new and regularly updated websites)
- Social media (Facebook, Twitter and LinkedIn) to promote events, news and programs
- Podcasts with program information available for viewing/downloading from website
- Attendance at corporate career fairs, lunch and learns, and related educational events
- Printed advertising
 - brochures that are distributed at events and available for download from website
 - press releases/news articles
 - advertisements
- Open Houses/Information Sessions held both online and traditional face-to-face
 - At NJIT
 - At corporations
- Daily and scheduled Online Chats to provide information for those who can not attend an open house event.
- Email campaigns to targeted groups
- Internet radio to promote programs and events
- Creation of web-based tools such as tuition calculator and gas calculators
- Use of “Intelleresponse” auto-bot system to provide just-in-time information

8.2.8 Analysis: Resource Allocation and the Admissions Function

Resource Allocation System

NJIT’s projections for student enrollment show a 3-5% increase each year since 2005. Our goal is to attain an enrollment of nearly 10,000 by 2013. NJIT relies upon the outcomes facilitated through the Office of University Admissions as the primary source of generating applications for

admission to the university. Despite increased enrollment expectations there has been no increase in the funding to support the admissions' strategic recruitment initiatives designed for NJIT to meet its target enrollment goals. The enrollment management staff headcount and operating budget has remained essentially flat since the last self study.

The university is faced with the challenges of recruiting students from within a shrinking New Jersey high school graduate pool. "*The pool of students applying to college is expected to dwindle in the northeast over the next decade, so that cushion, too, is poised to disappear*" (*The Chronicle of Higher Education*, 2010). To meet our target enrollment the office needs additional resources to develop an effective branding campaign to expand its out-of-state recruiting activity.

To operate within budget the office has significantly reduced the amount of print materials used for marketing to prospective students. The Admissions staff regularly uses electronic media to directly promote NJIT to prospective students and for communicating with applicants and accepted students.

8.2.9 Analysis: Assessment of the Admissions Function

Admissions Assessment Strategies

The admission function is assessed through the review and analysis of weekly reports that track applicant pools. Applicant, acceptance, and enrollment goals are determined each year by university academic and administrative officials in consultation with NJIT financial officers.

Quantitative and qualitative goals are established for each academic department and program level from bachelors through PhD candidates in consultation with academic deans and program chairs.

The implementation of a new client management system for use in tracking and assessing graduate student recruitment has produced significantly better reporting and applicant communication functions.

Assessment of Recruitment Strategies

In May 2006 NJIT engaged the consulting firm of Noel Levitz to advise the university on its enrollment management organizational structure and strategies. The report suggested that the marketing and communications support was appropriate for identifying the message and image of NJIT, in developing publications, in placing advertising, and in providing web support. It was also noted our internal communications about the brand needs to be stronger.

The Enrollment Management Committee (EMC), comprised of key academic and administrative staff, continues to meet monthly to discuss prospective student recruitment strategy. The EMC is a significant entity in assessing the effectiveness of existing recruitment campaigns. They provide guidance and advisement on recruitment tactics and processes for both undergraduate and

graduate student recruitment. They consult on web page design, content for printed marketing materials, and media placement for advertising communications.

A decision to reduce significantly the amount of printed marketing materials was driven by the need to reduce costs and improve applicant yield. The Admissions Office is utilizing electronic communications and marketing images as their primary delivery mechanism.

Currently the EMC is meeting with the consulting team from White Whale Web Services. The firm has been retained by NJIT to design the new university website. Of primary concern is that the site effectively communicates our message while engaging viewers in our culture. The site must appeal to out-of-state students.

8.2.10 Analysis: Retention

Retention rates from 2002 to 2010 are presented below.

Table 8.1. Retention Rates, 2002-2010

RETENTION RATES	
Year	Retention (%)
2010	80.6
2009	83.8
2008	83.3
2007	80.2
2006	80.3
2005	81.9
2004	79.9
2003	84.6
2002	80.2

The retention rates fluctuate, although the admissions performance patterns are stable.

8.2.11 Analysis: Enrollment and Retention Studies—Quality, Diversity, and Growth

Admissions Growth, Enrollment Trends, and Student Retention

Table 8.2 shows basic application and admissions data for NJIT in the period from 2002 through 2010. During the first half of this period the number of applications had stagnated with small variations between 2550 and 2600. In the second half of this period there was a very dramatic growth in the number of applications reaching 4398 in 2010. The percentage of women applicants grew over this period from a low of 20.1% in 2002 to a high of 27.4% in 2010. The acceptance rate fluctuates, but shows a significant upward trend over this period. The FTFTF yield, the percentage of acceptances resulting in enrollment of a FTFTF student, dropped rather dramatically in the last two years of this period. The FTFTF enrollment shows very healthy

growth with some volatility. The percentage of women enrolling as FTFTF has also shown significant growth with some volatility.

Table 8.2: FTFTF Application, Acceptance, Yield and Enrollment for Fall 2002 – Fall 2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010
FTFTF Applications	2591	2566	2538	2562	2891	3027	3429	4315	4398
Percentage Women	20.1%	22.1%	21.5%	22.2%	22.6%	23.2%	25.8%	25.2%	27.4%
FTFTF Acceptance Rate	58%	68%	58%	71%	69%	64%	53%	67%	67%
FTFTF Yield	44.1%	40.0%	45.5%	41.5%	40.4%	35.4%	42.8%	32.2%	29.6%
FTFTF Enrolled	663	698	668	760	801	687	779	926	875
Percentage Women	17.5%	17.9%	19.6%	17.1%	18.4%	21.7%	20.3%	18.8%	22.1%

Table 8.3 shows the SAT data for the FTFTF classes from 2002 through 2010. The mean composite score generally decreased from 2002 to 2006 and then partly recovers reaching 1140 in 2010.

Table 8.3: FTFTF SAT Data for Fall 2002 – Fall 2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010
FTFTF composite SAT (mean)	1152	1148	1152	1122	1110	1138	1138	1143	1140
FTFTF Math SAT (25-75)	550-650	560-660	560-660	540-650	540-640	550-650	550-650	550-660	540-650
FTFTF Reading SAT (25-75)	490-590	480-590	490-600	470-590	470-570	480-580	480-590	490-590	470-590

The 25th and 75th percentiles for the SAT Math scores of FTFTF are remarkably constant with only slight fluctuations and no evident trend. The 25th and 75th percentiles for the SAT Critical Reading scores of FTFTF (Verbal from 2002 through 2005) show somewhat more volatility but again no readily evident trend.

Table 8.4 shows the history of the enrollment over the period from 2002 through 2010.

Table 8.4: Enrollment by Level Fall 2002-Fall 2010									
	2002	2003	2004	2005	2006	2007	2008	2009	2010
Undergraduate Headcount	5,730	5,712	5,366	5,263	5,380	5,428	5,576	5,924	6,103
Percentage Women	21,3%	21.0%	20.1%	19.4%	20.2%	20.5%	20.8%	20.8%	22.2%
Graduate Headcount	3,098	3,058	2,883	2,795	2,829	2,860	2,822	2,916	2,831
Total Enrollment	8,828	8,770	8,249	8,058	8,209	8,288	8,398	8,840	8,934

From 8,828 students in 2002, the total enrollment dipped to 8,058 in 2005 but then rose to a new high of 8934 in 2010. Both graduate and undergraduate enrollments show a similar pattern of waning and recovery with graduate enrollment not yet fully reaching its former levels. The percentage of undergraduate women in the undergraduate population fluctuated slightly around a mean slightly larger than 20%.

Alignment of academic standards and admissions goals is at least partly reflected in the six-year graduation rate. Table 8.5 shows a substantial increase of approximately ten percentage points over the period from 1995 through 2004.

**Table 8.5:
FTFTF 150% Graduation Rates Summary**

Cohort Year	Admitted	Graduated	Graduation Rate
1995	558	257	46%
1996	620	280	45%
1997	568	277	49%
1998	565	299	53%
1999	658	357	54%
2000	697	379	54%
2001	713	365	51%
2002	661	376	57%
2003	685	378	55%
2004	663	363	58%

Table 8.6 shows the retention of the FTFTF in their second year.

Table 8.6: Retention of FTFTF in the Second Year									
	2002	2003	2004	2005	2006	2007	2008	2009	2010
FTFTF Retention Rate	85%	80%	82%	80%	80%	83%	84%	81%	NA

The classes from 2002 through 2009 have been retained at a rate fluctuating between 80% and 85% without any clear trend.

8.2.12 Analysis: Identification of the At-Risk Student

Strategies for Identification

At-risk students are identified at two stages. First, students can be identified as at-risk during the admissions process, but are none-the-less admitted with the expectation that they may be able to make a successful transition into academia. Typically, these students have low grades, but high SATs or conversely have low SATs, but high grades. The latter category is an indicator that the quality of the high school they attended was low and where grade inflation is pervasive. These students are closely monitored and their academic skills are upgraded by enrolling them in the Educational Opportunity Program (EOP). Although admitted, those students that have low SATs and high grades, but are not EOP eligible, are placed in the APT program.

Second, the primary method of identifying students that are admitted and become at-risk after admission is their academic performance. These students may exhibit low class attendance, a lack of engagement in the classroom as well as low grades on the mid-term and final exams. During freshman year, students with low grades on mid-term exams are given a mid-semester warning by email and letters are also mailed to their homes notifying and encouraging them to take advantage of tutorial services offered at CAPE. Through self-identification, students are also encouraged to ask for additional assistance. Professors, too, help in identifying at-risk students, who are directed to meet their academic advisor or go to CAPE for remedial help. Students who fall below a 2.0 GPA for two consecutive semesters or fall below a 1.5 for one semester are placed on Suspension Pending.

Strategies for Retention

NJIT proactively takes several steps to retain its students. Suspension Pending students are required to take a reduced course load (no more than 12 credits) and must repeat the courses previously failed. They may not withdraw from any courses and must meet monthly with an academic coach, who might also refer them for counseling or one-on-one tutoring. Second-semester freshmen on Suspension Pending are also required to attend regularly scheduled study halls at the CAPE. These measures also include tutoring by Professors and/or by Teaching Assistants. Additionally, CAPE has self-paced software programs that can be used by students for additional tutoring in Physics, Mathematics and other freshman level courses.

During the registration process, there is considerable flexibility in scheduling students in freshmen level courses. This enables those students that need remedial work to register for lower level or pre-requisite courses.

The Center for First Year Students plays a pivotal role by supporting both freshmen and transfer students in the successful completion of their first year of study by building a solid foundation

for a successful college experience. The Center is committed to providing a supportive and informative environment that will connect first year and transfer students to faculty, staff and university resources.

The Center is a clearinghouse for all questions and concerns new students may have about academic and social aspects of college during the first year of study. The Center staff offers advice on making students' first year experience successful and rewarding.

To transition successfully from high school to college and offer assistance with understanding academic policies and procedures, the Center offers referrals to other campus services, and connects students with academic support such as tutoring and supplemental instruction. Each first year student is assigned an academic advisor from his/her major department. The academic advisors are specially selected for their understanding and sensitivity to the needs of first year students. The Center assists first year students to get involved with the institute through the many clubs and social organizations available on campus.

Described next are five key programs that also play an important role for student retention include the (1) First Year Orientation Program, (2) Transfer Transition Program, (3) First Year Seminar, (4) Academic Advisors, and (5) Early Academic Warning and Monitoring Program. These programs and strategies have contributed to boosting student retention (see Table on Retention Rates).

First Year Orientation Program

Also known as Connections Miniversity, this is a two-day orientation program for freshmen undergraduate students. This program offers students the opportunity to learn about the academic experience and expectations of study at NJIT. Students also learn about innovative programs, registering for classes, and obtain both peer and professional advising on majors and minors.

Transfer Transition Program

Before the beginning of the Fall and Spring semesters, transfer students are invited to attend a Transfer orientation program. Departmental academic advisors are available for review and awarding of transfer credits and academic advising. Students also have an opportunity to speak with representatives from Registrar, Bursar, Financial Aid, Admissions, EOP, Health Services and International Students offices.

First Year Seminar

First Year Seminar is a required course for all freshmen. Students attending the First Year Seminar explore topics that are helpful in succeeding at NJIT. Studies have shown that students who actively participate in a new student seminar during their first year of college do better academically, feel more connected to their school and more satisfied with their college experience.

Academic Advisors

First year students are assigned to faculty or professional advisors within their major department who are especially sensitive to the needs and concerns that often occur during the first year of study.

Early Academic Warning and Monitoring Program

As noted before, during the first 4 weeks of each semester, faculty teaching freshmen courses identify students who need additional academic support (e.g., study skills, tutoring, etc.). These students receive notification from the Associate Dean of First year Students indicating the appropriate course of action to be taken. Students receiving a warning in more than one course are closely monitored.

8.2.13 Toward the Future: Models of Improvement: Curriculum Reform

Curriculum Delivery

In addition to traditional pedagogical approaches, many faculty members attend seminars that are offered to improve the quality of instruction as well as incorporating Learning Objectives in the syllabi (e.g., Provost's Seminar Series). In the spirit of embracing the "Edge in Knowledge," many NJIT faculty members have incorporated Digital Multimedia for instruction. In the classroom, faculty are known to employ cooperative (team or active) learning where students are given group exercises to apply course concepts to augment theoretical knowledge. For Distance Learning courses, a Quality Matter Rubric was developed by judging and identifying best practices that are then used to develop new on-line courses.

Curriculum Delivery and Retention

Consistent with being a technological University, many NJIT faculty are known to use technologies that have transformed the educational landscape. These include the use of Moodle as a course administration platform as well as WIMBA, and podcasts that have been developed and can be downloaded through iTunes. For ensuring curriculum retention and learning assurance, NJIT faculty members are encouraged to develop tests and exams that are congruent with the course learning objectives.

8.2.14 Toward the Future: Models of Improvement—Academic Advancement and Progression Guidelines

Retention and Placement Procedures

After being admitted, all incoming freshmen students are required to take placement tests in English and Mathematics. Depending on the academic major, students may be required to take Physics, Chemistry and/or Computer Science placement tests. Placement test results, SAT scores

and high school data are used to determine students' initial courses to optimize success. Incoming and transfer students who do not receive transfer credit for the first English, Mathematics, Chemistry and/or Computer Science course are required to take placement tests before registering prior to the start of the freshman year. SAT essay scores are used for placement in composition. As noted previously, those students with potential problems are placed into lower level preparation courses before being allowed to take freshman classes. According to Institutional Research, approximately 30% of incoming students are placed into remediation courses.

Addressing patterns of retention and placement has been the job of the Task Force on Undergraduate Retention and Graduation, and the recommendations of the Task Force are now under review by the President.

Retention and Advancement and Progression Guidelines

Several measures are taken for retention and progression. There are checks taken to ensure that students are advancing in the educational programs in which they have enrolled. These include audits to ensure that students are taking courses in sequence as well as the use of software that tracks student advancement and progress. In addition, the number of courses offered during the summer and winter sessions have been doubled, which is especially helpful as it enables those students who were placed in remedial courses to strengthen their skill-set before taking advance level courses.

In addition to the approaches described above, beyond the academic orientation there is a rich array of activities that help orient students to community life, student activities on campus and diverse resources to make their experience at NJIT unique. Specifically, broader retention approaches aim to improve Quality of Student Life. Student input is sought on food services. Campus activities, especially weekend activities, have been increased as have the number of student clubs to engage and actively involve students.

Finally, Phi Eta Sigma, which is a national honor society for college freshmen, is especially noteworthy for advancement opportunities. All first year students are eligible to join who have a cumulative grade point average of at least 3.5 at the close of any full-time curricular period during their first year. Phi Eta Sigma is an outward recognition of personal accomplishment and serves as an incentive for continued high scholarship. It provides students the opportunity to meet scholars from all academic disciplines on campus and to join them in promoting academic excellence and campus community service.

8.2.15 Toward the Future: Innovative Advisement Models and Retention

NJIT consists of different advising models depending on in what college a student is enrolled. Each college administers their own advising model. Some colleges employ a full time professional academic advisor with a counseling or higher education background while others have faculty perform all of the advising. The registrar assigns a hold on each student's account in both fall

and spring semester. In order for students to have this hold removed, they must meet with their academic advisors in person or via email depending on their advisor. This allows the student to go over their degree plan and courses for the upcoming semester with their assigned advisor.

In addition, there are freshmen advisors assigned to all incoming freshmen based on their majors. In addition to the student's assigned advisor, students have access to the First Year Students office during their freshmen year. Supplemental advising is available to students enrolled in Albert Dormans Honors College, The Educational Opportunity Program (EOP), or Athletics.

The programs identified below offer promising models that may be used to develop a uniform advising model for NJIT.

First Year Students

The Office of the Dean of Freshman Studies supports freshmen and transfer students in the successful completion of their first year of studies at NJIT. Placement exams are administered to all incoming freshman students and transfer students when necessary, to ensure that students are assigned to courses appropriate to their skill level. The Dean works closely with faculty and students to resolve academic concerns or issues and coordinates the freshman seminar and freshman academic advising programs.

All freshman students are assigned a freshman faculty advisor or professional advisor with whom to work during the student's first year. In most instances, advisors are assigned from the student's major department. Freshman advisors are specially selected for their sensitivity to the needs of freshman students and are supported by workshops and periodic updates of curriculum revisions provided by the Office of the Dean of Freshman Studies. An advisor from a student's major department is also assigned to the student.

EOP

The EOP philosophy is focused on benevolent, intrusive, directive counseling. EOP believes that students need to know "how, what, when and then why" an action must be done. Therefore, based on the level of the students (freshman, sophomore, junior, senior, graduating senior) we have a staff person, per that cohort, who operates from totally directive (freshman) to consultative (graduating senior) in their approach to counseling our students.

Freshmen Seminar

Addresses issues related to a successful college life during weekly seminars. Topics include time management, study skills, interpersonal relationships, wellness, multicultural issues and career decision-making. Freshman Seminar is a graduation requirement for all first-time, full-time freshmen.

College of Computing Sciences

As the curriculum currently exists, most first year students do not formally meet their advisors until halfway through their first semester. The College of Computing Sciences (CCS) sought to change this by creating a one-credit course sequence. The first one-credit course (which replaces freshman seminar) was implemented in Fall 2010 for incoming students in CCS. The course was designed where the CCS Academic Advisors teach this one-credit seminar course, thus creating early connections between students and administrators and helping students have a more engaged academic experience. The academic advisor that taught the students in CS 107 then becomes their advisor throughout their college career. CS 107 is designed to create connections, foster student development and increase retention.

This course will also help undecided students in CCS decide on what major they wish to pursue. This course is designed to introduce students to the many options and majors available to them within the College of Computing Sciences. By having CCS faculty as well as CCS upperclassmen as guest speakers, first year students can be introduced to different ideas and learn about new opportunities within the College of Computing Sciences.

Electrical and Computer Engineering Advisement model

Academic advising is considered by the Department of Electrical and Computer Engineering to be a very important process that is an integral part of students' educational experience with potentially high impact on their success. While most of students' contact with advisers occur before registration for a new semester and is related to course selection and scheduling, a student can see the academic advisor on a short notice as a need for a meeting arises.

Two department representatives concentrate full time on advising students. The Associate Chair for Undergraduate Studies is responsible for the EE and CoE undergraduate programs, and concentrates on contacts with upper division students and all transfer students. The Student Advisor and Curriculum Coordinator advises freshmen and sophomores and coordinates numerous activities, including study groups, learning facilitators, student clubs and others.

A three-week interval before registration begins is designated as the pre-registration period. To ensure that a student will come in for advisement, a registration hold is placed on the student's record. Once the student meets with the advisor, the registration hold is removed, and the student can self-register. A comprehensive student handbook with detailed description of the curriculum and procedures (ECE Handbook for Undergraduate Students) is available on line to all students (ECE, 2011).

As part of an effort to engage students early on and involve them with the ECE Department, number of the following events and programs were put in place. Examples include:

- First Year Student and Transfer Student Receptions
- First Year Student Seminar Course

- ECE Floor at students' residence hall. A group of ECE first-year students lives together on the same floor and attends several courses together such as calculus and physics, assisting first-year students with collegiate academic work and social adaptation by making connections with faculty, staff and upper-class students.

Advising and mentoring students by the designated advisers and other department faculty continues through the senior year, including Senior Design Project (capstone), internships and information on employment opportunity.

8.2.16 Final Report: Task Force on Undergraduate Retention and Graduation

On February 3, 2011, President Altenkirch created a Task Force on Undergraduate Retention and Graduation. The Task Force was charged to examine recent national findings on college completion rates, benchmark NJIT's graduation rate, and identify strategies to improve that rate. The final report of the Task Force was submitted on May 15, 2011.

Among our 26 benchmark institutions, NJIT was at 19th place, with a graduation rate of 55% at the end of six years. Just below the 59% graduation rate of University of Maryland-Baltimore County and just above the 53% of University of Massachusetts-Lowell, the NJIT six year graduation rate was, the Task Force found, near national levels yet in need of improvement. Indeed, the *NJIT Strategic Plan, 2010-2015*, targets a 60% graduation rate—one that would place NJIT at 13th among our benchmark institutions. While retention rates at NJIT are more competitive with benchmarks than graduation rates, there is still room for improvement. The *NJIT Strategic Plan, 2010-2015* sets an 86% retention goal for first-time, full-time students.

To meet these targets, the Task Force approved five motions: (1) Students have access to timely and successful completion of an NJIT degree; (2) For both calculus-based and non-calculus based courses, there will be no more than one 3-credit intervention for underprepared students; (3) Incoming fall freshman students should be placed through valid test scores and previous educational experience by mid-April (or when such information is available); and (4) NJIT will create a uniform advisement model (5) All first year students will take at most 16 credits per semester, with 18 credits as the exception, not the rule.

To garner university support, the Task Force additionally offered four recommendations: (1) NJIT examine and improve the placement rate of students into credit-bearing courses and develop an evidence-based plan to reduce substantially the remediation rate for first year students; (2) NJIT create a unified, professional advisement system for undergraduate students; (3) NJIT continue to contribute to the state's economic competitiveness by producing professionals who will graduate in a timely fashion and contribute to workforce development; and (4) NJIT permanently establish a mechanism to examine issues related to retention and graduation under a shared governance structure.

Combined with recent policies initiatives—including a repeat policy for upper division courses consistent with that for lower division courses and exclusion of grades below “C” from the cumulative grade calculation for students who change majors—the Task Force report has been

accompanied by a wave of change that promises to impact the retention rates in the fall of 2011. Among these changes is the Community Connections (CC) program for the Fall of 2011 that will place approximately 250 regular admit, first-time students in discipline-based cohorts of 24-26 students for three semesters. According to this model, a retention increase of 10% will generate approximately \$3.1 million, with a recruitment cost savings of \$63,000. The goal of the CC pilot model is to improve freshmen and sophomore year retention rates. Central to this effort is assurance of a relevant curriculum, documentation of academic success, and fostering of collaborative/active learning.

The Task Force effort symbolizes the rapid response and collaborative efforts that characterize the NJIT sense of mission-centered planning, assessment, and action.

8.3 CRITICAL ANALYSIS AND CONCLUSIONS

The information collected to address mission fulfillment associated with student admission and retention demonstrates that NJIT is actively involved in assuring a high quality experience for its students. Nevertheless, the complexities involved in the NJIT mission of diversity and urban-centeredness must not be overlooked. The number of our questions, far more than that of any Working Group, reveals the complexity of admitting, retaining, and graduating students at a university dedicated to science and technology education in an urban environment.

Engagement with a complex student population requires enormous sophistication—as we have demonstrated in this report—and answers are neither simplistic nor permanent. As the recent work of the Task Force on Undergraduate Retention and Graduation demonstrates, NJIT is deeply committed to admitting, retaining, and graduating students whose interests, goals, and abilities are congruent with our mission.

8.4 COLLABORATION WITH OTHER WORKING GROUPS

In scheduled meetings hosted by the Rapid Assessment and Steering Committee, our Working Group collaborated with other groups. Collaboration was also strengthened through meetings with the self study consultant (Robert Clark). Asynchronous communication was fostered through the open source content management system (Moodle); in that platform, the Working Groups collaboratively reviewed each stage of the planning and reporting process, from question design to outlines of the Working Group Reports, to edited review, to final copy.

8.5 RECOMMENDATIONS FOR IMPROVEMENT

8.5.1 Recommendations Table: Standard 8: Student Admission and Retention

RECOMMENDATION 1	Ensure timely and successful completion of an NJIT degree.
➤ VISION: The desired future for the recommendation	An improved level of successful completion of UG studies and reduced average time to completion.
➤ STRATEGY: The methodology recommended to achieve the vision	Coordinated, ongoing review and revision of admissions, curriculum, advising and other factors.
➤ TACTIC: The specific action recommended to implement the strategy	Continue work of the Provost's Committee on Retention and follow up on its recommendations.
➤ ASSESSMENT: The metric recommended to measure achievement of the vision	Achieve time to completion of degree at 60%.

RECOMMENDATION 2	Design and implement of a uniform advisement model
➤ VISION: The desired future for the recommendation	Efficient allocation of support resources to further the core missions of NJIT.
➤ STRATEGY: The methodology recommended to achieve the vision	Improve coordination among academic support units; collect data on the impact of each program on student success.
➤ TACTIC: The specific action recommended to implement the strategy	Establish ongoing forum under VP for Academic and Student Services.
➤ ASSESSMENT: The metric recommended to measure achievement of the vision	Track outcomes of each program using defined methods in order to study and improve the advisement system.

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