



New Jersey Institute of Technology: Building with Vision

SELF-STUDY

SUBMITTED IN SUPPORT OF OUR REACCREDITATION BY THE
MIDDLE STATES COMMISSION ON HIGHER EDUCATION

ABOUT NJIT

Profile:	Accolades:
Founded: 1881	<i>U.S. News & World Report</i> : #103 Best National Universities
Location: Newark, NJ	<i>U.S. News & World Report</i> : #46 Best Public Universities
Type: Public, STEM-focus	<i>Forbes</i> : #1 in Student Upward Socio-Economic Mobility
Degree Programs: 126	<i>Princeton Review</i> : Best 385 Colleges
Student-Faculty Ratio: 15:1	PayScale: #41 College ROI Rank
Enrollment: 11,901	<i>Diverse: Issues in Higher Education</i> : Top producer of Black and Hispanic/Latinx STEM graduates
Research: \$156M	

New Jersey Institute of Technology (NJIT) was founded in 1881 as Newark Technical School in response to a need for engineers and technically skilled workers in the mid to late 1800s, when Thomas Edison and rival Edward Weston established their factories in the greater Newark area. In 1930, Newark Technical School was transformed into the Newark College of Engineering, and in 1973, with the addition of the New Jersey School of Architecture (now the J. Robert and Barbara A. Hillier College of Architecture and Design), our new name—New Jersey Institute of Technology—reflected our expanded role as New Jersey’s public STEM university. NJIT is now comprised of six schools and colleges: the Albert Dorman Honors College, the College of Science and Liberal Arts, the Hillier College of Architecture and Design, the Martin Tuchman School of Management, Newark College of Engineering, and the Ying Wu College of Computing.

In pursuit of our vision “to be a preeminent public polytechnic research university with local and global impact,” NJIT has evolved from a commuter school teaching applied engineering skills to a nationally and internationally ranked public research university. At the same time, we remain true to our urban mission and our commitment to helping motivated and talented students overcome educational challenges. In fall 2021, 39% of our incoming undergraduates were eligible for Federal Pell grants, and 24% were the first in their families to go to college. Our undergraduate and graduate students come to NJIT from over 90 countries across the globe for an exceptional educational experience that offers a pathway to success, with most students having several job offers in hand upon graduation. In fact, *Forbes* ranked NJIT #1 among their Best Value Colleges for student economic upward mobility in 2018. That is, NJIT had the highest percentage of students from the bottom fifth of the income distribution moving into the top fifth upon graduation.

NJIT students embrace their potential in all aspects of life, immersing themselves in STEM research as well as benefiting from the university’s desirable location in the New York City metropolitan area. Through their academic studies, students are exposed to faculty who are highly active researchers in their fields, and opportunities for undergraduate students to participate in research abound. Even in disciplines not traditionally STEM-oriented, NJIT leverages our STEM orientation to provide students with what we refer to as a “STEM+” foundation. Such programs include Business; Cyberpsychology; Communication and Media; Digital, Industrial, and Interior Design; our Science, Technology, and Society program; and our pre-health and pre-law programs. All NJIT students have the opportunity to apply their knowledge in advanced facilities, from research-focused laboratories to manufacturing-focused spaces such as our Makerspace. Our students are also given the opportunity to jumpstart their careers with access to some of the most prominent employers in the world through our Career Development Services, connections with alumni, and even entrepreneurial startups through VentureLink, New Jersey’s largest business incubator affiliated with our New Jersey Innovation Institute.

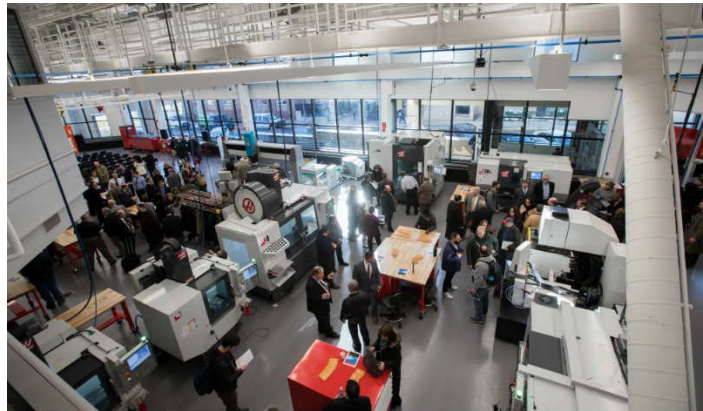


Outside of the classroom, our students join a wide variety of clubs and organizations where (according to our Princeton Review profile) they “share ‘standard nerd interests and hobbies’ such as video games, anime, and eSports.” We host many student-focused competitions including Steel Bridge Design, Concrete Canoe, the Newark College of Engineering Drone Competition, the 3D Printed Bridge Competition, and HackNJIT. Our students also compete in national and international competitions including the American Formula Sun Grand Prix (for solar-powered vehicles) and the international ANA AVATAR XPRIZE focused on the development of an avatar system that deploys a human’s senses, actions, and presence.

Through academic and professional organizations as well as the Honors College, students apply their knowledge and interests to real-world contexts with real-world impact. Within the campus community, our students serve as tutors and mentors for fellow students, and in the local and regional community, our students coach and mentor K-12 students in robotics clubs, coding competitions, and other STEM-focused experiences that inspire the next generation of STEM scholars. Internationally, NJIT students have applied their skills to enhance the lives of those in need around the world. For example, our Engineers Without Borders chapter built power-generating bicycles to charge cell phones in Haiti, and our Global Brigades chapter collected supplies and funds to help treat survivors of Hurricane Eta in Honduras. In the words of one of our students, “The student body at NJIT are some of the brightest inquisitive minds I’ve ever come across. Everyone is either engrossed in research, club teams, or studying diligently... the students here genuinely want to make a difference in the world.”

Our evolution as a university has been achieved through the bold initiatives put forward in our strategic plan, *2020 Vision* (2015-2020). Efforts outlined in the Student priority led to a doubling in first-year student applications, a substantial growth in enrollment, and an improved student profile. Our Investment priority drove an ambitious faculty renewal plan resulting in close to 50% of our faculty having been hired in the past 10 years, and investments in facilities created the 21,000 square foot Makerspace that provides faculty, students, and local entrepreneurs access to over \$3 million in state-of-the-art prototyping machines. In the area of Scholarly Research, recent accomplishments include NJIT’s Big Bear Solar Observatory, part of our Center for Solar-Terrestrial Research, being selected as the permanent home of the National Science Foundation’s Synoptic Optical Long-term Investigations of the Sun (SOLIS)—the most advanced solar telescope capable of long-term and consistent monitoring of the Sun’s 11-year solar cycle. The combined impact of our faculty recruitment and research efforts resulted in the university’s total research expenditures increasing from \$106 to \$156 million, contributing in part to our \$2.81 billion annual economic impact to the State of New Jersey and our R1 status, reaffirmed in 2021.

Our current strategic plan, *Building on a Strong Foundation—NJIT 2025*, builds on these successes and reflects our community’s shared vision for our future. Once again developed through a collaborative and inclusive process, the plan advances our strategic mission, vision, and goals and renews our commitment to our students and the wider community we serve.



Executive Summary

New Jersey Institute of Technology (NJIT) is pleased to present this Self-Study in support of our reaffirmation of accreditation by the Middle States Commission on Higher Education (MSCHE). Through this Self-Study, we have identified many strengths, including the tremendous accomplishments achieved under our prior strategic plan, *2020 Vision: A Strategic Plan for NJIT* (in effect from 2015-2020, hereafter referred to as *2020 Vision*). These and other efforts continue in our current plan, *Building on a Strong Foundation—NJIT 2025* (in effect for the period 2020-2025, hereafter referred to as *NJIT 2025*). Our achievements and strengths are highlighted throughout this document.

In conducting this Self-Study, we also identified areas where more work remains to be done. These are recognized as Suggestions and Recommendations at the conclusion of each chapter and summarized below.

The results of our Self-Study suggest that strategic planning is one of our greatest strengths, driving action plans, resource allocation, and institutional assessment. We therefore chose a **priority-based** format for our Self-Study as this allows us to address the Commission's Standards for Accreditation and Requirements of Affiliation as they relate to the five priorities of our current strategic plan, *NJIT 2025*: Students, Faculty, Research, Resources, and Prominence. Because our Self-Study is driven by our strategic priorities and objectives, the Standards and Requirements are distributed throughout this document as shown in Table ES-1 below.

Table ES-1: Organization of the Self-Study

Chapter	Standards	Req's of Affiliation
Chapter 1: Planning	Standard I (all criteria) Standard VI.1, VI.2, and VI.3	7 & 10
Chapter 2: Student Learning	Standard III (all except III.2)	8 & 9
Chapter 3: Student Experience	Standard II.7 Standard IV (all criteria)	
Chapter 4: Faculty and Research	Standard III.2 Standard V (all criteria)	15
Chapter 5: Resources	Standard II.5 Standard VI (except VI.1, VI.2, and VI.3)	11
Chapter 6: Ethics and Integrity	Standard II (except II.5 and II.7)	1, 2, 3, 4, 5, 6, & 14
Chapter 7: Leadership and Administration	Standard VII	12 & 13

KEY FINDINGS

Through our process of self-assessment, we have determined that NJIT meets the Commission's seven Standards for Accreditation and fourteen Requirements of Affiliation. As described in this Self-Study and supported by evidence, NJIT implements assessment in all activities and uses the results to inform planning and resource allocation. This ensures that we continue to successfully meet our mission.

Chapter 1: Planning. In support of our mission in education, research, economic development, and engagement, *2020 Vision* identified key strategic priorities and established specific objectives and strategies that served as our five-year roadmap. The resulting successes of *2020 Vision* include significant growth in scholarly research, substantial improvements in student profile and outcomes (e.g., retention and graduation), and a \$2.81 billion economic impact to the State of New Jersey. *NJIT 2025* continues these efforts and also introduces new areas of focus such as sustainability, diversity, and equity in student outcomes. By continually assessing strategic outcomes through *2020 Vision*'s 43 KPIs (increased to over

80 in *NJIT 2025*), we ensure the alignment between strategic initiatives, planning, and resource allocation, identifying areas in which we are meeting our targets and areas where more efforts and/or resources are needed.

Chapter 2: Student Learning. The education of students is central to our mission. For this reason, Students continues to be a strategic priority. Through a revitalized general education program and rigorous, discipline-specific coursework, we further our mission of “preparing diverse students for positions of leadership as professionals and as citizens...” We continue to enhance learning opportunities and resources including milestone experiences (e.g., undergraduate research, capstone projects, and study abroad programs) to provide an exceptional educational experience that expands learning beyond the classroom.

Chapter 3: Student Experience. NJIT is committed to ensuring that admitted students have everything they need to succeed, as evidenced by numerous objectives and strategies in *2020 Vision* and *NJIT 2025*. We continue to dedicate resources to improving support throughout the student lifecycle, from admission and course placement to advising and job placement. Extracurricular activities ensure that students have additional opportunities to engage and socialize with their peers.

Chapter 4: Faculty and Research. To ensure that our world-class faculty continues to have a positive impact on student learning and research, we made faculty renewal a priority in *2020 Vision*, despite its being one of the most costly efforts of the plan. As a result, we achieved a significant increase in the number of tenured and tenure-track faculty, reflected in the percentage of faculty hired in the past 10 years. This investment also had a significant positive impact on teaching and research productivity, with NJIT moving into Carnegie’s Very High Research (R1) classification. Additionally, as leading experts in their fields, our faculty play a central role in assessing academic programs and ensuring that assessment activities are sufficiently robust to facilitate continuous improvement.

Chapter 5: Resources. NJIT is dedicated to shepherding our Human, Digital, Physical, and Fiscal resources in support of our mission. We use data-driven assessment to track and monitor outcomes through KPIs established in our strategic plans as well as through departmental performance indicators (DPIs). Together, these metrics ensure alignment between planning, resource allocation, and attainment of our mission and goals.

Chapter 6: Ethics and Integrity. As a public university, we are fully aware of our responsibility to our students, faculty, staff, and governing board, as well as to the residents of the State of New Jersey. Our core values highlight our commitment to Excellence, Integrity, Civility, Sustainability, Social Responsibility, Diversity, and Communication.

Chapter 7: Leadership and Administration. Based on recommendations made in the 2012 MSCHE visiting team report (ROA-12 MSCHE Visiting Team Report 2012), NJIT has implemented a highly effective system of shared governance in which all community voices are heard. Our Board of Trustees, President, Provost, and other senior administrators, along with our Faculty Senate and University Senate, have guided us through a period of tremendous transformation in which many of the KPIs of the *2020 Vision* strategic plan improved or even exceeded their targets. Additionally, in the face of the global pandemic, our administration applied their expertise to safeguard our fiscal health while also implementing modifications to allow safe, socially distanced, in-person learning experiences in the fall of 2020 and spring of 2021.

OPPORTUNITIES FOR IMPROVEMENT AND INNOVATION

As part of our self-study process, we identified opportunities for improvement that will guide our strategic activities. These are summarized below and also listed in their relevant chapters.

Planning Suggestions and Recommendations

- Communicate the results of strategic activities more broadly.

Student Learning Suggestions and Recommendations

- Expand offerings of structured, service-learning courses.
- Enable better tracking of student milestone learning experiences.
- Investigate strategies to increase enrollment in certificate programs.
- Formalize industry advisory board feedback.
- Monitor staffing levels and ensure staffing vacancies in the Office of Accessibility Resources are promptly refilled to ensure adequacy of services as demand increases.
- Repeat employer surveys to capture current perceptions of our students and graduates.
- Include diversity metrics in program review data, including performance outcomes.

Student Experience Suggestions and Recommendations

- Develop a consistent method for assessing student services.
- Better assess student support software to evaluate its effects on student outcomes.
- Continue to identify alternatives to costly textbooks and better track courses using such resources.
- Review usage guidelines for athletic facilities to ensure all students have appropriate access.
- Provide additional programming for incoming international undergraduate students.

Faculty and Research Suggestions and Recommendations

- Assemble and charge an Institutional Diversity Committee to ensure intentionality in identifying diverse candidates for faculty positions.
- Initiate a collaborative review of academic program mission statements, goals, and student learning outcomes.
- Capture university-wide data regarding capstones and undergraduate research experiences to better assess such learning experiences.
- Continue to hire faculty with expertise in high-impact disciplines while focusing on diversity.

Resources Suggestions and Recommendations

- Achieve greater transparency in monitoring faculty and administrator hiring, retention, and promotion demographics.
- Implement the DEI Action Plan that will emerge from our campus climate survey.
- Create additional common learning spaces to provide areas for students to learn together outside the classroom.
- Continue implementation of our IST strategic plan to complete our digital transformation.

Ethics and Integrity Suggestions and Recommendations

- Develop and implement a review schedule for existing university policies.

Leadership and Administration Suggestions and Recommendations

- Address aspects of shared governance that declined based on survey assessment.
- Present a resolution to the Board to formally delegate policy development to the University Policy Committee.
- Enhance business intelligence capabilities.
- Conduct reviews of senior administrators in the next academic year based on the current process while considering process revisions proposed by the Faculty Senate.

SELF-STUDY PARTICIPANTS

Our Self-Study was overseen by an Executive Leadership Team and a Self-Study Steering Committee supported by eight Working Groups. Seven Working Groups were responsible for the chapters of the Self-Study. An additional Working Group collected and managed the evidence and completed the Verification of Compliance report.

In 2018, committees conducted a Needs Analysis and an Assessment Review as preliminary evaluations that informed both the Self-Study and our strategic planning efforts for *NJIT 2025*. These preliminary evaluations and our strategic planning process are described in Chapter 1.

Community members were kept informed throughout our Self-Study by frequent communications in the form of memos and presentations from the President or Provost. The completed Self-Study was shared with the Board of Trustees and published on the university website in September to solicit feedback. On February 10, 2021, the Board endorsed the final Self-Study prior to its submission to MSCHE.

Table ES-2: Self-Study Steering Committee Membership

Self-Study Steering Committee Membership	
Self-Study Executive Leadership Team	
Fadi P. Deek	Provost and Senior Executive Vice President
Eugene P. Deess	Accreditation Liaison Officer Executive Director, Office of Institutional Effectiveness Steering Committee Co-Chair
Janice Daniel	Professor & Associate Dean for Research and Graduate Studies, Newark College of Engineering Steering Committee Co-Chair
Co-Chairs, Working Group 1: Planning	
Kevin Belfield	Dean, College of Science and Liberal Arts
Guiling Wang	Professor & Associate Dean for Research, Ying Wu College of Computing
Mehmet Kaplan	Associate Director, Institutional Research (Acting Co-Chair)
Co-Chairs, Working Group 2: Student Learning	
Laurent Simon	Vice Provost, Undergraduate Studies
David Horntrop	Associate Professor, Mathematical Sciences
Co-Chairs, Working Group 3: Student Experience	
Marybeth Boger	Vice President and Dean of Students
John Wolf	Assistant Dean, College of Science and Liberal Arts
Co-Chairs, Working Group 4: Faculty and Research	
Moshe Kam	Dean, Newark College of Engineering
Georgeen Theodore	Professor, Hillier College of Architecture and Design
Co-Chairs, Working Group 5: Resources	
Andrew Christ	Senior Vice President for Real Estate Development and Capital Operations
Edward Bishop	Senior Vice President for Finance and Chief Financial Officer (Ret.)
Catherine Brennan	Senior Vice President for Finance and Chief Financial Officer
Kamalika Sandell	Vice Provost and Chief Information Officer

Hindy Schachter	Professor, Martin Tuchman School of Management
Co-Chairs, Working Group 6: Ethics	
Christine Li	Associate General Counsel and Ethics Liaison Officer
Lisa Axe	Professor, Chemical and Materials Engineering
Co-Chairs, Working Group 7: Leadership	
Holly Stern	General Counsel and Vice President, Legal Affairs
Philip Andrew Klobucar	Associate Professor, College of Science and Liberal Arts
Co-Chairs, Working Group 8: Compliance and Evidence Inventory	
Ann Hoang	University Librarian
Regina Collins	Director, Office of Institutional Effectiveness
Steering Committee Members At-Large	
President	Student Senate
President	Graduate Student Association
Joseph Roman	Alumni Association Representative

ACRONYMS

AACSB	Association to Advance Collegiate Schools of Business	AASHE	Association for the Advancement of Sustainability in Higher Education
ABET	Accreditation Board for Engineering and Technology	ACM	Association for Computing Machinery
ADAA	Associate Director for Assessment and Accreditation	ADHC	Albert Dorman Honors College
AP	Advanced Placement	APLU	Association of Public Land-grant Universities
ASCE	American Society of Civil Engineers	AY	Academic year (9/1 – 8/31)
BoT	Board of Trustees	CBK	Center for Building Knowledge
C-CAPS	Center for Counseling and Psychological Services	CDS	Career Development Services
CFO	Chief Financial Officer	CIO	Chief Information Officer
CGE	Committee on Graduate Education	CLEP	College Level Examination Program
COI	Conflict of Interest	CPCP	Center for Pre-College Programs
CSC	Code of Student Conduct	CSLA	College of Science and Liberal Arts
CSO	Chief Strategy Officer	CUE	Committee on Undergraduate Education
DEI	Diversity, equity, and inclusion	DPI	Departmental/divisional performance indicator
DSCL	Dean of Students and Campus Life	FAFSA	Free Application for Federal Student Aid
FE	Fundamentals of Engineering	FERPA	Family Educational Rights and Privacy Act
FH	<i>Faculty Handbook</i>	FMP	Facilities Master Plan
FMPU	Facilities Master Plan Update	FS	Faculty Senate
FSCAA	Faculty Senate Committee on Academic Assessment	FSSG	Faculty Search and Selection Guidelines
FY	Fiscal year (7/1 – 6/30)	GER	General Education Requirements
GPA	Grade point average	GRE	Graduate Record Examination
GSA	Graduate Student Association	GSO	Graduate Studies Office
HCAD	Hillier College of Architecture and Design	HEPI	Higher Education Price Index
HH	Highlander Hub	HIPAA	Health Insurance Portability and Accountability Act
HR	Human Resources	IB	International Baccalaureate
ILG	Institutional Learning Goal	IPEDS	Integrated Postsecondary Education Data Systems
IST	Information Services and Technology	KPI	Key performance indicator

MTSM	Martin Tuchman School of Management	NAAB	National Architectural Accrediting Board
NACUBO	National Association of College and University Business Officers	NCE	Newark College of Engineering
NCES	National Center for Education Statistics	NJAC	New Jersey Administrative Code
NJII	New Jersey Innovation Institute	NJSA	New Jersey Statutes Annotated
OAA	Office of Academic Advising	OARS	Office of Accessibility Resources and Services
OAT	Open and Affordable Textbooks	ODL	Office of Digital Learning
OGC	Office of the General Counsel	OGI	Office of Global Initiatives
OIE	Office of Institutional Effectiveness	OR	Office of Research
OSL	Office of Student Life	P&T	Promotion and tenure
PIC	Priority Implementation Committee	PG	Program Goal
PM	Program Mission	PRP	<i>Pandemic Recovery Plan</i>
PRSC	Pandemic Recovery Steering Committee	R&D	Research and development
REDCO	Real Estate Development and Capital Operations	SAP	Satisfactory Academic Progress
SEC	Supplemental Ethics Code	SEVP	Senior Executive Vice President
SFAS	Student Financial Aid Services	SLO	Student Learning Outcome
SNA	Space Needs Analysis	SPISC	Strategic Plan Implementation Steering Committee
StratComm	Office of Strategic Communications	SVP	Senior Vice President
TLC	The Norma J. Clayton Learning Center	T/TT	Tenured/tenure-track
TWC	The Writing Center	UCPT	University Committee on Promotion and Tenure
UEC	Uniform Ethics Code	UPC	University Policy Committee
URM	Underrepresented minority	YWCC	Ying Wu College of Computing

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CHAPTER 1: PLANNING

NJIT's robust and mature strategic planning process involves all university stakeholders in elaborating and implementing high-level priorities to further our mission. Specific objectives within the priorities drive strategies that inform plan implementation and related key performance indicators (KPIs) that measure success. Together, these give us a comprehensive framework for decision making, resource allocation, and assessment, enabling us to evaluate the objectives and strategies relating to our mission, the effectiveness of our planning process, and the institutional transformation resulting from our strategic initiatives.

Because of the central role of strategic planning at NJIT, the priorities and core values articulated in *2020 Vision* and *Building on a Strong Foundation—NJIT 2025* guide the narrative and structure of this document, supported by institutional assessment through the strategic KPIs and the success metrics they establish. This chapter discusses our adherence to the MSCHE Standards for Accreditation and Requirements of Affiliation listed in Table 1-1. Note that Standard VI Criteria 4 through 9 are discussed in Chapter 5.

Table 1-1: Standards, Criteria, and Requirements of Affiliation Addressed

STD/ ROA	Statement	Meets Criterion
Standard I: <i>The institution's mission defines its purpose within the context of higher education, the students it serves, and what it intends to accomplish. The institution's stated goals are clearly linked to its mission and specify how the institution fulfills its mission.</i>		
SI.C1	Clearly defined mission and goals that:	
SI.C1.a	Are developed through appropriate collaborative participation	✓
SI.C1.b	Address external as well as internal constituencies	✓
SI.C1.c	Are approved and supported by the governing body	✓
SI.C1.d	Guide faculty, administration, staff, and governing structures in decision making	✓
SI.C1.e	Include support of scholarly inquiry and creative activity	✓
SI.C1.f	Are publicized and widely known by stakeholders	✓
SI.C1.g	Are periodically evaluated	✓
SI.C2	Institutional goals that are realistic, appropriate to higher education, and consistent with mission	✓
SI.C3	Goals that focus on student learning and related outcomes and on institutional improvement	✓
SI.C4	Periodic evaluation of mission and goals to ensure they are relevant and achievable	✓
Standard VI: <i>The institution's planning processes, resources, and structures are aligned with each other and are sufficient to fulfill its mission and goals, to continuously assess and improve its programs and services, and to respond effectively to opportunities and challenges.</i>		
SVI.C1	Institutional objectives that are clearly stated, assessed appropriately, and are used for planning and resource allocation	✓

SVI.C2	Clearly documented and communicated planning and improvement processes that provide for constituent participation, and incorporate the use of assessment results	✓
SVI.C3	A financial planning and budgeting process that is aligned with the institution's mission and goals	✓
ROA7	The institution has a mission statement and related goals, approved by its governing board, that defines its purposes within the context of higher education.	✓
ROA10	Institutional planning integrates goals for academic and institutional effectiveness and improvement, student achievement of educational goals, student learning, and the results of academic and institutional assessments	✓

INTRODUCTION

Our mission as a public polytechnic research university is to serve the residents of New Jersey, the nation, and the world through the four elements of our mission: education, research, economic development, and engagement. The element of education articulates our commitment to serving diverse students to prepare them for the challenges of the 21st century, while the research element highlights our efforts to advance knowledge and address global problems. Our mission also articulates our goals relating to external constituencies through economic development and engagement with society. In this way, our mission and goals are consistent with and reflect those generally embraced for higher education, particularly for public polytechnic institutions.

Our strategic plans operationalize our mission, creating a roadmap for implementing key objectives through strategic planning, budgeting, and resource allocation in support of strategic priorities. Key performance indicators (KPIs) guide assessment efforts, identifying those areas in which implementation efforts are succeeding and those in need of modified strategies or additional resources, helping us achieve our goals while operating more efficiently for a sustainable future.

NJIT MISSION: A STATEMENT OF SHARED PURPOSE (SI, SI.C1.B, SI.C2, ROA 7)

The purpose of higher education in the United States has changed rapidly in the past two decades. The mission of NJIT defines our goals as an institution and aligns our efforts in pursuit of a shared purpose. Our mission, most recently revised as part of the development of our current strategic plan, *Building on a Strong Foundation—NJIT 2025*, is shown below.

NJIT, the state's public polytechnic research university, is committed to excellence and global impact through:

- *Education—preparing diverse students for positions of leadership as professionals and as citizens through innovative curricula, committed faculty, and expansive learning opportunities*
- *Research—advancing knowledge to address issues of local, national, and global importance with an emphasis on high impact basic, applied, and transdisciplinary scholarship*
- *Economic development—anticipating the needs of business, government, and civic organizations to foster growth, innovation, and entrepreneurship*
- *Engagement—applying our expertise to build partnerships, serve our community, and benefit society as a whole*

These four elements guide NJIT in contributing solutions for the grand challenges of the future and improving the quality of life today.

Our mission, vision, and core values provide students, faculty, staff, administration, and alumni with the direction and support needed to execute and realize our mission effectively.

Periodic Assessment of Mission (SI.C1.c, SI.C1.e, SI.C1.f, SI.C2, SI.C3, SI.C4, ROA7)

Because our vision, mission, and core values are the foundation of the university, each strategic planning process includes an assessment of these elements as a critical first step (SI.C1.a Creating the Plan). For example, at the start of the *NJIT 2025* strategic planning cycle, we strengthened the research component of our mission in response to the progress we had achieved in research through *2020 Vision*. More broadly, we reviewed our vision, mission, and core values to ensure they continued to represent our strategic goals, inviting an inclusive committee representing all university constituencies to propose revisions. After circulating the proposed revisions to the university community for review and feedback, the final versions were presented to the Board of Trustees (BoT) for review and comment before being acted on (SI.C4 BoT Retreat Mission Vision (06-06-2019)).

In spring of 2020, our revised mission, vision, and core values, as approved and adopted by the BoT, were shared with all internal and external stakeholders through *NJIT 2025* which was approved by the BoT on June 25th, 2020 and disseminated (SI.C1.c-ROA-7 Resolution Endorsing NJIT 2025). The revised mission, vision, and core values were also broadly communicated on “Our Mission and Values” webpage and are frequently highlighted in communications and presentations.

The goals outlined in *2020 Vision* and *NJIT 2025* align our strategic goals with our mission and with the overarching purpose of higher education. Specifically, objectives in the *2020 Vision* Student priority focused on student learning and outcomes, addressing the particular challenges of our institution including 1) retention and persistence by strengthening support for students; 2) development of guidelines for advisement across academic departments; 3) assurance of graduating students on time and without administrative obstacles; and 4) continuously evaluating the curriculum to ensure its currency and to ascertain the achievement of learning outcomes. *2020 Vision* also provided guidance for the definition of institutional and educational outcomes and goals for continually improving student learning.

To ensure the relevance of our goals and to assert that our mission is achievable, we also take other actions, often through external assessments. For example, in 2016 and again in 2019, we contracted an external consulting firm to conduct an economic impact assessment. The 2016 report estimated our economic impact on the State of New Jersey at \$1.74 billion, broken down as follows: \$941.8 million in research-related activity; \$293.7 million in student-related economic activity; \$226.9 million in learning-related economic activity; \$229.6 million in investments-related activity; and \$44.3 million in community-related activity. By 2019, our economic impact within New Jersey had increased to \$2.81 billion as a result of the university’s “unique emphasis on industry and regional partnerships and incubators” (SI.C4 Economic Impact Report (02-08-2019)).

In pursuit of the Carnegie “Community Engagement” designation, we launched a university-wide assessment of community service and engagement activities in 2018, culminating in a Community Engagement application submission (April 15, 2019) (SI.C4 Community Engagement Application). Although our distributed model of community engagement did not align with the requirements for the designation, the effort solicited contributions from a broad array of administrators, faculty, and staff across the university and made clear the extent to which we already engage with our host city while highlighting opportunities to expand and formalize such interactions.

STRATEGIC PLANNING: AN INCLUSIVE PROCESS (SI.C1.A, SI.C1.G, SI.C4, SVLC2)

More than showpieces, our strategic plans are roadmaps that guide our activities over a five-year period (ROA-10 Objectives 2010-2015; ROA-7 Mission Vision Core Values 2010-2015). *2020 Vision* served as our primary roadmap (SI.C1.a Roadmap Planning Process 2020 Vision) from July 1, 2015 to June 30, 2020, detailing specific priorities, objectives, and strategies that guided our planning and resource allocation during a period of significant institutional transformation as evidenced through KPIs assessed bi-annually. Please note that although the plan formally ended on June 30, 2020, the December 2019 values were used to show the true achievements of the plan prior to the COVID-19 pandemic (SI.C1.g 2020 Vision Report (12-31-2019)); these are shown in Table 1-2. Almost all KPIs experienced increases during the course of *2020 Vision*; those that declined are shown in red.

Table 1-2: 2020 Vision KPIs, 2014 Baseline Values, and 2019 Final Values

Strategic Priority	Objective	Metric	2014 Baseline	2019 Value
Students	Admissions	Freshmen applications	4,777	9,048
		Graduate applications	6,305	6,693
		Transfer applications	1,793	2,002
		Average composite SAT score	1252	1297
		High school GPA	3.50	3.60
		Average GRE (quantitative) MS	155	157
		Total enrollment	10,646	11,859
	Retention	Retention rate (FTFTU to third semester)	84%	88%
	Graduation	Graduation rate (6 year)	59%	67%
	Campus quality of life	Student satisfaction with campus life (UG survey) (1-5)	3.10	3.16
Learning	Curricula Assessment	% undergraduate programs with learning outcomes assessment	20%	85%
	Curricular Reform	Educational value of the course, average (1-5)	3.07	3.11
		Professional MS programs (# programs /total # students)	0/0	4/40
	Courses other than FtF	% courses online/converged/hybrid, etc.	18%	22%
	Milestones	% undergraduate students with milestone experiences	20%	62%
	Professional Success	Job placement of bachelor's degree recipients (6 months)	54%	66%
		Student FE passing rate	69%	89%
Scholarly Research	Increase Research	Externally funded academic research (FY)	\$24M	\$37M
		Externally funded educational and service grants	\$6M	\$5M
		Externally funded technology and business development	\$33M	\$64M
		Total externally funded R&D	\$63M	\$106M
	Multidisciplinary Research	Externally funded research with PIs from multiple departments	5	36
	Doctoral	Total enrolled doctoral students	381	525
	Intellectual Property	Total IP assets	310	415
	Publications	Refereed publications/faculty (FY)	1.54	2.60

		Total books published by NJIT community (FY)	14	16
	Faculty Recognition	Faculty awards	2	11
Community	Global Community	% women students	25%	26%
		# international researchers collaborating with NJIT (FY)	24	63
		# international exchange students at NJIT (FY)	43	88
	Diverse Faculty	% women faculty	16%	21%
		% URM faculty	8%	5%
	Diverse Administration	% women administrative leadership	37%	36%
		% URM administrative leadership	20%	16%
	Alumni	Alumni giving rate	8%	10%
Investments	Faculty Renewal	% T/TT faculty hired in past 10 years	33%	44%
		# total T/TT faculty	269	319
	Educational Investment	Student satisfaction with instruction (UG survey) (1-5)	3.52	3.46
		Average UG time to degree (years)	5.13	4.51
	Infrastructure	Facility Condition Index (lower number indicates better condition of facilities)	0.11	0.08
		Faculty facilities satisfaction (1-5)	2.76	2.67
		Student facilities satisfaction (1-5)	3.00	3.11
		Faculty technology satisfaction (1-5)	3.15	3.07
		Student technology satisfaction (1-5)	3.48	3.34

Under *2020 Vision*, NJIT was ranked #1 in the nation for the upward socioeconomic mobility of our students by both *Forbes* (2018) and *New York Times* (2017), and was ranked one of the top 100 national universities by *U.S. News & World Report* (2019). Our number of applications almost doubled and the credentials of applicants have become more impressive, with higher average SAT composite scores and high school GPAs. Our graduation and retention rates have also improved significantly.

We have enhanced career placement for our students and made significant strides in renewing faculty, with more than 150 new hires in the past 10 years. We have transformed our campus through the creation of new facilities (e.g., the Makerspace, the Life Sciences and Engineering Center, and the Wellness and Events Center) as well as the refurbishment of many labs and classrooms. Philanthropic support of the university has grown significantly, along with alumni engagement and awareness of NJIT's reputation and achievements.



Well before the end of *2020 Vision*, we initiated our next cycle of strategic planning through several pre-planning activities (SI.C1.a Planning Accreditation Roadmap-NJIT 2025). In spring 2018, we began two parallel efforts: a Needs Analysis and a Review of Assessment across campus. The Needs Analysis subcommittee, representing all university stakeholders, first reviewed our peer institutions, revising our list of benchmark and aspirational peers through an iterative and collaborative process. The final list was presented by the Provost to multiple stakeholders and finally to the Board of Trustees (BoT), resulting in a formally approved list of updated aspirational and benchmark peer institutions (SI.C1.a Peer Institution Presentation). The Needs Analysis subcommittee then undertook an environmental scan to identify best practices implemented by our peers (SI.C3 Review of Peer Best Practices). This information was distributed to the strategic planning Priority Committees for consideration as they collaboratively developed objectives and goals related to their assigned priorities for *NJIT 2025*.

At the same time, an Assessment Review committee met with departments across campus to review their assessment activities and the alignment of their activities with our mission, vision, and strategic goals (SI.C4 Standards Criteria Results (07-01-2019)). Together, these efforts provided the context in which our current five-year strategic plan, *NJIT 2025*, was developed.

NJIT 2025 was formed during an intensive, 18-month process that began with a framing of the critical issues and opportunities by the President and Provost, followed in 2018 by in-depth discussions at the annual retreat of the university's BoT. The BoT proposed a direction and framework for a new strategic plan that incorporates our updated mission, vision, and core values. Guided by the Board's framework, surveys were developed and distributed inviting community stakeholders (SI.C1.a Memo Community Participation NJIT 2025) to contribute to the new strategic plan, in the same way that they were engaged in the creation of *2020 Vision* (SI.C1.a Call for Participation 2020 Vision). The stakeholder surveys (students, faculty, staff, and administration) generated more than 1,000 responses. In-depth interviews and focus groups sought additional qualitative data from faculty and students. Throughout the process, the NJIT community was updated regularly (e.g., SI.C1.a NJIT 2025 Town Hall (02-27-2019)).

After completing the above activities, an in-depth analysis of the community input was conducted. Similar to *2020 Vision*, the *NJIT 2025* strategic plan focuses on five priorities: Students, Faculty, Research, Resources, and Prominence. Each priority includes several ambitious objectives. To identify the strategies needed to accomplish the objectives, the university community was invited to form Priority Committees for each priority (SI.C1.a Memo Priority Committees (02-19-2019)). Members were selected based on the skills, interests, and knowledge that they would contribute in their respective priority. Each of these committees prepared drafts that operationalized objectives and proposed specific strategies to achieve them. The Priority Committees also proposed KPIs that would assess the effectiveness of implementation efforts, planning, and resource allocation (SI.C4 NJIT 2025, pp. 39-42), enabling the periodic evaluation of progress toward the objectives. While many of the objectives outlined in *NJIT 2025* are new, other objectives (and related KPIs) continue from *2020 Vision*.

Our current plan, *Building on a Strong Foundation—NJIT 2025* was launched on July 1, 2020, expanding on the achievements of *2020 Vision* while also addressing those areas in which we fell short of our goals. While student learning, student support, and research remain central to the *NJIT 2025* strategic plan, one priority—Prominence—is new. We believe prominence will emerge as a result of successes in the other four priorities of *NJIT 2025*: Students, Faculty, Research, and Resources.

Responding to the Pandemic

As actionable documents, our strategic plans support revision as the conditions and settings in higher education change. For example, during the pandemic, many strategic activities were put on hold. However, the guiding principles of *NJIT 2025* (Diversity, Sustainability, Recognition, and Transformation) directed our recovery plans including limited implementation efforts such as expanding online instructional capacity and continuing efforts to attract and retain diverse students, faculty, and administrators. These efforts were communicated broadly, including to the Board of Trustees (SI.C1.f BoT Presentation (11-12-2020)), faculty (SI.C1.f Faculty Presentation (04-28-2021)), planning and budget committees (SI.C1.f Joint Planning and Budget (12-14-2020)), alumni (SI.C1.f NJIT 2025 Recovery and Beyond (01-06-2021)), and

other external constituents (SI.C1.b Young Presidents Presentation (03-01-2021); SI.C1.b Hispanic Serving Institution (01-22-2021)), and to students and staff through open forums with the President and Provost.

At the same time, the institution formed a Pandemic Recovery Steering Committee consisting of administrators, faculty, staff, and students to assess the evolving situation and provide guidance on appropriate responses. This allowed us to quickly pivot to remote instruction for the remainder of the Spring 2020 semester, and to promptly draft a *Pandemic Recovery Plan* (PRP) (ROA-5 Pandemic Recovery Plan) that detailed plans for safe, socially distanced, in-person instruction by the fall of that year. Our 600+ page PRP was the first submitted to the New Jersey Office of the Secretary of Higher Education (NJ OSHE) by any state public institution and has been downloaded almost 25,000 times worldwide. The PRP outlined phases for safely returning to campus, including implementation of converged learning (SI.C1.d Converged Learning White Paper) to blend students physically in the classroom with those joining remotely, development of socially distanced seating patterns in classrooms, classroom cleaning schedules, facilities modifications (e.g., increased air flow, installation of improved air filtration), and outbreak detection through random surveillance testing and monitoring of dormitory wastewater.

ASSESSMENT-DRIVEN RESOURCE ALLOCATION FOR CONTINUOUS IMPROVEMENT (SI.C1.D SVI.C1)

To a large extent, the success of NJIT's *2020 Vision* was the result of our robust implementation strategy. Once *2020 Vision* was approved, a Strategic Plan Implementation Steering Committee (SPISC) was formed that comprised all co-chairs from the individual implementation committees. The SPISC ensured that planning, resource allocation, program and curricular development, and the definition of institutional and educational outcomes were all tied to strategic efforts in support of our mission and implementation of our strategic plan, and that the process was inclusive of all participants in shared governance.

For each priority in the strategic plan, the relevant Priority Implementation Committee (PIC) was responsible for executing the steps to achieve our goals and assess progress through KPIs, and progress was assessed twice yearly through evaluation of the KPIs which were summarized in reports to the SPISC and submitted to the President (e.g., SVI.C1 2020 Vision Report (07-01-2020)). This frequent assessment allowed the SPISC and related PICs to act quickly when progress was not being made. For example, the *2020 Vision Steering Committee Report* (SI.C1.d 2020 Vision Report (06-30-2017), pg. 2) documents a decline in the passing rate for the Fundamentals of Engineering (FE) exam. The report highlights efforts by engineering departments to provide preparatory courses and create incentives to encourage students lacking a commitment to pass.

These reports were published on our *2020 Vision* website to inform the entire university community about our progress. However, feedback suggests that the entire community could be better engaged in strategic efforts if reports were summarized in community-wide announcements (e.g., email updates) from senior administrators. Moving forward, we will continue to publish the biannual reports while also integrating a broader communication plan to inform the community about progress toward our strategic goals.

In addition to KPIs, various divisions used Division Performance Indicators (DPIs) to monitor their progress toward the attainment of strategic goals. For example, the retention and graduation rate KPIs align with corresponding DPIs through which each academic department monitors its own retention and graduation rates.

MISSION-DRIVEN FINANCIAL PLANNING AND BUDGETING (SVI.C3)

Financial planning and budgeting are crucial to our long-term viability. By carefully managing the resources available for operating and capital expenditures, the Office of Finance supports our strategic objectives through a transparent budget development process with a goal of a balanced budget (SVI.C3 University Budgeting; SVI.C3 FY22 Budget Presentation-BOT Approved). During *2020 Vision*, our centralized budget process evolved to take into consideration other strategic initiatives, resulting in a more decentralized process that forecasts budgetary needs at the lowest level of the organization and reviews and

integrates those needs based on strategic goals at the next level. Specifically, each department outlines their budget requests and forwards those requests to the dean or vice president responsible for that area, justifying how they will support and/or advance our strategic goals. Through this process (SVI.C3 Budget Dev Calendar Workflow), the relationship between planning and resource allocation becomes explicit, allowing operational and capital budget requests to be created based on our current strategic plan.

For larger capital requests, NJIT utilizes a capital project request process and form (SVI.C3 FY21 Capital Requests-Questions) to produce a long-term outlook of capital needs and available funding. To ensure fairness and equity, the capital request form is distributed to all division heads who then solicit possible capital projects from their departments. These capital requests are reviewed, evaluated, and prioritized by the division heads based on alignment with our strategic plan (and campus master plan). The prioritized capital project list is finalized by the President and Provost & Senior Executive Vice President (SEVP) in collaboration with the Senior Vice President (SVP) for Real Estate Development and Capital Operations (REDCO) before going to the BoT Buildings and Grounds Committee and then to the full BoT for final approval. A capital project is generally recognized as a major asset (value of \$100K or more) that has a useful life greater than one year. Examples are new buildings, building renovations, infrastructure upgrades, and land improvements.

The operational and capital budget calendar (SVI.C3 FY20-21 Operating and Capital Budget Dev Calendar), developed each fiscal year by the SVP for Finance and CFO, is clearly defined and communicated to the campus community. The calendar includes: meeting dates, presentation dates, public hearing date, and date for BoT action. This calendar is posted on the University Budget website along with other important annual budget development resources (SVI.C3 Finance Budgeting and Payroll). The workflow for the operational and capital budget process is also shared on the University Budget website, providing a clear understanding of annual budgeting procedures.

Resource allocation for strategic priorities is also informed by assessment of other factors. For example, a model for the equitable distribution of new faculty lines among the colleges was needed to support our faculty renewal strategy. Several factors including student enrollment, the number of course sections offered, and academic research expenditures were used in this model, which was subsequently shared with the deans for their feedback (SVI.C3 Hiring Rationale (08-17-2017)).

PERIODIC EVALUATION OF STRATEGIC GOALS (SI.C1.E, SI.C1.G, ROA10)

The five strategic priorities of *2020 Vision* were collaboratively developed based on successes of the previous strategic plan to ensure that they were realistic, appropriate to higher education, and consistent with our mission statement. Throughout the implementation of *2020 Vision*, the objectives, strategies, and KPIs in each priority were routinely assessed to recognize successes and identify areas where progress towards the target was not being made.

Evaluation of Student Priority

The first priority in *2020 Vision* included institutional goals relating to Students (SI.C2 2020 Vision Priority One-Students). It aimed to increase retention and graduation rates by providing the highest level of academic and social support to guide students through a rigorous curriculum. Several KPIs were defined and specific targets were set to measure the achievements related to this priority. For example, one objective was to “Strengthen Graduate Student Recruitment.” The associated KPI had a baseline of 6,305 applications (in 2014) with a target of 8,197 by 2020 (SI.C2 2020 Vision Priority One-Students, pg. 6). Strategies to achieve this objective included recruiting at the departmental level, ensuring timely offer letters and attractive graduate stipends, and analyzing graduate student success by department and program. While initially successful, changes in regulations for international students impacted its success. In response to the decline in international master’s enrollments, we focused on domestic students and were able to reach 7,101 graduate applications by 2019 (SVI.C2 2020 Vision Final KPI Table). Similarly, ambitious goals for undergraduate applications challenged a review of the admissions process, leading to a decision to move to the Common App which resulted in a significant increase in first-year student applications.

Other KPIs evaluating efforts in the Student priority include the average composite SAT, high school GPA, and average GRE Quantitative score. Strategies relating to increasing retention included intensifying academic advisement and improving tutoring, mentoring, and student support services. Because of this, our retention rate increased from 84% to 88% while the six-year graduation rate rose from 59% to 67%, surpassing the target of 65%. (By 2020, retention had increased to 89% and six-year graduation rate to 70%.)

NJIT 2025 continues the Students priority and includes many of the same KPIs while adding specific targets to promote diversity and close the equity gap. For example, *NJIT 2025* sets ambitious targets for increasing enrollment, retention, and graduation rates for underrepresented minority (URM) groups (such as Hispanic and Black/African American students) and among federal Pell grant recipients.

Evaluation of Learning Priority

The Learning priority of *2020 Vision* (SI.C2 2020 Vision Priority Two-Learning) focused on giving students a course of study that provides a strong education program, meets current professional standards, and is delivered by enthusiastic instructors using innovative and effective methods. In addition, it emphasized digital learning by offering courses in a variety of modalities (converged, hybrid, Hyflex, online) to make them more accessible to all students. Several KPIs tracked Learning objectives, including the percent of undergraduate students with milestone experiences (which increased from 20% to 62%) (SVI.C2 2020 Vision Final KPI Table).

Of note, the converged learning mode, pioneered by NJIT in 2013 to blur the distinction between students in the classroom and those joining remotely, was instrumental in allowing us to offer safe, socially distanced, in-person learning during the global pandemic, even while many of our peers continued fully remote instruction. During fall 2020, 44% of our courses were offered in the converged learning mode.

Evaluation of Scholarly Research Priority

The Scholarly Research priority (SI.C2 2020 Vision Priority Three-Research) focused on developing a national and international presence in research. To this end, our objective was to provide full administrative, technological, and material support to assist faculty in achieving their full potential by developing new knowledge in their fields. During *2020 Vision*, a number of resources supporting scholarly inquiry and creative activity were provided for students and faculty members. For example, increased start-up packages were provided to new faculty hires, and seed grants were made available to all faculty members to facilitate the translation of discoveries to marketable innovations. Moreover, policies and guidelines were developed at the university level to grant faculty course releases to support their research activities and scholarship, with departments responsible for developing implementation details (SI.C1.e Teaching Assignment Crit).

The KPIs relating to Scholarly Research were realistic. In fact, most of them had already been achieved by 2019. For example, during this time, our total research expenditures increased from \$106 million to nearly \$161 million in 2019 – despite the slow growth in available federal research support (SVI.C2 2020 Vision Final KPI Table). Together, these successes were instrumental in NJIT being classified as a Carnegie Very High Research (R1) university.

NJIT 2025 continues to support students and faculty members in research and creative scholarly pursuits, with KPIs tracking the number of faculty receiving prestigious awards, growth of externally-funded and total research expenditures, and the average number of citations per faculty member. More details relating to support for scholarly inquiry and creative activity are discussed in Chapter 4.

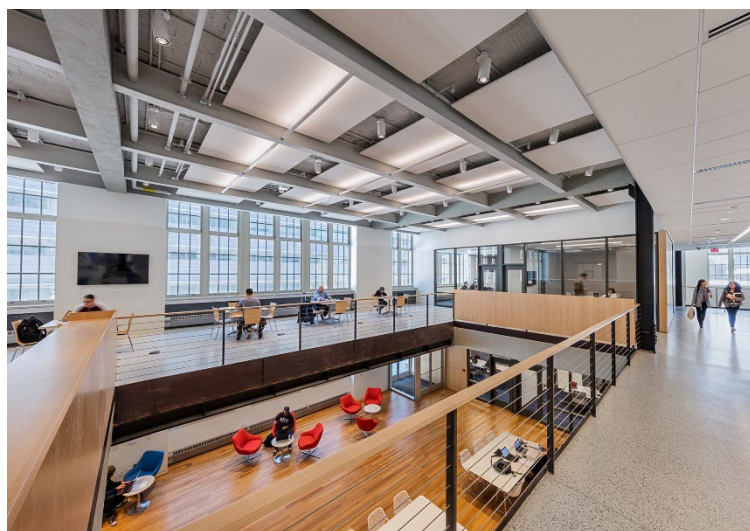
Evaluation of Community Priority

The fourth strategic priority in *2020 Vision*, Community (SI.C2 2020 Vision Priority Four-Community), sought to expand the representation of women and underrepresented minorities in the faculty and administrative ranks. When the plan was drafted, our community already represented many different cultures, ethnicities, and ways of life, with students from over 100 countries. However, efforts to make our faculty and administration look more like our student body were generally unsuccessful. While the

percentage of women faculty increased from 16% to 21%, the percentage of URM faculty, women administrative leadership, and URM administrative leadership all declined (SVI.C2 2020 Vision Final KPI Table). These objectives are therefore continued in *NJIT 2025*, along with KPIs to track progress.

Evaluation of Investments Priority

The final priority included institutional goals relating to Investments with four unique objectives: education, faculty renewal, research, and infrastructure (SI.C2 2020 Vision Priority Five-Investments). The educational investment objective focused on increasing support for excellence in undergraduate, graduate, and continuing professional education, while the faculty renewal objective laid out an ambitious plan to hire, develop, and retain faculty, especially those with excellence in strategic educational and research areas. Increases in the percentage of faculty hired in the past 10 years (from 33% to 44%) and in the total number of tenured/tenure-track (T/TT) faculty (from 269 to 317) showed the effectiveness of our faculty hiring efforts (SVI.C2 2020 Vision Final KPI Table).



The infrastructure objective led to a plan for a visually appealing campus environment and sought to address the needs of an evolving research university. Within the last decade, we have significantly invested in the renovation of buildings and the updating of classroom technology, resulting in student satisfaction with facilities increasing from 3.00 to 3.11. The upgrading of classroom technology also proved essential in our move to converged learning during the pandemic.

Four KPIs measured achievement in the Investment priority, including increases in faculty and student satisfaction with facilities, and

faculty and student satisfaction with technology. During the course of *2020 Vision*, the committees noted that perceptions measured by surveys were difficult to change. Despite this caveat, several survey-based KPIs have been added to *NJIT 2025* to assess our performance from different perspectives. These metrics will capture where we have done well and, more importantly, where improvement is needed.

Evaluation of Strategic Plan

The effectiveness of a strategic plan is assessed more broadly as the development of the next strategic plan gets underway. That is, the *NJIT 2025* steering committee and priority committees carefully reviewed the *2020 Vision* objectives and KPIs when developing the new plan, carrying forward goals not achieved and setting more ambitious targets for strategic goals that saw improvement. For example, we saw an increase in alumni giving rates during *2020 Vision*, but *NJIT 2025* calls for continued improvements on that metric. Successes were also evaluated for equity. Under *2020 Vision*, the number of faculty increased significantly, and the percentage of women faculty also increased. However, the percentage of URM faculty decreased, leading to the continuation of these KPIs in *NJIT 2025* with the realization that additional efforts and investments must be made to attract diverse candidates for such positions.

A REVIEW OF THE MSCHE 2012 FINAL REPORT RECOMMENDATIONS

NJIT's institutional objectives reflect conclusions drawn from assessment results, including prior MSCHE assessments. The MSCHE Final Report from 2012 (ROA-12-ROA-6 MSCHE Final Eval Report, pp. 4-5) suggested seven areas for future attention which guided the development of our *2020 Vision* objectives and have carried through to *NJIT 2025* as well. The first recommendation, related to *faculty*

development, included increasing the critical mass of T/TT faculty while reducing the reliance on the use of contingent faculty. Based on this recommendation, *2020 Vision* met its target of the percentage of faculty hired in the past 10 years and went from a baseline of 34% to 44% of total T/TT (i.e., 156 new faculty members, nearly 50% of current faculty) hired in the last decade. *NJIT 2025* continues to address this goal through strategies including hiring additional T/TT faculty and adding new teaching faculty positions.

The second recommendation related to *women and underrepresented groups*. Based on this, we sought strategies and best practices aimed at increasing the number of women and URM faculty to mirror the diverse profile of NJIT students. As previously mentioned, while the percentage of women faculty increased during *2020 Vision*, we were unsuccessful in increasing the percentage of URM faculty. We will continue to address the issue of diversity in *NJIT 2025*, which includes KPIs aimed at increasing the percentages of women faculty to 25% and URM faculty to 9% of the total T/TT faculty.

The third recommendation relating to *shared governance and communications* encouraged us to complete our efforts to redesign our shared governance structure(s) as soon as possible. In response, we created a two-senate model for governance (i.e., Faculty Senate and University Senate), approved by the BoT on February 6, 2014 (ROA-6 Shared Gov Policy (02-06-2014)). This governance structure is discussed in detail in Chapter 7.

The fourth recommendation pertained to *outreach* where we were encouraged to continue our aggressive pursuit of corporate, government, and academic partnerships to drive innovation and economic development. As a result, we have been markedly more engaged with international communities and growing in global impact as evidenced by an increase in the number of international faculty collaborations and a doubling of international exchange students (i.e., 43 in 2014 compared to 88 in 2019). In addition, the New Jersey Innovation Institute (NJII), an NJIT corporation founded to “turn ideas into workable solutions,” has engaged 100 new agency and corporate partners, generating \$180M in sponsored economic development programs since 2014. *NJIT 2025* continues outreach efforts with a focus on building a nationally prominent, best practice co-op, internship, and apprenticeship program; expanding externally-funded academic research across the entire spectrum of funding agencies; and developing increased international partnerships with highly ranked universities, companies, and governmental departments through alumni and faculty contacts and others.



The fifth recommendation, related to *institutional assessment*, suggested that the university strengthen institutional assessment practices and focus on data-informed decision making in strategic planning and annual progress reviews to assure timely progress in achieving goals. In response, *2020 Vision* adopted 43 KPIs with specific targets related to university priorities, with administrators at the vice president level assuming responsibility for achieving KPI targets in their divisions. For *NJIT 2025*, the number of KPIs has grown to more than 80, although only a subset of approximately 40 KPIs will be published in each report (SI.C4 NJIT 2025, pp. 39-42).

The sixth recommendation pertained to aspects of *student recruitment*, suggesting that we increase the number of international and out-of-state undergraduate students and develop strategies to increase the number of student applications overall. Under *2020 Vision*, first-year undergraduate applications more than doubled (from 4,777 to 11,578), transfer student applications increased from 1,793 to 1,975, and graduate applications increased from 6,035 to 9,722. Increased recruitment targets remain a leading objective in *NJIT 2025*, particularly with respect to women and URM applicants. However, it should be noted that the COVID-19 pandemic negatively affected the recruitment of international students and, to a lesser extent, URM undergraduate students, at least temporarily.

The last recommendation was on *student life*. In this recommendation, we were commended and encouraged to continue to develop our unique approach to student life, providing a hybrid model that brings high-quality student life and extra-curricular experiences to both resident and commuter students. Through *2020 Vision*, we offered expanded opportunities for social interactions through a growing number of student clubs, and we engaged undergraduates in challenging activities including our Undergraduate Research Initiative (URI) program. Improving the campus quality of life is a continuing objective in *NJIT 2025*, which includes plans for physical improvements to learning areas and social spaces as well as a campus beautification plan. We will also develop more campus events and activities during the week to engage commuter students in our community. Moreover, parking services and capacity will be kept in line with the university's planned enrollment growth.

CONCLUSION

This chapter provides evidence of our alignment with all criteria of MSCHE Standard I and the first three criteria of Standard VI, as well as Requirements of Affiliation 7 and 10. Our mission clearly states our purpose within the context of higher education. Our mature and collaborative strategic planning process drives budgeting and resource allocation in support of strategic initiatives, enabling us to achieve a significant institutional transformation during the five year period from July 1, 2015 to June 30, 2020.

Building on a Strong Foundation—NJIT 2025, which took effect on July 1, 2020, continues to align planning, budgeting, and resource allocation in support of strategic priorities. We are confident that our renewed mission and strategic plan will build on the foundation laid by *2020 Vision* to help us achieve our vision of being a “preeminent public polytechnic research university with local and global impact.” To this end, the Students, Faculty, and Research priorities, along with the appropriate Human, Digital, Physical, and Fiscal Resources (shown in Figure 1-2), will drive efforts to fulfill our mission and strategic goals to achieve the recognition and prominence we deserve.

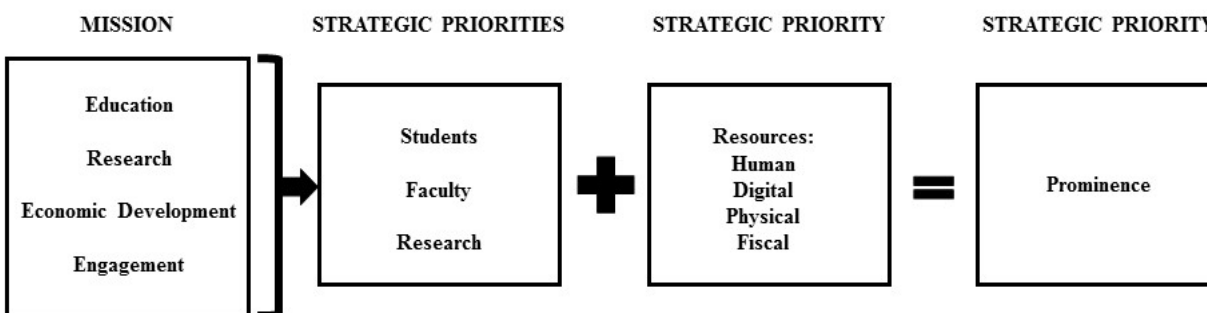


Figure 1-1: Alignment of university mission to strategic priorities

SUGGESTIONS AND RECOMMENDATIONS

Based on our self-assessment of our efforts relating to Planning, we have identified the following suggestions for improvement:

Suggestion

- Communicate the results of strategic activities more broadly. During the course of *2020 Vision*, the SPISC compiled information about KPIs and implementation efforts twice annually with a more in-depth analysis once yearly. These reports were published on the strategic planning website and disseminated through presentations and reports to various constituencies. However, sending out a brief email bulletin coinciding with our *NJIT 2025* reporting schedule will ensure that the entire community is informed and engaged.

CHAPTER 2: STUDENT LEARNING

Students are at the core of NJIT’s mission and the first priority of every strategic plan (*2020 Vision and Building on a Strong Foundation—NJIT 2025*). The first element of our mission states our commitment to excellence and global impact: “Education—preparing diverse students for positions of leadership as professionals and as citizens through innovative curricula, committed faculty, and expansive learning opportunities” (SIII.C1-ROA-7 NJIT 2025, pg.2).

This chapter describes the design and delivery of the student learning experience at NJIT. Note that SIII.C2 and its sub-criteria are addressed in Chapter 4 in which we discuss the *NJIT 2025* strategic priorities of Faculty and Research. This chapter discusses our adherence to the MSCHE Standards for Accreditation and Requirements of Affiliation listed in Table 2-1.

Table 2-1: Standards, Criteria, and Requirements of Affiliation Addressed

STD/ ROA	Statement	Meets Criterion
Standard III: <i>An institution provides students with learning experiences that are characterized by rigor and coherence at all program, certificate, and degree levels, regardless of instructional modality. All learning experiences, regardless of modality, program pace/schedule, level, and setting are consistent with higher education expectations.</i>		
SIII.C1	Certificate, undergraduate, and graduate programs leading to a degree or other recognized higher education credential	✓
SIII.C3	Academic programs of study that are clearly and accurately described in official publications of the institution	✓
SIII.C4	Sufficient learning opportunities and resources to support both the institution’s programs of study and students’ academic progress	✓
SIII.C5	At institutions that offer undergraduate education, a general education program that:	
SIII.C5.a	Offers a sufficient scope to draw students into new areas of intellectual experience	✓
SIII.C5.b	Offers a curriculum designed so that students acquire and demonstrate essential skills including at least oral and written communication, scientific and quantitative reasoning, critical analysis and reasoning, technological competency, and information literacy. Consistent with mission, the general education program also includes the study of values, ethics, and diverse perspectives	✓
SIII.C6	In institutions that offer graduate education, opportunities for the development of research, scholarship, and independent thinking	✓
SIII.C7	Adequate and appropriate institutional review and approval on any student learning opportunities designed, delivered, or assessed by third-party providers	✓
SIII.C8	Periodic assessment of the effectiveness of programs providing student learning opportunities	✓
ROA8	The institution systematically evaluates its educational and other programs and makes public how well and in what ways it is accomplishing its purpose.	✓

ROA9	The institution's student learning programs and opportunities are characterized by rigor, coherence, and appropriate assessment of student achievement throughout the educational offerings, regardless of certificate or degree level or delivery and instructional modality.	✓
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INTRODUCTION

Education is our core mission. We strive to provide students with meaningful opportunities to acquire and internalize knowledge, and we develop methods to measure students' understanding and synthesis of materials learned in the classroom and through experiential opportunities. To facilitate students' progress through their degree programs, we provide detailed information about program requirements and length, along with opportunities to integrate milestone experiences (co-ops, internships, undergraduate research, service learning, and study abroad) into their studies. We support students who are educationally and economically challenged through our Educational Opportunity Program (EOP), while challenging our most accomplished students to excel as members of the Albert Dorman Honors College (ADHC).

Learning is supported through our two academic libraries, multiple discipline-specific tutoring centers, and other resources. Along with discipline-specific courses, students are exposed to foundational courses in communication, quantitative and scientific reasoning, critical analysis, technological competency, and information literacy through a recently revised General Education Requirements (GER) program. By ensuring students can explore diverse values and perspectives, we achieve our mission of educating "diverse students for positions of leadership as professionals and as citizens," with assessment playing a critical role in student success and the continuous improvement of academic resources and learning opportunities.

ENROLLMENT

Over the past decades, NJIT has grown from a commuter school to a nationally top-ranked public university (ROA-2 US News 2022 Initial Insights) with a Carnegie classification of Very High Research Activity (R1) which was reaffirmed in 2021. Our enrollment has increased from 6,300 students in Fall 1979 (the first year of publicly available federal data) to 11,901 students in Fall 2021, an 89% increase in the last four decades. In Academic Year (AY) 2020-2021, NJIT awarded 90 doctoral degrees in 19 different disciplines, while we awarded none 50 years ago. Figure 2-1 shows our enrollment growth and number of degrees awarded per academic year (AY) since our last MSCHE Self-Study in 2012.

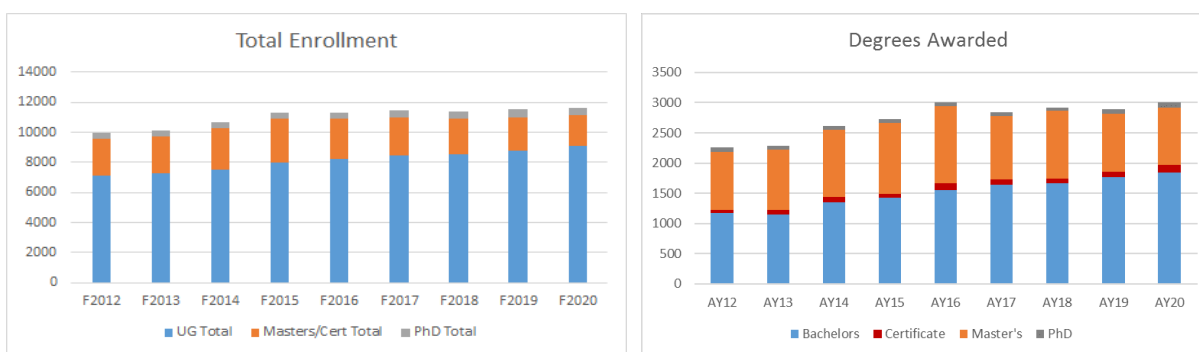


Figure 2-1: Fall enrollment and degrees awarded since our last MSCHE Self-Study in 2012

Today, NJIT is a critical resource for education, scholarly and applied research, and economic development in the fields of engineering and technology, computing, the natural sciences, architecture and design, management, and the humanities and social sciences. Almost 40% of our first-year cohort (2021) received Pell grants, and for them in particular, our STEM+ career focus offers a road to success. In fact, NJIT was recognized by *Forbes* (2018) and the *New York Times* (2017) as being #1 in student upward

socio-economic mobility (SIII.C1 Forbes Student Upward Mobility), with the highest percentage of students from the bottom fifth of the income distribution moving into the top fifth. In 2019, about 83% of our bachelor's degree recipients are employed full-time, 6% of them enter graduate programs, and 3% of them undertake post-graduation internships (SIV.C1.d CDS Graduate Outcomes). Our graduates enjoy mid-career salaries that place them among graduates of the top eight public research universities in the country (SIV.C1.d Payscale 2021 College Salary Report). These accomplishments highlight the value of an NJIT education and the success of our strategies, procedures, and policies supporting student learning.

DEGREE PROGRAMS (SIII.C1, SIII.C4)

NJIT is a Carnegie R1 university offering students a wide variety of STEM+ degree programs (science, technology, engineering, mathematics, architecture, design, and business) at the baccalaureate, master's, and doctoral levels, as well as post-baccalaureate certificates. Academic programs are structured to ensure a coherent learning experience, allowing students to develop critical thinking while learning material relevant to their fields through lectures, discussions, labs (where appropriate), and projects. Courses progress from introductory to more advanced topics emphasizing both theoretical concepts and practical applications, ensuring that students develop the necessary foundational understanding on which to synthesize more complex knowledge.

This approach aligns with the Learning priority of *2020 Vision* (continued in the *NJIT 2025* Students priority) of enhancing the curriculum, promoting student learning, and facilitating experiential learning (SIII.C1-ROA-7 NJIT 2025, pg. 12).

Course Formats and Delivery Modes

The formats of our courses are appropriate to the nature of the knowledge being taught. For example, lectures are used for theoretical or liberal arts coursework where discussions and questions are essential to student learning, while labs provide students with hands-on experience. Students in the Hillier College of Architecture and Design (HCAD) experience a studio culture through which they have the opportunity to analyze information and synthesize it into a coherent design solution with faculty playing the roles of coaches and mentors.

NJIT offers six instructional delivery modes designed to provide maximum flexibility to all students. As shown in Table 2-2, the converged learning modality was expanded significantly in response to the pandemic to allow some students to attend class in person while others joined remotely. To offer students a virtual interactive learning experience, we also introduced a new synchronous online format. For the fall 2021 semester, most classes are once again offered in the traditional face-to-face format.

Table 2-2: Distribution of Course Offerings by Delivery Mode

Delivery Mode	FA2018	SP2019	FA2019	SP2020	FA2020	SP2021	FA2021
Face-to-face	88%	87%	88%	85%	-	-	83%
Converged learning	0.1%	0.1%	0.1%	0.1%	45%	35%	0.3%
Hybrid	2%	3%	3%	4%	-	-	6%
Hyflex	0.1%	0.1%	0.1%	0.1%	-	-	-
Online	9%	10%	9%	11%	11%	12%	11%
Synchronous Online	-	-	-	-	44%	54%	0.3%

Course learning goals and outcomes are consistent regardless of delivery mode, with average course grades of face-to-face and online courses being within one standard deviation of each other (SIII.C1 Grade Comparison by Modality). This ensures that all students receive the same quality instruction regardless of course modality.

Undergraduate Programs

NJIT offers over 50 bachelor's degrees through our academic colleges and schools. These degree programs provide students of varied interests a strong technical education combined with a liberal arts foundation through our GER. As part of the continuous curriculum improvement process, each department holds regular meetings and coordinates its efforts to ensure that students' needs are met and that outcomes are consistent. This is supplemented by periodic academic program reviews.

Curriculum development and maintenance is a collaborative, university-wide activity drawing on the expertise of our program directors, faculty, chairs, and deans as well as the Committee on Undergraduate Education (CUE), GER subcommittee, and academic program industrial advisory boards. These groups collaboratively develop and refine coherent undergraduate programs through which students acquire increasingly complex knowledge.

Milestone Learning Experiences

In *2020 Vision*, NJIT established an objective of expanding milestone learning experiences for all students. The plan called for the inclusion of appropriate capstone projects in all curricula and an expansion of the Provost's Summer Research Program. The KPI tracking this objective shows that 62% of students participated in milestone learning experiences in the 2018-2019 academic year, up from 20% in 2014.

This goal is continued in *NJIT 2025* under the objective of promoting and facilitating experiential learning. The three proposed strategies aim to 1) enhance opportunities for students to participate in milestone experiences, 2) expand financial support for domestic and international exchange programs, and 3) make sustainability a focus for milestone experiences. The third objective builds on our recent integration of sustainability as a core value, a guiding theme of *NJIT 2025*, and an institutional learning goal. Its inclusion as a learning goal also aligns our educational efforts with the requirements of many of the professional agencies that accredit our academic programs. For example, established criteria from AACSB, ABET, CIDA, NAAB, and NASAD require that all students receive instruction on applying sustainable principles to discipline-specific practices (e.g., SIII.C4 ABET Criteria Including Sustainability). The following sections elaborate milestone learning experiences available to our students.

Capstone Projects. Capstone projects provide opportunities for students to work with companies on real-world problems while also satisfying three credits towards their degree requirements. For example, the Ying Wu College of Computing (YWCC) offers an industry-sponsored capstone program that gives students the opportunity to apply their knowledge while bringing value to employers such as Forbes, Panasonic, Prudential Financial, Verizon, and UPS (SIII.C4 YWCC Capstone Webpage). The experience enhances students' resumes, improving their opportunities for job placement upon graduation. Over the past 12 years, 96% of capstone employers rated the deliverables produced by their student teams as average or better, with 76% rating the deliverables very good or outstanding (SIII.C4 YWCC Capstone Sponsor Survey).

All engineering students similarly engage in a capstone experience, with the biomedical engineering curriculum dedicating two semesters to a research project carried out in students' senior year. Recent projects include an arm motion tracker and a 3D bioprinter that generates three-dimensional hydrogel scaffolds.

Co-ops and Internships. *2020 Vision* challenged us to increase the number of curricular-based co-ops and internships with the goal of strengthening students' employment profile through industry experience in which they can apply their academic knowledge. In response, Career Development Services (CDS) implemented the Handshake system in 2018, facilitating the connection between employers and students seeking co-ops, internships, or full-time employment. Through Handshake, students can post their resumes when seeking opportunities, and employers can locate students with matching skills and interests and connect with them directly. Between 1,600 and 1,700 students participate in internships and co-ops annually (SIII.C4 CDS Annual Report 2019, pg. 11).

CDS periodically conducts surveys asking employers to rate their satisfaction with an intern or co-op student or a graduate hired for a full-time position. In the most recent survey (2018), 89% of employers

were satisfied or very satisfied with the quality of work of their NJIT hire (SIII.C4 Employer Survey 2018). This represents a slight decline from our 2016 survey when 92% of employers were satisfied or very satisfied (SIII.C4 Employer Intern Survey 2016). However, when looking at individual skills, employer satisfaction increased on most measures including technical skills associated with the job, problem solving skills, collaboration with others, and effective use of technology. As pandemic restrictions lift (i.e., most internships and co-ops were virtual in 2020 and 2021), this survey will be repeated.

Service Learning. CDS encourages faculty to integrate service learning into their courses by extending student learning into the community, making service learning opportunities available to all NJIT students. A Service Learning Faculty Handbook provides best practices in combining student learning and course content with meaningful engagement and critical reflection through completion of an assignment or project that includes a service-related component (SIII.C4 Service Learning Fac Handbook).

As service is a part of the mission of ADHC—with every Dorman Scholar required to complete sixty hours of service per year—the college is seeking additional ways to expand service learning opportunities by formalizing service experiences (e.g., Global Brigades and Engineers without Borders) into more structured courses offered as technical electives. There is a significant demand for such service-learning courses (SIII.C4 Honors College Service Learning).

Study Abroad. Through the Office of Global Initiatives (OGI), students in all majors can take advantage of our relationships with international universities to study abroad. In accordance with the 2020 *Vision* priority of Community and continued with strategies in *NJIT 2025*, we increased the range of options for students to study abroad through international and domestic exchange programs and provided them with operational, logistical, and modest financial support (e.g., scholarships to fund travel and housing expenses).

Other improvements include faculty-led programs offering short-term, more affordable options to students, and a new partnership (2019) with a consortium that significantly increases international destinations. Plans are also underway to develop internship abroad programs. Prior to the global pandemic, new short-term programs in Lyon, France and Rome, Italy were poised to significantly increase the number of students studying abroad, with short-term travel courses offering great promise, particularly given the highly structured requirements of most of our majors. An opportunity available to HCAD students is the Siena Summer Program which consists of six weeks in Italy, preceded by six weeks of study at NJIT for 12 to 20 students per year, with all courses taught by regular HCAD faculty. This program is an invaluable experience for students and faculty alike and has given rise to a formal exchange agreement with the University of Siena. A generally positive trend in participation in study abroad programs by semester is shown in Figure 2-2.

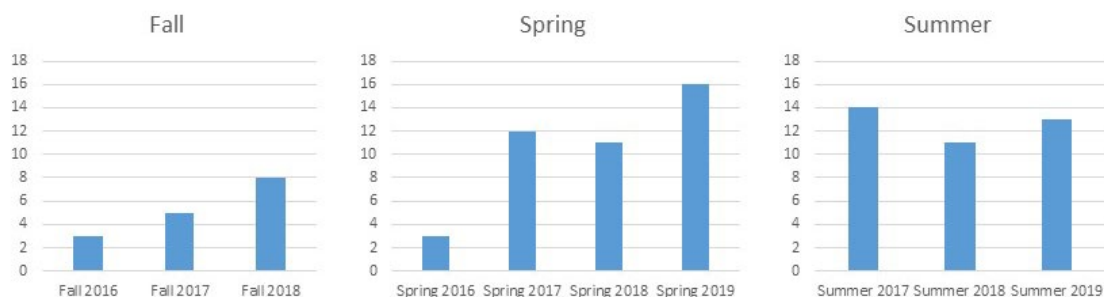


Figure 2-2: Students participating in study abroad by semester

Undergraduate Student Research. As a Carnegie R1 university, research is a central part of the NJIT experience. Undergraduate milestone research experiences are growing in popularity, with 134 students participating in the 2021 summer research symposium (SIII.C4 Summer Research Symposium), up from approximately 100 students in 2015. The Undergraduate Research and Innovation (URI) program aligns with our mission by giving undergraduate students the ability to address open-ended problems while applying discipline-specific knowledge to derive a solution.

The URI Student Seed Grant program provides funds for students to pursue research or develop proof-of-concept prototypes under the guidance of a faculty advisor (SIII.C4 Provost Summer Research URI), with summer stipends available through the Provost Undergraduate Summer Research Fellowships. Owing to the program's success, we have secured substantial external funding, most recently through an alumnus who chairs the URI Advisory Board. The Brian G. Kiernan '70 URI Challenge matches donations dollar for dollar with a \$250,000 challenge gift (SIII.C4 Brian Kiernan URI Challenge).

One of our most successful undergraduate research programs is the Ronald E. McNair Post-Baccalaureate Achievement Program (SIII.C4 McNair Achievement Program). This grant annually supports approximately 20 low-income, first-generation, or underrepresented minority students majoring in STEM disciplines to complete their bachelor's degrees and enroll in post-baccalaureate degree programs with the goal of obtaining doctorates.

In the design fields, Architecture and Design undergraduate majors take part in funded research carried out by the Hillier College of Architecture and Design (HCAD) Center for Building Knowledge (CBK) which helps individuals and communities make better informed decisions about the performance, sustainability, and resilience of buildings.

Competitions. Our students frequently engage in regional, national, and international competitions as forms of real-world learning outside the classroom. Examples include hackathons, the American Society of Civil Engineers (ASCE) steel bridge and concrete canoe competitions, alternative fuel vehicles (SIII.C1 Solar Challenge Then Tesla), traditional mathematics contests, and more. Evidence of our students winning such competitions abound (e.g., SIII.C1 Microsoft Hackathon Win 2014).

Assessing Milestone Experiences. CDS maintains a general record of students who participate in milestone experiences each year (SIII.C4 Milestone Experience 2019). Figure 2-3 illustrates the number of undergraduate students taking part in co-ops, undergraduate research, and service learning from summer 2016 through spring 2019.

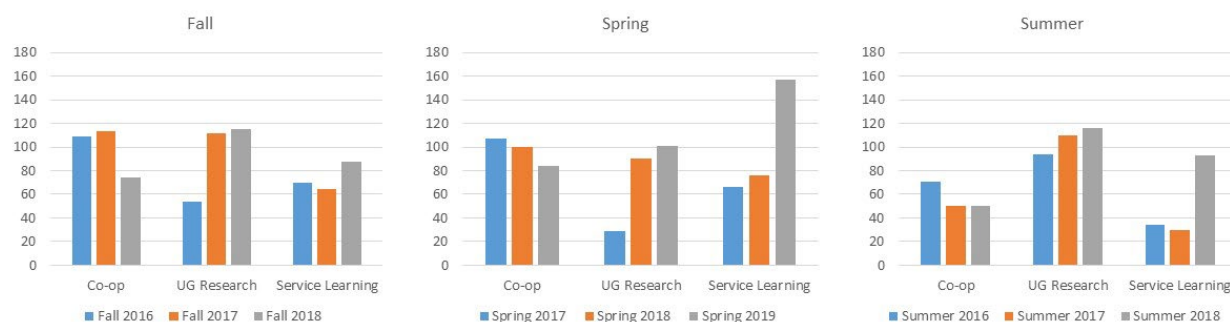


Figure 2-3: Students participating in milestone experiences by semester

While it is clear that we have had much success in opening up important educational experiences to our students, more fine-grained data collection and analysis would allow us to track our success in these areas more precisely. For example, are women, minorities, Dorman Scholars, athletes, or EOP students over or underrepresented in these categories? Are specific colleges (including the Dorman College, not currently

tracked), or departments more or less effective in achieving these goals? Stronger data collection and cohort tracking will allow us to discover best practices and target resources most effectively.

New and Revised Degree Programs. The university has a robust and transparent approach to developing new undergraduate programs in areas with career growth potential that are related to our existing strengths. For example, we were the first university in New Jersey to offer a Forensic Science Program in 2018, and in 2019 we introduced the state's first Cyberpsychology program (SIII.C1 Forensic Science; SIII.C1 Cyberpsychology). Most recently, we launched the first and only B.S. in Financial Technology (SIII.C1 BS Financial Technology).

The approval of new programs and the revision of existing undergraduate programs is built on the principles of shared governance. The Committee on Undergraduate Education (CUE), a subcommittee of the Faculty Senate, oversees undergraduate programs, considering all new and modified undergraduate courses, changes to majors or minors, additions or eliminations of programs, and undergraduate academic policies. Any member of the NJIT community can request that an item be placed on CUE's agenda, and committee members carefully review all items under consideration at each meeting, suggesting modifications as appropriate. Items approved by CUE are then considered (and possibly modified) by the Faculty Senate, and items approved by the Faculty Senate are sent to the Provost's Office for consideration. Approved items are subsequently implemented, and items not approved at any step of the process are remanded back to the proposer, who may modify and resubmit if desired.

DEGREE PROGRAM REQUIREMENTS (SIII.C3)

Undergraduate and graduate program requirements are accessible to students in the University Catalog (SIII.C3 University Catalog) and on the websites for each degree program. Through the Degree Finder webpage, students can compare majors by program summary, starting salary, and top employers (SIII.C3 Major and Degree Finder).

Enrolled students can use our web-based degree audit system (DegreeWorks) to track their progress (SIII.C3 DegreeWorks Sample Report). The system displays statistics relating to the percent of degree completion and courses completed, including (for undergraduates) courses satisfying their general education requirements.

In addition to these self-service capabilities, students meet with their advisors before registration each semester to ensure they are meeting their program requirements and enrolling in meaningful learning experiences. This ensures that students maintain progress towards graduation. Registration procedures are clearly outlined on the Office of the Registrar website, and a full registration calendar, including registration dates, is provided every semester (SIII.C3 Registration Instructions).

To help students complete their degrees on time, we have expanded the scope of winter and summer sessions and provided additional financial assistance to attend these sessions. As a result, enrollment in summer courses has increased by 33% since 2015. When close to completing their degree, students are automatically notified by the Office of the Registrar with assistance from the Office of Academic Advising (OAA). Thanks to efforts such as enhanced academic advising, improved tutoring, additional financial support, expanded course offerings, and clear communication of academic policies and procedures, our four- and six-year graduation rates have increased significantly, as shown in Figure 2-4.

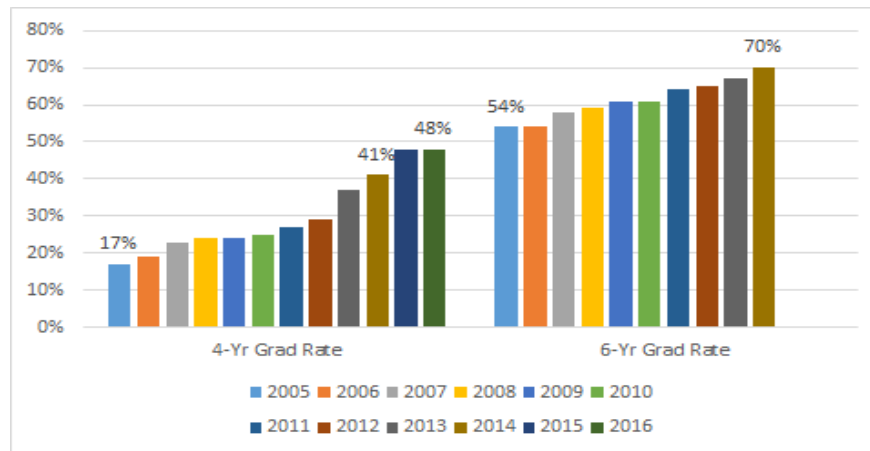


Figure 2-4: Four- and six-year graduation rates for FTFTU cohorts

GENERAL EDUCATION REQUIREMENTS (GER) (SIII.C5.A, SIII.C5.B)

The philosophy of our GER states that we are “dedicated to producing graduates who have the knowledge, skills, and motivation necessary to advance the state-of-the-art knowledge in their respective fields in addition to possessing a devotion to lifelong personal development as well as intellectual discovery beyond their discipline” (SIII.C5.b Gen Ed Requirements). This aligns with our *2020 Vision* strategic goal that students should acquire and demonstrate essential skills to be successful.

NJIT GUR to GER Transition

Most of our academic programs were impacted by state legislation (NJ S1265) signed into law in August, 2018, stipulating that a maximum of 120 credits is required for a student to earn a bachelor’s degree from a public institution (SIII.C1 NJ S1265 Bill). (This does not apply to the five-year Bachelor of Architecture program.) The reduction in the number of credits shortens the time to earn a degree, promoting a quicker transition into the workforce and decreasing accumulated debt.

Prior to this statewide change, NJIT’s General Undergraduate Requirements (GUR) underwent a two-year review (2015-2017) by a CUE subcommittee composed of faculty representing all academic units. The new subcommittee gathered input from faculty and other stakeholders including deans, department chairs, academic advisors, librarians, and administrators. This intensive process culminated in CUE’s approval of the Motion to Revise General Education Requirements at NJIT (SIII.C5.a Faculty Senate Approved GER) on March 6, 2017 meeting, followed by the Faculty Senate’s approval of the new GER on March 23rd of the same year (SIII.C5 Fac Sen Minutes (03-23-2017)). The GUR to GER transition provided processes for ongoing management and assessment of general education that are consistent with shared governance, establishing a permanent GER Subcommittee of CUE whose authority includes the approval of new GER courses as well as ongoing oversight of the existing GER curriculum.

The result of the GUR to GER transition was a streamlined general education curriculum ensuring success in undergraduate disciplines and providing the breadth of knowledge demanded by contemporary society. Although the GER comprises 37 credits rather than the 45 credits of the GUR, the revised GER literacies (below) ensure that students develop an understanding of global issues and cultural differences and are equipped to make well-reasoned judgments as professionals and as global citizens.

- Computing Literacy (three credits) focuses on the nature of computing, its impact on society, and the driving forces behind its pervasive deployment
- Cultural Literacy (18 credits), encompasses multiple disciplines including communication, culture, history, humanities, philosophy, the arts, and the interaction of science, technology, and society

- First-year communication literacies (six credits) expose students to writing, research, and information literacy
- 200-level History and Humanities (three credits) integrate diverse perspectives through the study of history
- 300-level History and Humanities (six credits) provide opportunities for advanced exploration of topics relating to communication, ethics, history, literature, philosophy, politics, religion, the performing arts, and social sciences
- Humanities Senior Seminar (three credits) offer students a seminar experience focused on literature, philosophy, theatre, or the confluence of science, technology and society
- Quantitative Reasoning (six credits) focuses on the ability to reason quantitatively, to understand probability and statistics, and to apply mathematical skills to a variety of circumstances to make informed decisions in the modern world
- Scientific Literacy (seven credits including a one-credit lab) develops an understanding of the physical universe
- Social Science Literacy (three credits) develops students' understanding of the economic, social, and political forces at work in our world

The GER effectively ensures that students acquire the essential skills outlined by MSCHE: oral and written communication, scientific and quantitative reasoning, critical analysis and reasoning, technological competency, and information literacy. Through upper-level Cultural and Social Science Literacy courses, students also develop skills for critical reasoning and understanding values, ethics, and diverse perspectives (SIII.C5.b GER to MSCHE Crosswalk). The GER courses that satisfy Cultural Literacy also provide sustained opportunities to learn about diversity, equity, and inclusion (DEI).

While developing procedures for approving new GER courses in 2017-2018, the GER Subcommittee found that the broad definitions of the GER literacies were not sufficiently detailed for judging whether the learning outcomes for proposed GER courses met the intended standard. The Subcommittee therefore conducted a qualitative analysis of the learning outcomes of previously existing GER courses and derived three sub-literacies for each GER literacy (SIII.C5.b Hist Hum Review New GER). The “sub-literacies” created through this process provided the Subcommittee with the criteria to assess whether a newly proposed course met the GER literacy standard. The Subcommittee then refined and clarified its process for reviewing new and existing GER courses in 2019-2020 (SIII.C5.b GER Crse Approvals Assessment).

More recently, the GER Subcommittee conducted a comprehensive review of all GER courses. By identifying the literacies and sub-literacies satisfied by each course, the Subcommittee can better ensure that all students have ample and diverse opportunities to experience all GER literacies. The review also formally identified the MSCHE skills aligned with each course to confirm that all students have opportunities to attain the skills defined in Standard III.5. The Subcommittee's primary initiative in 2021-2022 is to refine the GER Course Review Process to facilitate periodic review of existing GER courses, further ensuring the success of our ongoing GER curriculum assessment.

GRADUATE RESEARCH, SCHOLARSHIP, AND INDEPENDENT THINKING (SIII.C6)

Each year, nearly 1,000 students come to NJIT from around the globe to pursue any of our master's degrees, doctoral degrees, or post-baccalaureate certificate programs. Supported by the Graduate Studies Office (GSO), all master's, doctoral, and post-baccalaureate certificate students participate in rigorous coursework facilitating scholarship in their chosen field, with opportunities to participate in other learning experiences including research, service learning, international opportunities, and industry learning experiences (SIII.C6 Grad Learning Experiences). The goal is to engage students in practical research and prepare them for rewarding careers.

The Committee on Graduate Education (CGE) routinely receives proposals for new courses, certificates, and master's degree programs to keep pace with new developments in the student's chosen

field. Additionally, faculty research is often integrated into academic curriculum content to keep pace with innovations in the field.

Master's Degree Programs and Professional Science Master's Degree Options. NJIT offers a broad variety of master's degrees with recently launched MS programs including Cyber Security and Privacy, Data Science, and Urban Design. While most master's degrees are master's of science, the Martin Tuchman School of Management (MTSM) also offers a master's of business administration (MBA). Seeking to offer additional opportunities through our growing design program, HCAD recently launched a master of fine arts (MFA) in Digital Design as well as an MS in Digital Design to attract students with distinct interests.

All our master's degrees offer students a coherent learning experience. While many students complete master's degrees through rigorous coursework, students can also choose to work on an MS project (3 credits) or MS thesis (6 credits) under a faculty member's supervision. Additionally, some graduate programs require students to travel overseas with their course instructor. All graduate courses are challenging and intensive as they are designed to meet students' needs in highly specialized areas.

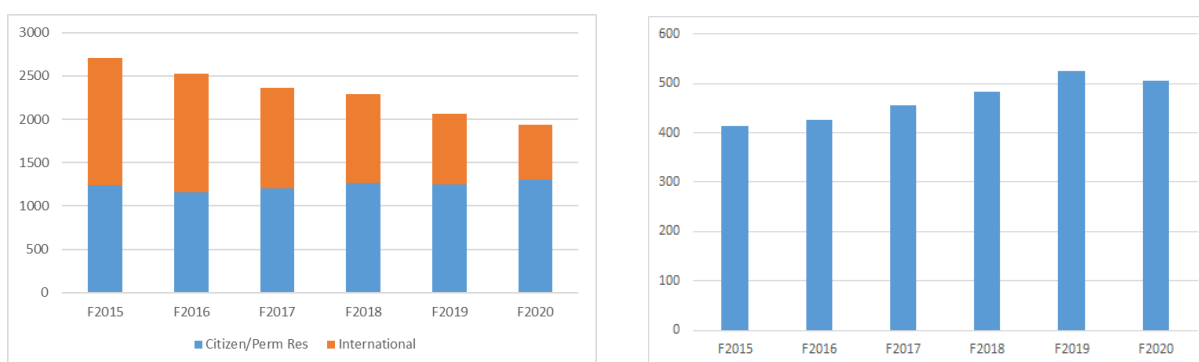


Figure 2-5: Master's enrollment by citizenship status and total doctoral enrollment

Recent circumstances challenged our enrollment of international master's students, leading to an overall decrease in master's program enrollment. In response, we refocused efforts to attract more domestic students, increasing their percentage from 46% in Fall 2015 to 68% by Fall 2020. At the same time, doctoral student enrollment grew, except in Fall 2020 when we experienced a slight decline in enrollment due to the pandemic.

To make our programs accessible to a broader range of students, 15 master's degrees are offered in a fully online format in addition to traditional face-to-face and hybrid learning opportunities. Regardless of the delivery mode, the curriculum for a master's degree is the same to ensure consistent student learning outcomes.

For traditional (face-to-face) master's programs, Newark College of Engineering (NCE) has been ranked #88 in Best Engineering Schools for Graduate Programs by *U.S. News & World Report*, with our Computer Engineering program ranked #69 (2022 edition) (SIII.C6 US News Grad Prgrms 2022). The 2022 edition of the *U.S. News Best Online Programs* (SIII.C6 US News Online Prgrms 2022) ranks the following NJIT online master's programs:

- #31 Best Online Master's in Information Technology
- #63 Best Online Master's in Engineering
- #87 Best Online Master's in Business Program (non-MBA)
- #137 Best Online MBA program

We also offer several Professional Science Master's (PSM) degrees which integrate courses in communications, business, and leadership skills as part of the requirement for affiliation with the PSM national organization. Students pursuing PSM graduate programs are required to work on a project supervised by a faculty member, often toward a result that is of interest to an industry partner. Because

PSM programs have curricula requiring 30-36 course credits, they do not differ in any substantial way from regular, 30-credit master's degree programs.

Graduate Certificate Programs. Students not ready to commit to a master's degree, or who are seeking less intensive options for their professional development, can alternatively earn graduate certificates. Over the past two years alone, we have introduced 17 new graduate certificates in emerging fields that capitalize on our faculty's expertise. In total, the state of New Jersey has approved 51 NJIT certificate programs including Animation Essentials, Data Mining, Business Analytics, and Cell & Gene Therapy Sciences.

Graduate certificate programs have a unique focus that guarantees academic coherence for a given area of expertise. For this reason, each certificate typically requires the accumulation of twelve credits (four 3-credit courses). Through certificate programs, students can enhance their abilities in their current position or seek new employment opportunities, and earned credits can be applied toward a related Master's degree at NJIT or elsewhere.

Although enrollment in certificate programs declined from a high of 107 in 2015 to a low of 64 in 2018 (SIII.C6 Certificate Enrol Summary), enrollment is once again increasing (70 in 2019 and 75 in 2020). Data mining is currently the most popular certificate program, but certificates in construction management and project management have been consistently popular. Because one of the goals of certificate programs is to encourage enrollment in the corresponding master's upon completion of the certificate, this data is now being provided to program directors as part of their program assessment data.

Doctoral Degree Programs. The goal of every doctoral program is to prepare students to become researchers and scholars in their fields. As a Carnegie R1 (Very High Research Activity) university, we expect doctoral students to conduct innovative research and to publish their findings in peer-reviewed scholarly journals and academic conference proceedings. In general, students having a bachelor's degree or a master's in an unrelated field will take 36 credits of advanced courses in addition to their credits for dissertation research, while students with a related master's degree require 12 credits of advanced coursework. Other requirements (e.g., qualifying examinations, doctoral seminars) are established by each program; all requirements are clearly outlined on the program pages in the university's Graduate Course Catalog. Our doctoral students contribute to knowledge through their published research, as evidenced by the downloads of our electronic dissertations (SIII.C6 Downloads Theses Dissertations). Additionally, in alignment with our strategic plans, we continue to expand research and service opportunities, including options for civic engagement, for graduate students.

LEARNING OPPORTUNITIES AND RESOURCES (SIII.C4)

NJIT ensures that students have ample learning opportunities and resources to support their progress. In *2020 Vision*, we focused on curricular assessment and reform, converging learning through digital technology, expanding opportunities for milestone learning experiences, and ensuring students' professional success. In *NJIT 2025*, we continue our efforts to enhance the curriculum and promote student learning, and to facilitate experiential learning with a goal of attaining national and international recognition for our students' achievements.

Educational Opportunity Program (EOP)

The EOP program provides access and support to primarily low-income, first generation, and underrepresented minority students who do not meet traditional admissions requirements such as SATs. EOP makes educational opportunities widely available, improving educational outcomes for populations traditionally underrepresented in STEM+ fields.

While EOP students may come from economically challenged families, these students are typically retained at a higher rate than regularly admitted students, as shown in Figure 2-6 (SIII.C4 EOP vs Reg Admit Assessment). Graduation in five and a half years is the benchmark for EOP students, which becomes evident in the comparable six-year graduation rates between the two groups. In fact, the EOP program has proven so successful that *NJIT 2025* proposes expanding this level of support to all students.

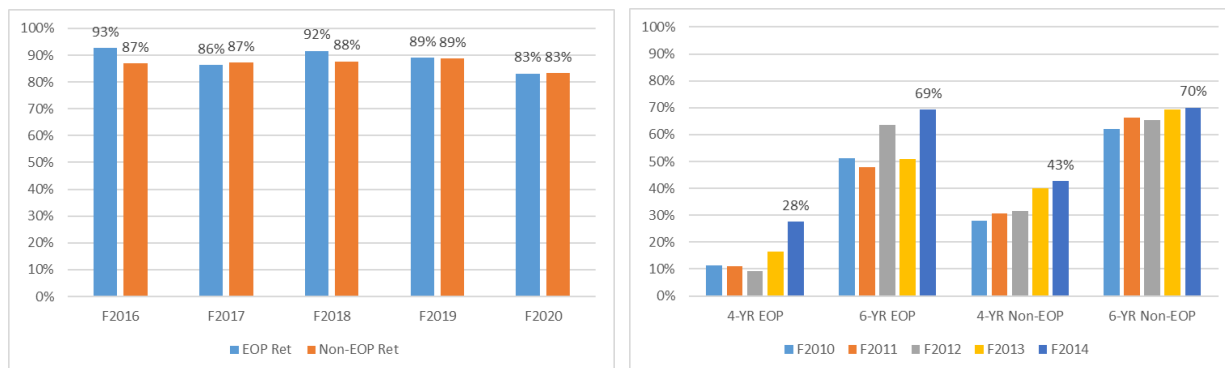


Figure 2-6: Retention and graduation rates of EOP and regularly admitted students

During the 2020-2021 academic year, EOP supported over 600 undergraduate students. Program support includes a pre-freshman summer enrichment program, a winter intercession course to prepare students for success in their second semester, substantial financial aid, and enhanced advising and counseling. During the summer enrichment program, faculty administer quizzes and exams weekly and also meet with EOP staff to determine a student's progress towards the target of direct entry into their freshman courses. These evaluations also help EOP administrators determine the extent, depth and amount of tutoring/mentoring assistance the EOP freshmen should receive throughout the year. EOP is also assessed annually through questionnaires and surveys of students, faculty, student staff (TAs/tutors), and EOP staff, with a trend analysis indicating program adjustments for the following year.

Albert Dorman Honors College (ADHC)

The ADHC offers a uniquely rich and challenging educational experience to dedicated students who have demonstrated excellence in their studies. Dorman Scholars take part in honors classes including seminars and, at the start of their studies, develop a four-year Honors Educational Plan to plot out their Honors courses and milestone learning experiences. They attend Honors colloquia (e.g., lectures, trips, networking with distinguished speakers and alumni) and engage in meaningful service both on campus and in the surrounding communities. Dorman Scholars interested in research can take a course introducing them to research methods, ethical and social questions of scientific research, and grant proposal writing. The ADHC Dean's Fund supports Dorman Scholars attending and presenting at scholarly conferences.

Students accepted into ADHC receive substantial financial support as well as individual Honors advising (SIII.C4 Honors 6-Yr Summary Report) in addition to academic advising. Honors students are retained and graduate at higher rates than their non-Honors peers.



Figure 2-7: Retention and graduation rates of Honors and regularly admitted students

Learning Communities (LC)

Our LCs support new students in adjusting to college life and academic expectations. As part of a cohort of peers with similar interests, students in LCs benefit from a connected community designed to facilitate academic peer support. In a 2017 survey of LCs, 51.4% of students were Satisfied or Very Satisfied with their LC experience, and 63% said they would recommend joining an LC to a friend or prospective student (SIII.C4 Learning Community Survey).

Office of Accessibility Resources and Services (OARS)

NJIT is committed to making individuals with disabilities full participants in our community. Operating in accordance with the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973, OARS provides accommodation for the classroom, dining, and residence halls for undergraduate, graduate, doctoral students, and Rutgers–Newark students enrolled in courses at NJIT. More than 160 students annually receive support services and accommodations through OARS (SIV.C1.d OARS Acad Resources), including adaptive equipment, alternative format materials, assistive listening devices, emotional support animals, housing accommodations, note-taking, parking, real time captioning, sign language interpreters, and testing accommodations. While the use of these services has been steadily increasing in recent years, staffing in OARS has declined due to attrition. Moving forward, staffing levels will be monitored to promptly refill vacancies and to address increases in demand for services.

Tutoring Centers

NJIT offers a number of resources to ensure undergraduate students have the support necessary to fulfill their academic requirements. These resources are primarily in the form of learning and tutoring centers.



The Learning Center (TLC) provides tutoring services, enrichment workshops, academic coaching, and staff and peer support to help students meet their coursework demands and be fully prepared for life after graduation. TLC staff provide group and individual instruction as well as other resources to support student success, including the TLC Academic Success Manual (SIV.C1.d TLC Acad Success Manual).

The Writing Center (TWC) assists students with their writing, from formulating an outline to producing a finished product. Students can visit TWC without a referral for a single session or through ongoing appointments with the same consultant.

Some professors refer students specifically or require that all students visit the center at least once during the semester. TWC also assists students with papers, lab reports, and even dissertations and academic publications (SIV.C1.d The Writing Center).

We also offer discipline-specific tutoring centers for chemistry, math, and physics, and our student chapter of the Association for Computing Machinery (ACM) offers free tutoring for Computer Science, Information Technology, and Information Systems classes (SIII.C4 NJIT ACM).

Library

The NJIT Library is comprised of two academic libraries. The Robert W. Van Houten Library serves as our university's scholarly center connecting students, faculty, and staff with rich and diverse resources to advance their instructional, teaching, and research needs. The collection of resources includes electronic databases, academic books and journals, streaming media, and special collections including an archive of rare items developed and manufactured by Edward Weston—scientist, prolific inventor, and a founding member of NJIT's BoT.

Librarians provide instruction, reference, and research support consultation through multiple communication channels via live chat, one-on-one visits, and email and text services to connect the community with needed and relevant information. Plans are also underway to embed library services

directly into the Canvas Learning Management System to facilitate real-time interaction between students, faculty, and library staff. Additional services include off-campus access to resources for anytime/anywhere access, interlibrary loans to bring needed materials from anywhere around the world to our community, and collaborative study spaces for serendipitous discovery and learning.

The Barbara and Leonard Littman Architecture and Design Library, a branch of the university's Library, maintains a core collection of architecture, art and design resources including the Digital Archive of Newark Architecture (DANA) and Digital Scholarship Lab, and the Leir Data Observatory provides a dedicated high-tech space for students and faculty to study data sciences.

Makerspace

Our Makerspace provides an ecosystem to support the innovation, invention, and product realization processes upon which industry depends. It encompasses 21,000 square feet containing \$3 million in state-of-the-art manufacturing equipment ranging from small prototyping machines to industrial milling equipment. A sequence of courses introduce students to the use of the equipment, covering basic tools and policies, laser cutting and engraving processes, and 3D printing, with safety being a paramount concern.

PREPARING HIGH SCHOOL STUDENTS FOR COLLEGE

The Center for Pre-College Programs (CPCP) offers engaging STEM learning and college access programs for students, educators, and families of children grades 4 through 12 with the goals of increasing access to STEM fields among underrepresented and underserved high school students and improving the teaching of science, technology, engineering, and mathematics (STEM) in elementary and secondary schools. CPCP serves more than 4,300 students, educators, and schools/districts annually through programs including the Federal TRIO programs (Upward Bound, Talent Search, and Upward Bound for English Language Learners), Early College Preparatory Programs, academic summer programs, Saturday Morning STEM and SAT/ACT courses, and the College Bound State Grant Program.

One recent partnership between NJIT, the City of Newark, and the Newark Board of Education is the Math Success Initiative (MSI) (ROA-9 MSI Celebrates First Graduates). Led by CPCP in collaboration with NJIT's College of Science and Liberal Arts (CSLA), MSI is designed to help ensure the college readiness of Newark area high school students to pursue a baccalaureate degree in STEM disciplines (ROA-9 Math Placement Results). In its first year, 35 students from four Newark high schools participated in a seven-week summer enrichment program, with 23 of those students completing a pre-calculus or calculus course during the following academic year. Fourteen of these students enrolled at NJIT in the fall of 2020, including one who was admitted to the ADHC as a Newark Mayor's Honors Scholar. Building on the success of this program, the NJIT Forensic Science Initiative (FSI) is backed by \$1.4 million in seed funds from the U.S. Department of Education to introduce Newark high school students to forensic science as a pathway to college and a STEM education.

As part of its requirements for federal and state funding, CPCP conducts rigorous annual assessments (ROA-9 CPCP GU-CB-UBELL Assessment) including Annual Performance Reviews (APRs) to ensure that all program requirements are met and to troubleshoot areas that need improvement. Results from the APRs are used to track progress and determine the quality of the services being offered while also helping to determine student strengths and weaknesses in the core academic subjects of English, mathematics and science. These evaluation tools are crucial in planning and revising CPCP efforts to continue to provide quality services.

THIRD PARTY PROVIDERS OF LEARNING OPPORTUNITIES (SIII.C7)

Through the dual enrollment Options program (administered by CPCP), NJIT has been able to offer qualified junior and senior high school students the opportunity to enroll in college credit-bearing courses at their school during the academic year (SIII.C7 Options Brochure). The high school instructors teaching the courses are vetted and certified by NJIT as adjuncts and follow the same syllabi using the same course materials as students on our campus. Courses offered through the Options program include Calculus I, Calculus II, Engineering Graphics and Introduction to CAD, and Fundamentals of Engineering Design.

Participating high schools sign a memorandum of understanding (MOU) with NJIT (e.g., SIII.C7 St Benedicts Prep MOU) and are evaluated based on the availability of qualified instructors and the types of equipment and facilities to which the school has access. To ensure the equivalency of student outcomes, we review sample final exams to gauge the extent to which students are meeting the course learning outcomes.

ASSESSMENT OF STUDENT LEARNING OPPORTUNITIES (SIII.C8; ROA8; ROA9)

Our academic program assessment process (shown in Figure 2-8) is designed to yield actionable program review reports on a four-year cycle, with interim annual reports identifying resource needs and the impacts of any recent program modifications. Because external accrediting agencies are rigorous in their assessment of programs, externally accredited programs adhere to their accrediting organization's review schedule, submitting their accreditation reports in lieu of the university's standard assessment report. However, to ensure continuous improvement, annual check-in reports are collected from all academic programs including those that are externally accredited.

In Year 1, the process is initiated by the Assistant Director for Assessment and Accreditation (ADAA) with the provision of the assessment template and five years of program-specific data (e.g., enrollment, retention, persistence, cumulative GPAs, and degrees awarded) to inform a high-level trend analysis. (In future rounds of assessment, the same data will be broken down by gender and race/ethnicity.) The template is a user-friendly Word file that requests the following components: 1) program mission statement, 2) program goals, 3) student learning outcomes (SLOs), 4) the mapping of courses, 5) the identification of measures for assessing SLOs, 6) the setting of benchmarks and targets, 7) the collection of findings based on data, and 8) recommended actions and action timelines informed by the findings (e.g., where outcomes fall below established targets, program directors are prompted to provide recommended actions) (e.g., SIII.C8 CERT Network Security Report). Throughout the process, guidance and feedback is provided by the ADAA.



Figure 2-8: Academic program review cycle

Once complete, the department chair and dean review the report and either approve or request updates prior to review by the Faculty Senate Committee on Academic Assessment (FSCAA). The inclusion of the FSCAA taps into shared governance by inviting faculty peers and other stakeholders to

provide feedback from a perspective outside the program's department and college. FSCAA members are provided completed assessment reports ahead of time, and all vote to approve, approve with comments, or disapprove the review (e.g., SIII.C8 FSCAA Approvals (12-15-2021)). If program assessments are not approved, updates are requested from the program director. To inform decision making and planning, approved assessment reports are submitted to the Provost, the department chair, the college dean, and the program director with any comments provided by the FSCAA. The reports are then archived to inform the next phase: action planning.

Through the formalized action planning process, program directors work collaboratively with department leadership and program faculty to process assessment findings and plan for continuous improvement by 1) determining what actions to take as a result of the assessment, 2) connecting resources to those actions as appropriate, and 3) creating a plan that will be implemented over the remainder of the four year assessment cycle. The finalized action plan is submitted to the department chair and college dean for review and approval and to inform them of financial or other resources needed to implement the action plan. Following chair and dean approval, the action plan is submitted to the Provost and FSCAA and subsequently implemented (e.g., SIII.C8 2021 CT MOT Action Plan).

Annual check-ins track the efforts outlined in the action plans, prompting program directors to periodically reflect on the progress made since their last full report and determine if adjustments are needed. Check-in reports and action plan updates are submitted to the department chair, college dean, and finally to the Provost.

Other Assessment Strengths

One assessment system that has received accolades from relevant professional organizations is our Kepler Review System, launched by HCAD in 2008. Kepler is an evidence-based digital curricular review and management system that allows faculty, students, and administrators to transparently maintain a detailed and permanent record of non-traditional student work ranging from 2D physical and digital pieces to large 3D structures and enormous digital animation and interactive files. Kepler forms the evidentiary artifact foundation of HCAD's culture of self-reflection and continuous improvement and, using this system, the School of Architecture became the first to successfully undergo a fully digital NAAB accreditation process in 2008. This review platform was again used in subsequent accreditation visits: CIDA in 2013 and 2020, NAAB in 2014, and NASAD in 2015. Kepler continues to form the student evidence display core for the NASAD visit in the Fall of 2021 and the upcoming NAAB visit in the Spring of 2023.



Another important form of assessment is Industry Advisory Board (IAB) feedback. IABs provide essential input regarding expectations for students pursuing degrees in their fields. Through these reports, departments receive feedback and suggestions for curricular revisions. IAB meetings include multiple departmental stakeholders; unfortunately, these meetings have not typically been formally documented. As a part of *NJIT 2025*, we will work with departments to ensure that this feedback is formalized as a departmental resource.

Other Assessment Activities

Reports and analytics play an increasing role in evaluating learning activities offered to our students. For example, annual Placement Reports document the first-year mathematics courses in which incoming students are enrolled based on administered tests. These reports also highlight the needs of incoming students, allowing us to better align our course offerings. Retention Reports then examine the

retention of these students into their second year (SIII.C8 EOP Ret Grad (05-20-2016)), identifying students who have not registered and suggesting potential interventions. These reports were developed and implemented in support of objectives and strategies outlined in the Student and Learning priorities of *2020 Vision* and are continued in *NJIT 2025*. The Office of Institutional Effectiveness (OIE) also conducts university-wide assessments of student metrics including retention, graduation, and GPA, looking at factors such as college, department, academic program, course delivery mode, race/ethnicity, gender, and special learning programs (Honors and EOP). These assessments are critical to ensuring that all students receive a rigorous and coherent learning experience that prepares them for success upon graduation.

Throughout the semester, faculty use the Navigate system to alert advisors when a student is doing poorly or is at risk of academic probation, enabling advisors to intervene immediately and subsequently informing faculty of actions taken. Summary reports at the end of each semester track the outcomes of these alerts, and accessibility services provided to students through OARS are summarized at the end of each semester in confidential reports.

Ad hoc assessments requested by academic departments are typically conducted by OIE as an impartial third party. For example, the Department of Mathematics requested an analysis of student outcomes in 100-level mathematics courses (SIII.C8 Math Summary Report), looking at multiple variables including instructor type (T/TT, Lecturer, Adjunct), SAT Math score, student course outcomes, and course evaluations. This assessment led to a more collaborative method of creating common exams so that all instructors had input. The Department of Mathematics also worked with OIE to develop a math progress score as an indicator of students' progress through their program's mathematics requirements. This effort aided in identifying potential barriers to student progress which are particularly important because mathematics courses are often prerequisites for advanced, discipline-specific coursework (SIII.C8 Math Progression (07-18-2018)). More recently, OIE undertook an analysis of factors contributing to students' academic standing, identifying characteristics of at-risk students who could benefit from additional support (SIII.C8 Academic Standing Analysis).

To facilitate decision making, admissions dashboards (SIII.C8 Sample Admissions Dashboard) track applications, admitted students, and enrollment of new first-time, full-time undergraduate, transfer, and graduate students, enabling senior administrators to compare current and prior year data. Enrollment dashboards (SIII.C8-ROA-8 Enroll Dshbrd (09-03-2021)) similarly track students enrolled for the next academic semester, providing details including enrollment by college as well as gender and ethnicity distributions with comparisons to the prior year.

Assessing the Impact of the Pandemic

NJIT is committed to student learning and the attainment of educational goals. When the global pandemic forced us to move to remote operations and instruction, we were able to transition all classes to remote synchronous instruction, allowing students to finish the Spring 2020 semester with minimal disruption. Understanding that some students learn better in a classroom setting, we invested in technology and facilities upgrades during the summer of 2020 so that by the fall, some freshmen and sophomore-level classes could be offered in a “converged” mode that had some students attending class in person while others joined remotely through specialized technology (SIII.C8 Converged Learning White Paper).

To understand the effectiveness of this teaching mode, and to identify any classrooms with technology challenges, a Converged Learning Survey was developed and distributed to faculty and students in October of 2020. The feedback from this survey informed technology adjustments in certain classrooms (e.g., clip-on microphones for faculty) and identified courses in need of additional technology (e.g., document reader cameras for courses in which professors wrote out solutions to complex equations). The survey was repeated in the spring semester, with results between the two semesters compared to determine whether experiences with converged learning had improved. For example, in Fall 2020, 72% of faculty ranked their skills with remote learning technologies as Above Average or Excellent. By Spring 2021, this had increased to 77%. Similarly, 56% of students ranked their skills with remote learning technologies as Above Average or Excellent in Fall 2020, compared to 63% of students in Spring 2021. When asked about opportunities to interact with classmates in the converged learning mode, 27% of students rated the

opportunities as Excellent or Good in Fall 2020, increasing to 32% by Spring. The results of the surveys and analysis were widely disseminated and made available on the OIE website (SIII.C8 Converged Learning Results).

CONCLUSION

Strategic planning at NJIT establishes students as our first priority and keeps an unrelenting focus on the educational mission of the university. Three key objectives under the Student priority of *NJIT 2025* are: 1) enhance the curriculum and promote student learning; 2) promote and facilitate experiential learning; and 3) become nationally and internationally recognized for student achievements. These objectives keep us focused on learning as the critical outcome in the NJIT experience.

This chapter describes our compliance with MSCHE Standard III and Requirements of Affiliation 8 and 9. We provide our students with rigorous learning experiences that integrate a STEM+ focus appropriate to our mission as a polytechnic research university. We ensure that undergraduate students acquire a broad array of skills and experiences through a robust GER, and that graduate students have ample opportunities to develop their research expertise, discipline-specific scholarship, and independent thinking skills. To ensure the quality of our academic programs and learning opportunities regardless of delivery mode, we have a robust assessment process that measures student outcomes against program learning goals that align with the university's mission.

SUGGESTIONS AND RECOMMENDATIONS

Based on our self-assessment of our efforts in the area of Student Learning, we have developed the following suggestions and recommendations as opportunities for ongoing improvement.

Suggestions

- Expand offerings of service-learning courses by formalizing service experiences (e.g., Global Brigades and Engineers without Borders) into more structured, service-learning courses that could be offered as technical electives.
- Enable better tracking of student milestone learning experiences. While co-ops, capstones, and service learning courses are tracked as credit-bearing experiences, other milestone experiences such as undergraduate research, internships, and study abroad are tracked by various departments in an ad hoc manner. Consolidating this data will facilitate university-wide assessment of these experiences.
- Investigate strategies to increase enrollment in certificate programs. These programs provide excellent opportunities for professionals to enhance their expertise or gain new skills while also serving as a potential recruiting tool for related master's programs.
- Formalize industry advisory board feedback to ensure that the information shared by industry experts can be easily utilized by departments to ensure that students obtain the skills and knowledge necessary to obtain employment and succeed in their chosen fields.
- Ensure that staffing vacancies in the Office of Accessibility Resources and Services are promptly refilled, and monitor staffing levels to ensure adequacy of services as demand increases.

Recommendations

- Repeat the employer surveys conducted by CDS to capture current perceptions of NJIT interns and graduates and compare results to 2018 data to identify strengths and areas for improvement.
- Include diversity metrics in program review data, including performance outcomes. This will further support the diversity goals of *NJIT 2025* and ensure equity in student outcomes across academic programs.

CHAPTER 3: STUDENT EXPERIENCE

As a STEM+ university, we understand the challenging nature of our curricula. To ensure every student has the opportunity to succeed, we attract and admit students with the potential to excel at NJIT, offering them academic, financial, social, and emotional support throughout their studies to facilitate degree completion and job placement (*2020 Vision and Building on a Strong Foundation—NJIT 2025*).

This chapter describes NJIT's commitment to student success through support services including financial aid, advising, and counseling. This chapter discusses our adherence to the following MSCHE Standards for Accreditation. (Note that the criterion 5 of Standard II is addressed in Chapter 5, with the remainder of Standard II being addressed in Chapter 6.)

Table 3-1: Standards, Criteria, and Requirements of Affiliation Addressed

STD/ ROA	Statement	Meets Criterion
Standard II: <i>Ethics and integrity are central, indispensable, and defining hallmarks of effective higher education institutions. In all activities, whether internal or external, an institution must be faithful to its mission, honor its contracts and commitments, adhere to its policies, and represent itself truthfully.</i>		
SII.C7	As appropriate to its mission, services or programs in place:	
SII.C7.a	To promote affordability and accessibility	✓
SII.C7.b	To enable students to understand funding sources and options, value received for cost, and methods to make informed decisions about incurring debt	✓
Standard IV: <i>Across all educational experiences, settings, levels, and instructional modalities, the institution recruits and admits students whose interests, abilities, experiences, and goals are congruent with its mission and educational offerings. The institution commits to student retention, persistence, completion, and success through a coherent and effective support system sustained by qualified professionals, which enhances the quality of the learning environment, contributes to the educational experience, and fosters student success.</i>		
SIV.C1	Clearly stated, ethical policies and processes to admit, retain, and facilitate the success of students whose interests, abilities, experiences, and goals provide a reasonable expectation for success and are compatible with institutional mission, including:	
SIV.C1.a	Accurate and comprehensive information regarding expenses, financial aid, scholarships, grants, loans, repayment, and refunds	✓
SIV.C1.b	A process by which students who are not adequately prepared for study at the level for which they have been admitted are identified, placed, and supported in attaining appropriate educational goals	✓
SIV.C1.c	Orientation, advisement, and counseling programs to enhance retention and guide students throughout their educational experience	✓
SIV.C1.d	Processes designed to enhance the successful achievement of students' educational goals	✓
SIV.C2	Policies and procedures regarding evaluation and acceptance of transfer credits, and credits awarded through experiential learning	✓
SIV.C3	Policies and procedures for the safe and secure maintenance and appropriate release of student information and records	✓
SIV.C4	If offered, athletic, student life, and other extracurricular activities that are	✓

	regulated by the same academic, fiscal, and administrative principles and procedures that govern all other programs	
SIV.C5	If applicable, adequate and appropriate review and approval of student support services designed, delivered, or assessed by third-party providers	✓
SIV.C6	Periodic assessment of the effectiveness of programs supporting the student experience	✓

INTRODUCTION

NJIT serves a diverse community of students who have chosen to pursue a rigorous STEM+ education. With almost 40% of our first-year students receiving Pell grants and many more having some level of need, our competitive financial aid packages seek to reduce or alleviate student indebtedness. Advising, a focus in both *2020 Vision* and *NJIT 2025*, implements a holistic approach that supports students academically, socially, and emotionally. To recognize students' achievements at other institutions, we award transfer credits including Advanced Placement and International Baccalaureate credits.

Other services supporting students' needs include the Center for Counseling and Psychological Services (C-CAPS) and the Office of Student Life (OSL). All extracurricular activities including athletics, clubs, and fraternities and sororities are regulated by appropriate academic, fiscal, and administrative processes and procedures. Student records are securely maintained following strict federal and institutional policies. All efforts taken to support students are assessed through our KPIs and departmental assessments to ensure that we provide the best possible experience for our students.

EXPECTATIONS FOR STUDENT SUCCESS (SIV.C1)

The Students priority of *2020 Vision* challenged the university to “admit the students likely to succeed at NJIT, graduate in a timely manner, and achieve their potential for leadership.” One major initiative toward this objective was NJIT’s use of the Common App to simplify the application process. We also refined our articulation agreements and increased the number of joint programs with community colleges to increase the potential pathways for students to achieve success at NJIT.

Admitted students are offered a full suite of support services delivered by qualified professionals, creating a learning environment that facilitates graduation in a timely manner and enables them to achieve their potential post-graduation. Our recent strategic plans, *2020 Vision* (SIV.C1 2020 Vision Priority 1 Students) and *Building on a Strong Foundation—NJIT 2025* (SIV.C1 NJIT 2025 Priority: Students, pp. 11-15), focus on excellence in the student experience, driving our efforts to promote student achievement as we 1) improve academic advising; 2) intensify tutoring, mentoring, and student support; 3) enhance the quality of campus life; and 4) support the student experience and engagement.

Admissions

To ensure success, the Admissions Office utilizes predictive models in conjunction with an individualized review process to help identify students whose interests and aspirations are consistent with our university mission. Admissions officers evaluate each completed freshman application, considering criteria such as high school class rank, strength of academic background in science and math (including AP and Honors courses), record of achievements, honors and awards, letters of recommendation, essays, and optional test scores (e.g., SAT and ACT). For applicants enrolling in the Hillier College of Architecture and Design, portfolios of work are also evaluated.

Another admissions-related strategy in *2020 Vision* outlined our commitment to centralizing application information using digital technology. As a result, NJIT joined the Common App concurrently with the launch of *2020 Vision*, with applications increasing 27% in the first year (from 4,777 to 6,045) (SIV.C1 2020 Vision Report (06-30-2016), Objective 1.1.1.5, pg. 9). The data captured through the Common App also facilitates additional analytics, allowing us to identify characteristics of successful students to inform future recruitment efforts. This proved particularly important when we moved to a test-

optional policy due to the pandemic, allowing us to build a data-driven model based on student measures other than standardized test scores.

Retention of Admitted Students

Once enrolled, students receive the highest level of academic and social support to enable them to persevere through a rigorous curriculum to become leaders in their professions or to continue advanced studies. *2020 Vision* therefore included several goals and KPIs to improve student success and ensure an excellent student experience. For example, first-year advisement was intensified, and sophomore advising was enhanced with a particular emphasis on the role of the faculty advisor in the student's major. Additionally, first-year student programs such as New Student Orientation (NSO) and First-Year Seminar (FYS) (discussed later in this chapter) support students during their transition to college. The implementation of these and other actionable steps increased retention rates from 82% for first-year students entering in 2010 to 89% for the 2019 first-year cohort. Four-year graduation rates doubled, from 25% for first-year students entering in 2010 to 48% for the 2016 first-year cohort.

NJIT 2025 expands these efforts to focus on diversity and equity of outcomes. For example, Table 3-2 shows the *NJIT 2025* KPIs with baseline and target values for retention rates for first-time full-time, transfer, URM, and Pell recipient students (SIV.C1.c *NJIT 2025* Priority: Students, pg. 14).

Table 3-2: Retention Rate KPIs in *NJIT 2025*

Metric	Baseline	Target
FTFTU retention rate	89%	92%
Retention of transfer students into their 3 rd semester at NJIT	87%	90%
URM retention rate	87%	91%
Pell recipient retention rate	88%	90%

TRANSFER CREDITS AND EXPERIENTIAL LEARNING (SIV.C2)

To recognize students' achievements at other institutions, we simplified and clarified the transfer of credits through our participation in the NJ Transfer state-wide agreement. The experiential learning of incoming students, including Advanced Placement and International Baccalaureate courses taken while in high school, is recognized through course credits for (primarily) first-year courses. We also enhanced our articulation agreements and increased the number of joint programs with community colleges through *2020 Vision*, providing alternate pathways for students to earn an NJIT degree.

Credit for Courses Taken at Other Institutions

For incoming students, NJIT accepts credits for Advanced Placement (AP) exams and International Baccalaureate (IB) higher level coursework (SIV.C1 Policy AP Credits); details on the scores needed and transfer equivalencies are provided on the Admissions website. These programs provide a substantial savings of time and tuition for students and recognize the experiences and accomplishments they have already attained.

Students transferring from other colleges to NJIT, or current NJIT students who have taken classes at other colleges, can also transfer credits. NJIT is part of the Comprehensive State-Wide Transfer Agreement (SIV.C2 NJPC Comprehensive Transfer Agrmnt) that facilitates a seamless transition from New Jersey community colleges to four-year colleges and universities. The NJ Transfer website provides information on course equivalencies, transfer programs, and transcript evaluations. Transfer credits are generally awarded soon after admission, and students may file an appeal for a review through NJ Transfer if they feel they have not received credits in accordance with the agreement.

For transfer credits not covered under NJ Transfer, students must request an evaluation by NJIT to determine whether the credits count towards their graduation. The Registrar manages the credit transfer process Registrar (SIV.C2 Procedure Transfer Credit Eval) through a Transfer Credit Evaluation form

(SIV.C2 Form Transfer Credit Eval). Students who have attended foreign institutions of higher education must additionally submit an evaluation of their coursework conducted by World Education Services (WES) or another approved service. Once the transfer credit evaluation is completed, students are notified via email of credits awarded. If transfer credit for a course is not awarded, the student may contact the appropriate academic department to request an evaluation.

In general, credits may be given for completed courses which are equivalent to NJIT courses in the student's degree program and in which the student received at least a 'C' (2.0 on a 4.0 scale) (SIV.C2 Policy How Credits Transfer). There is no maximum number of credits an incoming undergraduate student can transfer, but students must earn at least 33 upper-division credits approved by the department of their major to receive an NJIT degree (SIV.C2 Transfer Student Info Page).

For many programs, the transfer of credits is facilitated by our agreements or memoranda of understanding (MOUs) with secondary schools, two-year colleges (in-state and out-of-state), four-year colleges and universities in the US, and international undergraduate and graduate institutions. Our Institutional Profile (SIV.C2 NJIT 2021 Institutional Profile, pp. 28-32), submitted annually to the NJ Office of the Secretary of Higher Education, shows the academic programs included in these agreements. The Admissions Office also publishes on its website (SIV.C2 Joint Admissions Agreements) the joint admission agreements that allow students who meet certain criteria to be admitted to a community college and NJIT at the same time.

Credit for Experiential Learning

There are several ways in which students can demonstrate experiential learning and be awarded credit towards their baccalaureate degree. Specifically, the credit-by-examination program offers students the opportunity to earn credits for certain NJIT courses if they have acquired sufficient knowledge through non-traditional means (e.g., independent study or job-related experiences). This program has two components, the College Level Examination Program (CLEP) by CollegeBoard and NJIT Department Testing. The former, CLEP, consists of standardized examinations accepted primarily at the first-year level. The latter, NJIT Department Testing, is used for students interested in gaining credits for more advanced courses. Most academic departments at NJIT offer a very limited number of exams in their academic areas.

ORIENTATION, ADVISING, AND COUNSELING PROGRAMS (SIV.C1.B, SIV.C1.C)

In support of our commitment to ensuring that all students receive the support they need to achieve their goals, *2020 Vision* outlined objectives and strategies including designing a connected academic community, intensifying academic advising, and improving mentoring and student support. *NJIT 2025* continues efforts to support student engagement and the student experience. Among the strategies relating to this goal are 1) supporting transfer students as they transition to NJIT; 2) implementing an "innovative, nationally recognized holistic advising model;" 3) initiating proactive advising for at-risk students; 4) addressing the achievement gap; and 5) increasing mental health staff. Student support services in support of these strategies are discussed in more detail below.

New Student Orientation (NSO)

New Student Orientation (NSO) acclimates first-year and transfer students to life at NJIT, introducing them to our educational opportunities and resources and integrating them into our community. NSO (SIV.C1.c New Student Orientation) offers hybrid programming that introduces students to their academic advisors, encourages them to join student organizations and clubs, and connects them with their orientation leaders and other incoming students. NSO also explains academic obligations and available support resources.

Adjustments have been made to NSO including reducing the length of orientation days, which students indicated were too long. Students also requested a way to later access the information provided during orientation. In response, NSO staff are making materials available on their website after the program has ended.

For international students, the Office of Global Initiatives (OGI) offers an international student orientation (SIV.C1.c Intl Student Orientation). Instructors have raised concerns, however, about the transition of undergraduate international students and the support these students may need to succeed. As this population increases, additional services will be necessary to aid these students in their transition. For graduate students, the Graduate Studies Office provides asynchronous online orientation (SIV.C1.c Grad Student Orientation) to address questions regarding students' transition to NJIT.

First Year Seminar (FYS)

All first-year students complete a zero-credit First Year Seminar (FYS) during their first semester that facilitates discussions related to their academic discipline and future professional employment. Students explore topics focusing on engagement, adjustment/transition, self-assessment, understanding and utilizing campus resources, spring registration, and setting goals for continued academic success.

Mathematics Placement

As a polytechnic institute, NJIT offers a rigorous curriculum that begins with freshman-level courses in mathematics and composition. To ensure appropriate placement of students into these courses, we use the results of placement tests (ROA-9 Math Placement) combined with other standardized test scores (i.e., SAT/ACT/AP) to determine students' appropriate first-semester courses.

The computer-based mathematics placement test is administered to all incoming students. Depending on their performance and chosen major, students may be placed into MATH 108 (requiring two semesters of mathematics coursework before taking Calculus I), MATH 110 (requiring one semester of mathematics coursework before proceeding to Calculus I), or MATH 111 (on track) (SIV.C1.b Understanding Math Placement). MATH 111 is the first calculus course in the sequence required for all engineering and computing majors; students in other majors may take other first-year mathematics courses. For example, MATH 101 is appropriate for Communication & Media, Cyberpsychology, and Theatre Arts and Technology majors, while MATH 107 is appropriate for Architecture and Interior Design majors.

Placement trends are reviewed to assess exam efficacy (SIV.C1.b Math Placement Analysis). Figure 3-1 shows the percent of first-year students enrolled in each of the three entry-level calculus courses (MATH 108, 110, and 111) for the past six fall semesters. Placement distributions have remained relatively consistent except for Fall 2020 when all placement tests were administered remotely. That year saw many more students placed directly into MATH 111, raising concerns about cheating. A review of the first-semester math course passing rates does indicate a slight decrease in the percent of students passing MATH 111, although it is unclear if this is due to cheating on the placement exam or the effects of instructional modifications necessitated by the pandemic. This trend will continue to be monitored to identify appropriate remediation efforts.

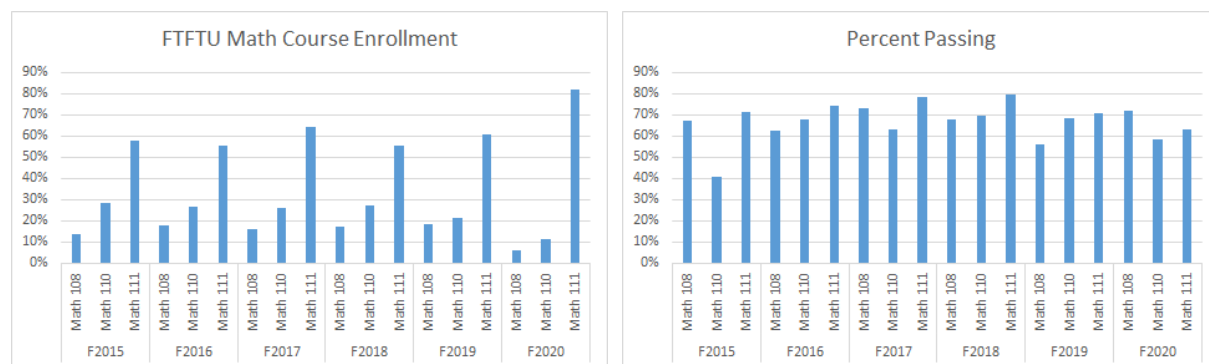


Figure 3-1: First-year students enrolled in 100-level Calculus sequence Math courses and percent of students passing

Communication/English Placement

Placement into first-year communication courses is based on direct self-placement for first-year students and requires a completed survey or a writing evaluation for transfer students and incoming undergraduate international students. Students requiring additional academic preparation enroll in HUM 099 where they receive intensive instruction, individualized attention, tutoring, and advising to ensure success. The HUM 099S course is designed for students for whom English is a second language. Figure 3-2 shows that most students successfully complete HUM 099/HUM 099S, allowing them to progress to the first-year writing course sequence.

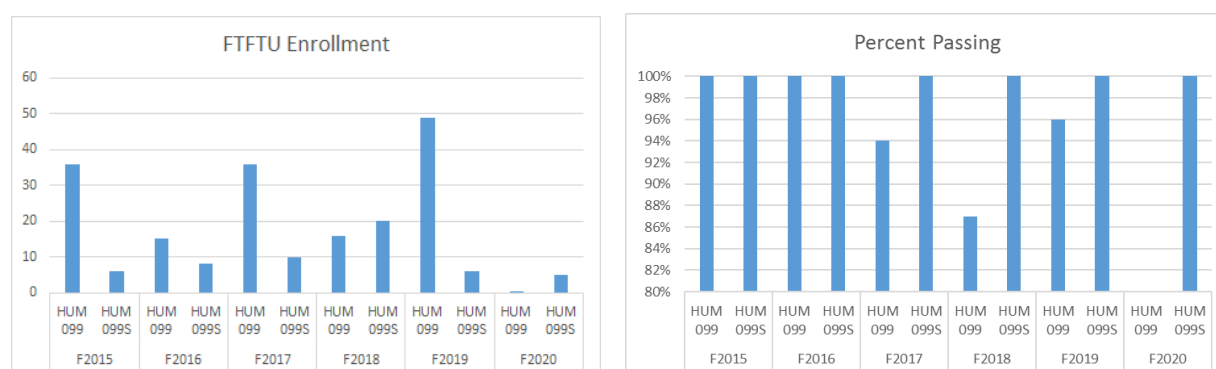


Figure 3-2: First-year students enrolled in remedial English courses and percent of students passing

Academic Advising

2020 Vision focused efforts and resources on intensifying academic advising through strategies including 1) developing consistent guidelines for advising; 2) increasing the use of advising software; 3) analyzing data to identify at-risk students; and 4) enhancing the role of faculty advisors. In response, NJIT refined our hybrid model of undergraduate student advising to utilize professional academic advisors in the Office of Academic Advising (OAA) for first-year students, and faculty and/or professional advisors in academic departments for sophomore through senior students.

Building on the improvements achieved through *2020 Vision*, *NJIT 2025* challenges us further by calling for a holistic advising model that takes into account the personal, social, emotional, developmental, and cultural issues our students face. In response, NJIT is participating in two initiatives through the Association of Public Land-grant Universities (APLU). The first is a Tech Cluster focused on holistic advising methods, with participating universities working to help students feel welcomed, provide resources to improve their performance, and address any personal issues that may impact their academic progress. NJIT was also selected as one of 16 universities to participate in the APLU Intermediaries for Scale (IFS) project funded by The Bill & Melinda Gates Foundation. The project facilitates an institution-level needs assessment to identify opportunities to improve student outcomes and address equity gaps while learning from other institutions' best practices (SIV.C1.c APLU IFS Grant Proposal).

Office of Academic Advising (OAA). OAA advises and tracks the retention of undergraduate first-year and transfer students through a student-centered approach which includes curriculum planning and connections to resources and on-campus organizations that provide an enriching experience. OAA staff inform students of university policies and procedures, address scholarship/financial aid information, discuss on-campus employment, and connect students with Career Development Services (CDS). The office continuously communicates with students via phone, email, and text, drawing their attention to deadlines and important resources and congratulating them on their well-deserved success (SIV.C1.c Advising Survey Spring 2019).

OAA also supports transfer students, offering a variety of orientation programs to assist with their adjustments to NJIT (SIV.C1.c Transfers Adjusting to NJIT). OAA also supports our Spring Opportunity Program (SOP) students who receive conditional admission requiring them to attend a community college or other four-year institution for the fall semester, taking between nine and 12 credits including an approved

course in mathematics. For SOP students meeting the criteria to enroll at NJIT the following spring (cumulative GPA of 2.50 or higher), OAA offers five hours of supplemental instruction and tutoring per week to ensure a successful transition.

For first-semester undergraduates placed on academic probation (GPA below 1.75), OAA offers a Plan for Academic and Career Excellence (PACE) program that supports them through their second semester. Through PACE, students interact biweekly with an OAA advisor and a Peer Advisor Liaison (PAL) and complete 6 hours of tutoring per week. Participating students also attend academic workshops relating to study skills, time management, and prioritization skills. In Spring 2019, 49 students participated in PACE, and those who fully completed the program successfully moved off academic probation and were retained at NJIT. This success was repeated in Spring 2020, with 81 students seeing academic improvement after participating in PACE. The results of Spring 2021 were more mixed; the most likely cause was that interactions between students and advisors had to occur virtually. The PACE program is considering ways to facilitate remote sessions between advisors and participating students in case virtual interactions are necessitated in the future.

OAA uses DegreeWorks, a web-based degree audit system that allows students and academic advisors to view the courses required for students to satisfy their general education requirements (GER) and complete their coursework (SIV.C1.c DegreeWorks Sample Report). DegreeWorks also calculates students' GPAs and identifies what their degree requirements would be if they changed their major to better understand the impact of such a change on their progress towards graduation.

Faculty and Professional Advisors. Depending on the academic program, students entering their second year and beyond meet with either faculty or professional advisors prior to registering for their next semester courses. Students in either the Educational Opportunity Program or the Honors college also meet with advisors from those programs to review program requirements. These advisors review the courses for which students plan to register, making clear recommendations regarding requirements and academic progress. Advisors also serve as a resource to connect students to available services.

To ensure student-athletes are meeting NCAA regulations, athletic advisors meet with student-athletes every week to monitor their status, and use specialized software to check in with instructors regarding student-athletes' academic progress during the semester. As with the student success monitoring system, the goal is to enable timely interventions to address any issues.

Student Success Monitoring. NJIT advisors utilize a student success monitoring tool to save notes about their meetings with students, set reminders, and issue advisement and registration campaigns to prompt them to schedule appointments. For students deemed at risk based on preparation or prior achievements, the system facilitates more intensive advising throughout the semester, allowing instructors to enter alerts for students doing poorly in their classes. On average, close to 1,000 alerts have been issued per semester for students struggling with academic performance. These alerts are seen by the academic advisors, initiating an interaction to suggest appropriate resources. Thus far, approximately 85% of students who receive alerts improve their performance thanks to timely interventions. OAA is investigating additional methods to assess the impact of alerts on student outcomes.

Counseling

The Center for Counseling and Psychological Services (C-CAPS) is committed to optimizing students' college experiences and improving the quality of the lives of our students by promoting their mental health. Staffed by psychologists and professional counselors, C-CAPS helps students with the transitions and stresses of college life as well as any other personal psychological difficulties through individual and group counseling and psychotherapy, psychoeducational workshops, outreach programming, and crisis intervention. C-CAPS also educates faculty and staff about identifying students in need of support and how to refer them to C-CAPS services. In FY20, C-CAPS held over 3,300 meetings with students for individual counseling (SIV.C1.c C-CAPS Annual Report 2019-20).

C-CAPS faced significant challenges during the pandemic, including reduced staffing (due to loss of two staff members) and the necessity of providing most services virtually. Following the trend in higher education (SIV.C1.c Students Struggle (04-14-2021)), C-CAPS noted a decrease in demand for counseling services during the pandemic. While some remote students may have sought private therapy close to home, C-CAPS also believes that many remote students lacked a private space to speak with a therapist for virtual services. In FY21, C-CAPS provided individual counseling to over 1,900 students, a reduction of over 40% (SIV.C1.c C-CAPS Annual Report 2020-21). As part of *NJIT 2025*, C-CAPS will increase the number of clinical staff to ensure that our students can obtain the support they need to persist and succeed at NJIT and continue to investigate improved methods to deliver virtual counseling.

FINANCIAL SUPPORT (SII.C7.A, SII.C7.B, SIV.C1.A)

Although educational costs at NJIT are higher than at other NJ public colleges (because of more costly STEM+ academic programs), the Board of Trustees (BoT) strives to keep tuition increases to a minimum despite limited funding from the state. For example, during the 2020-2021 AY, the BoT voted not to raise tuition due to the impact of the pandemic on students and their families. This commitment to affordability is formalized in *NJIT 2025* through a key performance indicator that compares our tuition increases to the Higher Education Price Index (HEPI). For AY 2021-2022, the undergraduate tuition increase (1.9%) remained below the HEPI (2.2%) (SII.C7.a NJIT 2025 pg. 31; SII.C7.a NJIT 2025 pg. 42).

In general, NJIT is recognized as a great return on investment by Payscale.com, ranking #43 nationally (SII.C7.b Payscale Natl Salary Report 2021) (based on in-state tuition) for “best return on investment in higher education” and #3 in New Jersey (SII.C7.b Payscale NJ Salary Report 2021) in their 2021 ROI Report. Similarly, *The Princeton Review* ranked NJIT #39 in its annual guide, *Princeton Review Best Value Colleges: 2021 Edition* (SII.C7.b 2021 PR Best Value Colleges). To be ranked, institutions must demonstrate strong academic programs and affordability, and offer robust opportunities for career prospects after graduation.

Costs, Billing, and Refunds

The Admissions Office (SIV.C1.a Admissions Tuition and Costs) and Office of the Bursar (SIV.C1.a Bursar Tuition and Fees) provide comprehensive information regarding tuition and fees to prospective and currently enrolled students. This same information is provided in the university’s catalog, while detailed room and board rates, meal plans, and dining prices (SIV.C1.a Res Life Room Rates 2021-22) are posted on the Residence Life website.

The Office of the Bursar is responsible for all assessment of tuition and fees and billing, with a robust student refund policy and direct deposit for withdrawals or overpayments. Students who cease enrollment have their tuition and fees adjusted according to the applicable Refund Policy (SIV.C1.a Registrar Refund Policy) published by the Registrar's Office.

The Bursar website provides comprehensive documentation relating directly to a student’s expenses such as how to view a bill, how to make a payment, and how to enroll in a monthly payment plan (SIV.C1.a Bursar FAQs). Students can also designate a parent or guardian as an authorized user to view their financial data and make payments (SIV.C1.a Authorized User Instructions). To assist students with financing their education, the website links directly to the Student Financial Aid Services (SFAS) website.

Financing and Financial Aid

NJIT is committed to helping students develop a concrete plan for financing their degrees, from estimating the cost of attendance to learning about their eligibility for different types of aid and how to apply for them. SFAS provides information (SII.C7.b SFAS Student Handbook 2021-22) and services to students and their families about college costs and financial aid opportunities, policies, and procedures. These include workshops about the Free Application for Federal Student Aid (FAFSA) (SII.C7.b SFAS FAFSA Workshops) and virtual financial aid sessions for incoming students. Additionally, our recent relationship with Scholarship Universe aligns vetted scholarship opportunities with students’ personal information, needs, and eligibility.

The Net Price Calculator provided by SFAS gives students a preliminary estimate of federal, state, and institutional aid eligibility, while the annual SFAS newsletter provides a detailed cost of attendance chart based on whether a student is charged in-state or out-of-state tuition and is planning to live on-campus, off-campus, or with parents. Fast Facts About Financial Aid at NJIT contains summary information on NJIT's ranking and default rate and information about important financial aid websites.

Close to 80% of our undergraduate students (92% of first-year and transfer students) receive some form of financial aid, including state and federal aid and institutional financial assistance totaling more than \$30 million. This aid is offered based on financial need, merit, or both. Students can receive a combination of grants, scholarships, education loans, and student employment (work-study) in their financial aid package (SIV.C1.a SFAS Need-Based Grants; SIV.C1.a SFAS Scholarships; SIV.C1.a SFAS Education Loans; SIV.C1.a SFAS Work-Study).

Recent SFAS initiatives to promote affordability, accessibility, and transparency include a Financial Aid Financing Plan Offer (Shopping Sheet) (SIV.C1.a Sample Financing Offer; SIV.C1.a Sample Fin Aid Award Letter) that provides information about scholarships, grants, loans, and work study, educating students about out-of-pocket expenses and how to distinguish loans from scholarship and grant awards. In addition, NJIT complies with the U.S. Department of Education's (USDOE) requirement that all first-time borrowers participate in Loan Entrance Counseling where they receive information about federal loans, budgeting their expenses, repayment options, and their rights and responsibilities as a borrower.

When approaching graduation, SFAS sends personalized letters summarizing each student's total federal indebtedness, their loan servicer contact information, details about terms of repayment, and the consequences of default. Other communications from SFAS deal with missing documents, Satisfactory Academic Progress (SAP) (SIV.C1.a Policy Satisfactory Acad Progress), FAFSA renewal reminders, and emails about financial aid policies and procedures. SFAS recently added three new financial aid advisors, walk-in service (two on-call counselors), and a Call Center.

To provide comprehensive counseling to students, NJIT also offers scholarships and fellowships for graduate students (SIV.C1.a Grad Stud Scholarships Fellowships). Many are also supported by faculty-led research grants or by serving as teaching assistants in their departments.

Open and Affordable Textbook (OAT) Program

To address the high costs of textbooks, NJIT launched the OAT program to provide awards for instructors (\$1,000) or course coordinators (\$3,000) who redesign their curriculum to use free or low-cost educational materials (SII.C7.a OAT Program Application). Applications for OAT awards must include the cost of the current textbook, the proposed affordable materials that will replace it, and how the impact on student learning will be assessed. Once the changes have been implemented, instructors must submit a final report that 1) demonstrates cost savings; 2) describes the challenges, accomplishments, and lessons learned; and 3) provides a comparative measure of learning outcomes prior to and following the adoption of open educational resources (OER).

Faculty are also encouraged to produce their own open textbooks and affordable materials, with a sabbatical offering a full year of salary (as opposed to a 10-month salary) being recently approved for this purpose. To date, the OAT initiative has brought an estimated savings of \$661,000 to 6,300 NJIT students. To continue to encourage a transition to open educational resources, *NJIT 2025* includes a KPI capturing the number of courses that utilize free or low cost educational materials. To more easily assess this KPI, the university must formally identify all courses that utilize free or open course materials.

ACHIEVEMENT OF EDUCATIONAL GOALS (SIV.C1.D)

Students graduating from NJIT obtain meaningful careers in industry or pursue higher degrees to become experts in their fields. Our Career Development Services (CDS) supports students' post-completion placement through career advising and resources to assist students and alumni with all phases of their careers. CDS implemented an application-employer matching system (Handshake) to connect employers directly with students or alumni who may be suitable candidates and also offers services such as career

exploration, company research and resources, job search strategies, and networking resources. These efforts have resulted in CDS being ranked #10 in the Top 20 Best Career Placement (Public Schools) by the 2021 edition of the *Princeton Review Best Value Colleges* (SIV.C1.d 2021 PR Best Value Colleges).

CDS annually publishes student-based outcomes such as those shown in Table 3-3 (SIV.C1.d CDS Graduate Outcomes) and periodically provides salary reports of graduates by discipline (SIV.C1.d CDS Starting Salaries). For example, the average salary for 2020 graduates of Computing and Business was \$105,000, much higher than the average salaries projected by National Association of Colleges and Employers (NACE) (SIV.C1.d Salary Projections NACE 2020).

Table 3-3. Employment Status Percentages by Level of Study

Level	Employment Status	Class of 2020*
Bachelor's	Employed full-time	82.7%
	Graduate school full-time	5.9%
	Seeking employment	4.7%
	Employed part-time	3.4%
	Post-graduation internship	3.3%
	Not seeking employment	0.1%
Master's and PhD	Employed full-time	88.3%
	Seeking employment	5.8%
	Employed part-time	3.0%
	Graduate school full-time	1.4%
	Internship/fellowship	1.1%
	Not seeking employment	0.2%
	Volunteering	0.1%

Note. The data in Table 3-3 represents 74% of the Bachelors recipients and 78% of the Master's and PhD recipients from the graduating class who responded to the survey.

Professional School Placement

NJIT offers highly competitive pre-health and pre-law programs for high-achieving students. In the pre-medical program, students can select one of several tracks: a highly competitive accelerated program through which students earn both a bachelor's and doctoral degree in seven years, or a four-year, pre-professional bachelor's degree followed by application to a medical school. Over the past nine years, an average of 89% of pre-health students have been successfully placed in medical schools, with some years (2018, 2019, and 2020) having success rates of 92% or higher (SIV.C1.d Pre-Health Matric Statistics). Similarly, in the pre-law program, students can apply for an accelerated program that allows them to earn both a bachelor's and law degree in six years. On average, 79% of pre-law accelerated students have successfully transitioned to the law school of their choice.

PRIVACY OF RECORDS POLICY (SIV.C3)

To ensure that student information is securely stored and appropriately protected, we adhere to several policies and procedures. Our Records Retention Policy (SIV.C3 Policy Records Retention) outlines the proper retention and management of records in accordance with state and federal laws and regulations including the Family Educational Rights and Privacy Act (FERPA), the Health Insurance Portability and Accountability Act (HIPAA), and the New Jersey Open Public Records Act (OPRA). To ensure the protection of international student data, we also apply policies and procedures from the European Union's General Data Protection Regulation on data protection and privacy. The Office of General Counsel (OGC) administers these policies, which outline the responsibilities of departments in ensuring that university records are securely maintained.

The Registrar is responsible for the maintenance of FERPA-protected student records including transcripts, admission files, and placement records. Under FERPA, students have the right to inspect their

educational records and challenge the contents. FERPA ensures the confidentiality of student records except with respect to special cases noted in the legislation, while records related to health information are protected by HIPAA.

Only those acting in a student's interest (individually or collectively) are allowed to have access to their records. This includes the Registrar, Admissions, Dean of Students and Campus Life, Bursar, Office of Institutional Effectiveness (OIE), and academic personnel within the limitations of their need to know. All faculty and staff members in these offices who can release or use the data are periodically trained with respect to FERPA guidelines and the OGC is always available to address questions. With the exceptions stated in FERPA, no one outside the university will have access to a particular student's educational records without the written consent of the student.

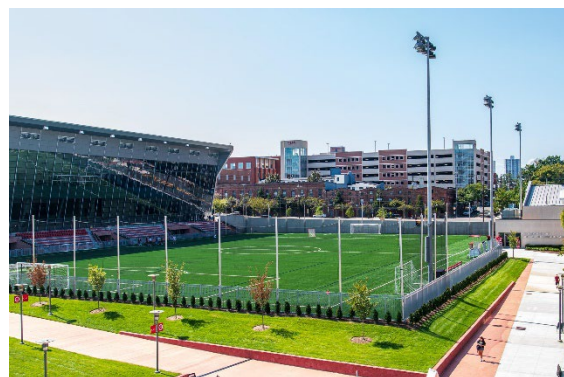
In addition to Banner, which is the primary campus Enterprise Resource Planning (ERP) program, data pertaining to students, including information that would be considered part of the student educational record, are stored on a wide range of systems including a growing number of Software as a Service (SAAS)/Cloud services. NJIT requires that such services be compliant with FERPA and other applicable regulations.

STUDENT LIFE AND ATHLETICS (SIV.C4)

Our athletic, student life, and other extracurricular activities are regulated by the same principles and processes as other units and departments. These activities are overseen by numerous advisory committees consisting of student, faculty, and staff representatives. Our Department of Athletics outlines its main policies, procedures, and organizational governance process for athletics, while the Office of Student Life is responsible for the student experience.

Athletics

The Department of Athletics positively impacts the quality of campus life, community spirit, and university reputation by enhancing our students' physical and moral welfare through programs for fitness, health, intramurals, and intercollegiate athletics. Our intercollegiate athletic program is an integral part of NJIT life, comprising 19 varsity teams and approximately 350 student athletes participating in NCAA Division I sports. In response to the *2020 Vision* objective of developing an events center, in 2017 we completed the Wellness and Events Center (WEC), with Lubetkin Field at Mal Simon Stadium following in 2019. These facilities give our Highlanders an exceptional athletic venue. However, general student access to these facilities and equipment have been restricted due to COVID-19 and the needs of the athletic teams. Current practices should be revisited to ensure that all students have appropriate access to these facilities.



Our student-athletes balance the challenges of our curriculum with the rigors of their athletic team requirements, exhibiting success in competitions and in the classroom (SIV.C4 NCAA Acad Progress Inst Report). In 2019, 243 NJIT student-athletes were named to the ASUN Conference Honor Roll, 10 teams were recognized as All-Academic teams by their national governing bodies, and three Highlander programs received NCAA Academic Performance Public Recognition. The combined grade point average of Highlander student-athletes has been above 3.0 for 25 straight semesters, with recent GPA and athlete counts shown in Figure 3-5.

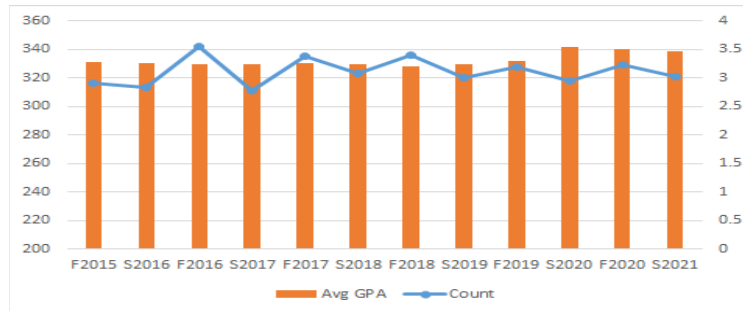


Figure 3-3: Recent average semester GPAs and counts of student athletes

As a member of NCAA Division I, NJIT complies with the organization’s policies and procedures (documented in the student-athlete handbook (SIV.C4 Student-Athlete Handbook)). The handbook includes detailed guidelines, rules, and regulations from the NJIT Student Professional Conduct Code (SIV.C4 Student-Athlete Handbook pp. 6-9, pg. 15), Student-Athlete Conduct Code, and NCAA Compliance Policies, and outlines the responsibilities of the Faculty Athletic Representative to promote a balance between academics, athletics, and the social lives of student-athletes. This allows them to enjoy the full range of collegiate experiences available to all students.

Student Life

The goal of the Office of Student Life (OSL) is to enhance the student experience and foster an engaged and inclusive campus community. OSL advises and supports our 29 fraternities and sororities and our more than 140 social and professional student clubs and organizations including the Anime Club, the Amateur Radio Club, and NJIT’s chapters of the American Chemical Society, the American Society of Civil Engineers, the Society of Hispanic Professional Engineers, and the National Society of Black Engineers. OSL also offers leadership programs, manages the campus Food Pantry, and organizes events to promote cultural awareness and diversity.

Student Organization Handbook. Developed and implemented annually by OSL, the Student Organization Handbook (SIV.C4 Student Org Handbook) outlines guidelines, policies, and financial procedures for student clubs and events. The handbook outlines the requirements for student organizations to be in good standing, expectations for participation in training, and representation in the Student Organization Cabinet.

Fraternity and Sorority Life Handbook. The Fraternity and Sorority Life Handbook provides guidelines and policies similar to those noted above for Greek life (SIV.C4 Greek Life Handbook), the goal of which is to develop undergraduate students in the areas of civic responsibility, cognitive development, and leadership development. Greek life provides opportunities for students to create lifelong bonds and a meaningful sense of community. Approximately 5% of undergraduates join fraternities and sororities (SIV.C4 CDS Student Life 2021-22).

Highlander Hub. OSL oversees Highlander Hub (HH), our online platform for student engagement, club and organization management, and campus-wide events. Through HH, all students, staff, and faculty can join our organizations and participate in events. HH provides critical data about attendance and participation, satisfaction with experiences and, where applicable, learning outcomes. This information is used to inform budgeting for student clubs and future activities. As of August, 2021, HH had 234 active organizations and student support administrative offices with 9,214 active users and 62 upcoming events. In the 2019-2020 AY, a total of 4,291 events were registered through HH, although this decreased during the pandemic to 2,977.

Student Senate. As a member in shared governance, the Student Senate is dedicated to improving undergraduate students' experiences at NJIT and acting as liaisons between the students and university administration. Student Senate is also responsible for the funding of student events and organizations.

Graduate Student Association. Also a participant in shared governance, the Graduate Student Association (GSA) brings graduate students together to improve the quality of graduate student life. In addition to representing the interests of the graduate students, GSA serves as a liaison between graduate students, faculty, and the administration and promotes the professional, social, and academic growth of students in our graduate programs.

SUPPORT SERVICES FROM THIRD PARTIES (SIV.C5)

Food services are provided by Gourmet Dining, a long-standing third-party contractor. While jests about on-campus food abound on social media, the university collects student perceptions about food services through our biannual student experience surveys (SIV.C5 Food Services 2014-19). In Spring 2021, 74% of students rated our food services as Fair, Good, or Excellent. In general, perceptions about food services have remained consistent, with average ratings ranging between 2.95 and 3.0 for the past eight years.

To promote NJIT to international students, EduCo had been enlisted by admissions as a third-party provider with the goal of increasing international applications and overall enrollment. For the Fall 2017 semester, EduCo produced nearly 150 enrolled students, but the cohort lacked geographic diversity. Due to the high cost and low return on investment, we terminated the relationship and are now working to replicate EduCo's services internally.

Other third parties working with NJIT include a collaboration with Saint Michael's Medical Center for the purposes of providing COVID-19 PCR testing of students, faculty, and staff. As students returned to the NJIT campus for the 2020 fall semester in limited capacity, a surveillance testing program was implemented beginning the second week of classes (September 9th) to ensure the safety of the campus community. Testing continued the following spring semester. Surveillance testing was conducted through the New Jersey Innovation Institute (an NJIT corporation) and their relationship with Bergen New Bridge Medical Center. Each week, approximately 300 students and 100 employees were tested. Those testing positive were offered a confirmatory PCR test through Saint Michael's Medical Center.

The aggregated results of the surveillance testing program, including a campus positivity rate, were displayed on the university's COVID-19 dashboard. As of mid-Spring 2021 semester, more than 7,000 surveillance tests were conducted. Testing data were stored and transmitted securely and in accordance with applicable regulations. Positive cases were assigned an accession identifier to further ensure anonymity.

For fall 2021, students, faculty, and staff were required to be vaccinated or to apply for a medical or religious exemption. Due to the high vaccination rate of the campus community, NJIT's Director of Campus Health Services assumed responsibility for overseeing more limited surveillance testing of those students with exemptions, eliminating the need for the support of Bergen New Bridge Medical Center.

ASSESSMENT OF PROGRAMS SUPPORTING THE STUDENT EXPERIENCE (SIV.C6)

Assessment is an integral part of ensuring that our student support services are achieving their missions and goals. These assessments are primarily conducted by each department based on its own context and needs, and are supported by institutional efforts such as surveys and internal and external auditing.

Most support service departments conduct robust assessments resulting in formal reports and planned improvements (e.g., SIV.C6 Development Assessment; SIV.C6 Writing Center Annual Report). In 2017, OIE launched an effort to centralize these assessments, requesting information from each student support unit about assessments conducted and actions taken to better facilitate resource allocation. Starting in 2019, this effort was expanded to gather information on support services' missions, goals, and outcomes, and to provide resources to assist departments in updating or revising these elements as needed.

In 2021, OIE adapted the academic program assessment model to facilitate assessment of those support services without a formal assessment process. Moving forward, these departments will establish their own cycles of full assessments and follow-up reports, supported by guidance materials developed by the Assistant Director for Assessment and Accreditation (ADAA).

Internal Surveys

Through OIE, the university regularly conducts a variety of surveys to assess community perceptions of services and facilities, documenting the findings to provide actionable knowledge to key decision makers. In addition, several KPIs in both *2020 Vision* and *NJIT 2025* are based on data captured through surveys, with summary strategic plan implementation reports shared regularly with the community and published on OIE's website.

Each semester, student experience surveys evaluate academics, campus life, public safety, buildings and grounds, and essential student services. These surveys capture perceptions of undergraduate and graduate students, with results broadly disseminated to constituents including the BoT, the Faculty Senate, and the University Senate. Student satisfaction with campus life, instruction, facilities, and technology were all included in *2020 Vision* as KPIs. Unfortunately, many of these metrics saw declines between the 2014 baseline and 2019; only satisfaction with campus life and facilities increased over the course of *2020 Vision* (SIV.C6 2020 Vision Final KPI Table). *NJIT 2025* continues to assess student perceptions of IT, library services, and facilities through the new Facilities, Library, and IT (FLIT) survey, which also captures faculty and staff perceptions of these services (SIV.C6 FLIT Survey Spring 2021). Other internal surveys include Entering Students, Graduating Students, Alumni, Employer/Intern, and Athletics (SIV.C6 Athletics Survey 2019-20) which evaluates the overall athletic experience and specific items including head coaches, strength and conditioning, travel and practices, and team culture.

As an example of the use of survey results for continuous improvement, perceptions regarding the Registrar, Bursar, and SFAS suggest that while there is still room for improvement, all three offices show positive trends in providing satisfactory support to our students.

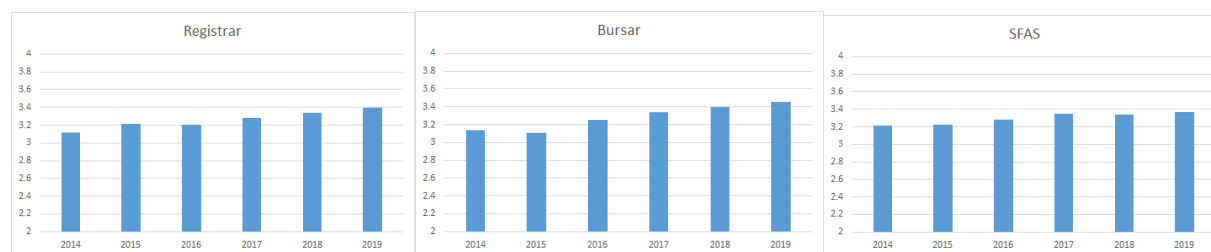


Figure 3-4: Student perceptions of Registrar, Bursar, and Student Financial Aid Services

External Surveys

To benchmark our support services against other universities, we participate in national surveys such as the National Study of Student Engagement (NSSE), the Faculty Study of Student Engagement (FSSE), and the EDUCAUSE Center for Analysis and Research (ECAR) and Technology Research in the Academic Community (ETRAC) surveys. Summary reports analyzing the outcomes of these surveys are shared with the university community and are regularly presented at BoT meetings, with results informing the allocation of resources and providing insights about the experiences of our students. For example, many more of our students reported using desktop computers in all their courses compared to the national average of 4-year institutions (44% vs. 32%), suggesting the need for adequate computer labs on campus. This factor was also considered when the university moved to remote operations during the pandemic. The Dean of Students and Campus Life and the Office of Digital Learning collaborated to provide laptops to students who did not have their own. Architecture, design, and even engineering students take advantage of our Makerspace, with 50% of our students (compared to 22% national average) having used a 3D printer in at least one course (SIV.C6 ETRAC Benchmark Report 2018).

We also participate in other benchmarking efforts including The Cost Study at the University of Delaware which calculates the total costs of offering individual academic programs. The results of this study consistently show that NJIT's STEM+ focus results in increased costs to educate our students (SIV.C6 Cost Study NJIT Programs 2019), yet state funding does not take this into consideration, causing NJIT's tuition to be the highest among NJ public institutions (SIV.C6 NJ OBA Funding Analysis).

Audits

At NJIT, auditing contributes to the effectiveness of departments and ensures that they meet compliance standards by providing a review of a department's business practices and an evaluation of its operating policies and procedures. These audits are conducted by internal departments (typically the Office of Institutional Effectiveness) or outsourced to external entities. For example, in 2016, the university partnered with Baker Tilly US, LLP for outsourced internal audits, replacing a one-person internal audit department (SIV.C6 Baker Tilly Completed Audits FY17-20).

As an example of internal auditing, an assessment of the Office of Research (OR) and the Directors of Research in each academic college was undertaken to evaluate the efficacy of the individuals' roles, the distributed placement of these individuals in their respective colleges, and the support provided to faculty researchers (SIV.C6 Research Directors Evaluation). The study employed a triangulation method using surveys and structured interviews. Key findings and recommendations were provided to OR to inform departmental changes. Examples of external audits include assessments of the Office of Global Initiatives, Athletics, and Payroll and Benefit programs. These evaluations are carried out by third-party consulting firms such as Baker Tilly and Grant Thornton, resulting in comprehensive reports and recommendations (e.g., SIV.C6 Grant Thornton Services).

Typically, four to six internal audits are completed each year. In 2020, there were four internal audits: food services income, university credit card, hourly student employment, and accounts receivables (SIV.C6 2020 Fiscal Audits). There are six internal audits planned in FY21: Gift Acknowledgement Processes and Protocols, Grants Accounting (follow-up), Center for Counseling and Psychological Services, Billing Processes for Consistent Applications of Student Fees and Assessments, CARES Act Compliance, and Planned Giving Processes and Protocols. Most auditing reports are confidential, being shared with the corresponding department, senior administrative members, and the BoT to inform efforts to improve efficiency and effectiveness.

Other Assessment Activities

The environment for higher education institutions is variable, as revealed by the COVID-19 pandemic, compelling us to make decisions based on highly dynamic conditions. In response, we have conducted special surveys and assessments to better understand the impacts of unavoidable changes on the student experience.

Admissions Modeling for Test Optional Policy. One change necessitated by the pandemic was a move to a standardized test-optional policy for incoming first-year students. Having experienced substantial increases in SAT composite scores during *2020 Vision*, there was concern regarding how to identify students who could succeed without the use of standardized test scores. In response, we built a predictive model that identifies other criteria of students prepared for success at NJIT (SIV.C1 Admissions Modeling Report). Now that the first cohort of students admitted under this model have completed their first year, we will analyze outcomes to assess the efficacy of this model.

Converged Learning. In addition to capturing student's perceptions regarding converged learning, the converged learning survey prompted students to identify any technological issues with this delivery mode, even prompting students to identify classrooms in which there were audio or visual challenges (SIV.C6 Converged Learning F2020). The most significant issue identified through the survey was a difficulty in remote students being able to hear the professor (especially because instructors were masked while teaching). As a result, clip-on microphones were provided to instructors in converged classrooms, notably improving the sound quality.

CONCLUSION

Placing students as the first priority for strategic planning means more than building a strong curriculum and setting high educational standards. *NJIT 2025* also establishes objectives focused on student life and student needs, including supporting the student experience and enrolling a diverse population of students. Through these and related objectives, our strategic plan recognizes the overall well-being of students as central to NJIT.

This chapter addresses our dedication to the student experience and outlines our compliance with MSCHE Standard II Criterion 7 and all of Standard IV, discussing our commitment to an affordable and accessible education and to providing clear and accurate information regarding student financial aid. We also describe our admissions process to ensure that our admitted students have the best chances of success, and address our services (e.g., NSO, FYS, OAA, CDS) to assist those students throughout their time at NJIT. Transfer credits, secure maintenance of student records, and extracurricular activities are also addressed.

SUGGESTIONS AND RECOMMENDATIONS

Based on our self-assessment of our efforts in the area of the Student Experience, we have identified the following opportunities for improvement:

Suggestions

- Facilitate the assessment of those student services without formal processes. Through our Self-Study, we found that student support departments are conducting their own assessments using a variety of methods and on varying schedules, limiting our ability to budget and allocate resources. A more consolidated effort with centralized reporting of student support assessments will allow a fair and consistent method of allocating resources across the university.
- Assess in more detail the impact of our student success monitoring system on student performance. Understanding the effectiveness of alerts and other timely interventions will improve system usage and inform future efforts to promptly address student performance issues.
- Facilitate tracking of all courses using open educational resources or free materials and continue to encourage instructors to identify alternatives to costly textbooks. This will significantly reduce student costs while enabling assessment of learning outcomes in these courses.
- Review the usage practices for athletic facilities to ensure that all students have appropriate access to the facilities while also accommodating the specific needs of our varsity athletic teams.
- Provide additional programming for incoming international undergraduate students to address their unique academic and cultural needs. The Office of Student Transition, in collaboration with the deans and academic units, is strategically positioned to oversee these efforts.

CHAPTER 4: FACULTY AND RESEARCH

While there is no Commission standard specifically addressing Faculty and Research, these are crucial, cross-cutting components in our operations and are central to the student learning experience. This chapter provides an inter-standard assessment focused on Faculty and Research, two key priorities of *2020 Vision and Building on a Strong Foundation—NJIT 2025*.

This chapter is organized into three sections: 1) Faculty, 2) Research, and 3) Educational Effectiveness Assessment. The Faculty and Research sections measure achievements against our *2020 Vision* and *NJIT 2025* strategic plans. The third section discusses our methods of assessing educational effectiveness which are conducted by faculty responsible for the oversight of academic programs.

This chapter therefore discusses NJIT faculty in relation to Standard III.2, followed by NJIT's adherence to Standard V and Requirement of Affiliation 15.

Table 4-1: Standards, Criteria, and Requirements of Affiliation Addressed

STD/ ROA	Statement	Meets Criterion
Standard III: <i>An institution provides students with learning experiences that are characterized by rigor and coherence at all program, certificate, and degree levels, regardless of instructional modality. All learning experiences, regardless of modality, program pace/schedule, level, and setting are consistent with higher education expectations.</i>		
SIIL.C2	Student learning experiences that are designed, delivered, and assessed by faculty who are:	
SIIL.C2.a	Rigorous and effective in teaching, assessment of student learning, scholarly inquiry, and service	✓
SIIL.C2.b	Qualified for the positions they hold and the work they do	✓
SIIL.C2.c	Sufficient in number	✓
SIIL.C2.d	Provided with and utilize sufficient opportunities, resources, and support for professional growth and innovation	✓
SIIL.C2.e	Reviewed regularly and equitably based on written, disseminated, clear, and fair criteria, expectations, policies, and procedures	✓
Standard V: <i>Assessment of student learning and achievement demonstrates that the institution's students have accomplished educational goals consistent with their program of study, degree level, the institution's mission, and appropriate expectations for institutions of higher education.</i>		
SV.C1	Clearly stated educational goals at the institution and degree/program levels	✓
SV.C2	Organized and systematic assessments, conducted by faculty and/or appropriate professionals. Institutions should	
SV.C2.a	Define meaningful curricular goals with defensible standards for evaluating whether students are achieving those goals	✓
SV.C2.b	Articulate how they prepare students in a manner consistent with their mission for successful careers, meaningful lives, and where appropriate, further education	✓
SV.C2.c	Support and sustain assessment of student achievement and communicate the results of this assessment to stakeholders	✓
SV.C3	Consideration and use of assessment results for the improvement of educational effectiveness, including some combination of the following:	

SV.C3.a	Assisting students in improving their learning	✓
SV.C3.b	Improving pedagogy and curriculum	✓
SV.C3.c	Reviewing and revising academic programs and support services	✓
SV.C3.d	Planning, conducting, and supporting a range of professional development activities	✓
SV.C3.e	Planning and budgeting for the provision of academic programs and services	✓
SV.C3.f	Informing appropriate constituents about the institution and its programs	✓
SV.C3.g	Improving key indicators of student success, such as retention, graduation, transfer, and placement rates	✓
SV.C3.h	Implementing other processes and procedures designed to improve educational programs and services	✓
SV.C4	If applicable, adequate and appropriate institutional review of third-party assessment services	✓
SV.C5	Periodic assessment of the effectiveness of assessment processes utilized by the institution for the improvement of educational effectiveness	✓
ROA15	The institution has a core of faculty (full-time or part-time) and/or other appropriate professionals with sufficient responsibility to the institution to assure the continuity and coherence of the institution's educational programs.	✓

INTRODUCTION

As experts in their fields, faculty are essential to our core activity of teaching. Faculty are responsible for developing, delivering, and assessing educational experiences that equip our students with the skills and knowledge for success. They are also experts in their respective fields, responsible for advancing knowledge through research. Through the ambitious hiring plan implemented under *2020 Vision*, we achieved a more competitive student-to-faculty ratio (15:1) and increased externally funded research awards and intellectual property development (SIII.C2.c.d 2020 Vision Final KPI Table).

NJIT 2025 will continue to prioritize education and research as critical elements of our mission. To attract and retain new faculty, the *NJIT 2025* Faculty priority includes objectives to strengthen training and mentoring programs, hire more diverse faculty, and continue to improve teaching. In support of the Research priority, *NJIT 2025* objectives include promoting collaborative research, fostering innovation and entrepreneurship, promoting industry partnerships, and expanding research management/support systems.

FACULTY (ROA 15)

At NJIT, faculty consists of all individuals holding the ranks of Assistant Professor, Associate Professor, Professor, and Distinguished Professor, including administrators who hold those ranks. Instructional Staff consists of members of the university community who hold non-tenure-track academic positions including University Lecturers, Senior University Lecturers, and Professors of Practice, as well as Visiting Professors, Research Professors, Research Associates, Post-Doctoral Fellows, Adjunct Instructors, and Affiliated Faculty Members. As of Fall 2021, we have 466 full-time faculty and instructional staff with 331 part-time (adjunct) instructors (ROA-15 Instructor Workload Summary).

Faculty Sufficient in Number (SIII.C2.c)

NJIT ensures that we have sufficient, highly qualified faculty to deliver outstanding academic experiences to our students. Having experienced a decline in tenured and tenure-track (T/TT) faculty prior

to 2015, *2020 Vision* detailed an ambitious faculty renewal plan to increase the T/TT faculty count from 269 to 345. Although we did not achieve this goal, we entered the Fall 2021 semester with 322 T/TT faculty, of whom 48% had been hired in the past 10 years.

NJIT 2025 continues efforts to recruit and retain qualified faculty and increase the percentage of women faculty (from 22% to 25%) and underrepresented minority faculty (from 5% to 9% of total). *NJIT 2025* also seeks to improve teaching and research, strengthen training and mentoring programs for faculty, and become nationally and internationally recognized for faculty excellence.

Table 4-2 shows the number of Faculty and Instructional Staff in 2010, 2015 and 2020. From 2010 to 2020, our student population grew by 29% while our permanent Instructional Staff (T/TT Faculty and University Lecturers) increased by 51%. This growth reflects two objectives: 1) address the high student to faculty ratio that existed prior to 2015 (which had deteriorated annually since 2006); and 2) increase the research productivity of faculty. For the latter, new research-active faculty members were assigned fewer classroom and course-teaching duties to provide ample support for scholarly activities. In some cases, research-active faculty members used research funding to “buy out” a portion of their teaching assignments.

Table 4-2: Faculty and Instructional Staff Statistics¹

Rank	2010	2015	2020	Growth (%) 2010-2020
FACULTY				
Assistant Professor	43	51	83	93%
Associate Professor	98	100	95	-3%
Professor/Distinguished Professor	151	130	140	-7%
Total T/TT Faculty	292	281	315	8%
INSTRUCTIONAL STAFF				
University Lecturer	51	65	62	22%
Senior University Lecturer	34	46	59	74%
Total UL/Senior UL	85	111	121	42%
TOTAL T/TT FACULTY + LECTURERS	377	392	439	51%
OTHER INSTRUCTIONAL STAFF				
Research Professor	24	21	16	-33%
Research Associate/Postdoctoral Fellow	27	32	26	-4%
Adjunct Instructors	408	391	416	2%
Professor of Practice	-	-	6	

To ensure a sufficient faculty, we employ a number of tactics. First, we assure the rate of growth of permanent Instructional Staff does not fall behind the growth in student numbers. Figure 4-1 charts annual enrollment and faculty (T/TT) counts. The slight decline in T/TT faculty in 2020 is primarily due to a larger than expected retirement cohort and a smaller than expected new faculty cohort.

We also compare our faculty size (student-to-faculty ratio and fraction of T/TT faculty) to peer institutions. Table 4-3 shows national statistics for FTE students per full-time T/TT faculty members for NJIT and our benchmark peer institutions (for the last year such information was available to the *Chronicle of Higher Education*) (SIIL.C2.c Professor Counts Article). Our values for these metrics (shown in the last row) are within one standard deviation of the average in two categories that reflect faculty resources: (1)

¹ 12 Faculty members with administrative duties are included for Fall 2010 statistics. One (1) employee who had the rank Instructor/Researcher is included in the Research Professor count for Fall 2015

percent of full-time T/TT instructional staff members, and (2) number of FTE students per full-time T/TT faculty member.

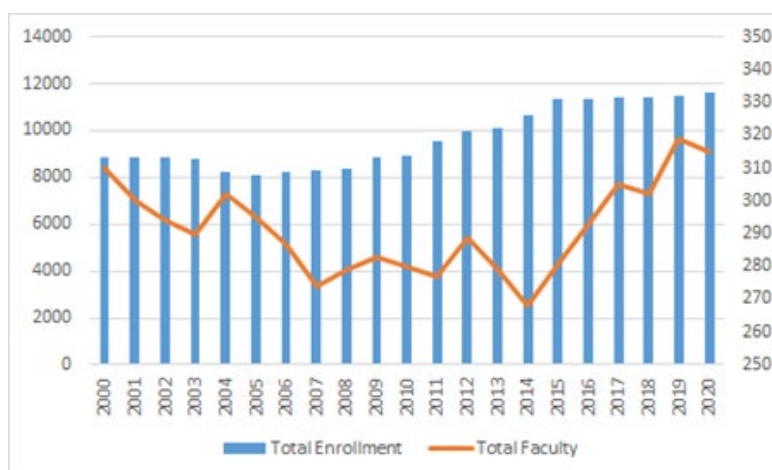


Figure 4-1: Tenured/tenure-track faculty in relation to total enrollment

Table 4-3: Student and Faculty Statistics 2016-2017 for NJIT and Peers (Chronicle 2019)
(* indicates institutions having a medical school)

Institution	Total FTE Enrollment	T/TT Faculty	T/TT Instr. Staff	Students/FT T/TT Faculty
Clemson University	21,774	857	73%	25.4
Colorado School of Mines	5,879	201	67%	29.3
Drexel University*	21,797	713	47%	30.6
Illinois Institute of Technology	7,122	278	68%	25.6
Michigan Technological University	6,666	265	82%	20
Missouri Univ. of Science and Tech.	7,383	307	80%	24
Rensselaer Polytechnic Institute	7,747	329	78%	23.5
Stevens Institute of Technology	6,707	151	55%	44.4
Stony Brook University*	24,798	1,007	58%	24.6
University of California - Santa Cruz	19,112	536	91%	35.7
Worcester Polytechnic Institute	6,136	245	67%	25
AVERAGE	12,283	444.5	69%	28.0
STANDARD DEVIATION			12%	6.26
NJIT	9,123	293	66%	31.1

Other assessment measures include ensuring that students are not delayed from graduating due to course unavailability, and comparing our teaching assignment criteria to those of our peer institutions through the Cost Study at the University of Delaware (SIII.C2.c Cost Study NJIT Programs 2019).

During *2020 Vision*, we implemented a number of initiatives related to faculty recruitment and diversity, with progress tracked biannually through implementation reports and KPIs. These efforts included five-year hiring plans for each department, college, and school that encouraged joint academic appointments, and hiring T/TT faculty in interdisciplinary areas with a focus on maintaining an appropriate balance between faculty ranks (SIII.C2.c 2020 Vision Report (12-31-2019), Objective 5.2.1.4, pg. 54). These efforts were highly successful. However, the period also saw substantial faculty turnover, particularly

as a result of an early retirement option offered at the start of the pandemic, causing us to fall short of some targets.

Table 4-4 demonstrates the level of success we achieved with respect to our faculty-related *2020 Vision* KPIs, all of which are continued in *NJIT 2025*.

Table 4-4: Key Performance Indicators: Faculty, Actual vs. Target (*2020 Vision*)

Key Performance Indicators				
Objective	Metric	Baseline (2014)	Target (2020)	Actual (2019)
Faculty Renewal	Faculty hired in past 10 years	37%	43%	44%
	Total Tenure/Tenure track Faculty	269	345	317
Diverse Faculty	Women Faculty	16%	21%	21%
	Underrepresented Minority Faculty	8%	10%	5%

A Diverse Faculty

Strategies to increase faculty diversity had mixed results. While the percentage of women faculty increased under *2020 Vision* (from 16% to 21%), the percentage of underrepresented minority faculty decreased (from 8% to 5%). At the university level, efforts to increase faculty diversity included targeted recruitment and retention and the development of a mentoring plan for faculty and instructional staff within each college. We also became a member of the Higher Education Recruitment Consortium (HERC) that connects academic spouses and partners with employment. Finally, working with the Department of Human Resources (HR), we began training search committees for accountability, particularly in implicit bias awareness (SIIL.C2.c *2020 Vision* Report (12-31-2019), Objective 4.3.2.5, pp. 48-49). Colleges, schools, and departments were also encouraged to develop their own faculty diversity plans, and to appoint a diversity liaison officer to coordinate recruitment and retention efforts.

NJIT 2025 expands diversity efforts by retraining faculty search committees, implementing a closer review of the applicant pools by Deans, increasing HR support for search committees, and designating additional lines as opportunity positions for candidates who would improve faculty diversity. Beyond the intrinsic importance of diversity, our efforts here demonstrate the use of KPIs to initiate action when certain areas demonstrate underperformance.

One important resource for women faculty in particular is our Murray Center for Women in Technology. Since 1995, the Center has provided an array of career resources for NJIT women students, faculty, and staff, including networking and mentoring programs. The Center advocates for policies that help members of the NJIT community achieve a better work/life balance, encourages the continued integration of gender into the curriculum, co-sponsors seminars and workshops on a range of gender/technology and career issues, and advises academic departments on classroom best practices and on effective methods of making NJIT attractive to future generations of women students and faculty. The Murray Center has been honored by the Women in Engineering ProActive Network (WEPAN) with its national Change Agent Award for its efforts to connect women from a wide range of ethnic backgrounds to each other and to the resources they need to succeed.

The Murray Center director, Dr. Nancy Steffen-Fluhr, was a Principal Investigator (PI) on a National Science Foundation (NSF) ADVANCE Institutional Transformation grant that pioneered the use of social network mapping to advance women STEM faculty (SIIL.C2.d Hidden Patterns Publication). She is currently a co-PI on a \$1.2 million NSF ADVANCE Partnership grant project, “The New Jersey Equity in Commercialization Collective (NJECC)” designed to address gender equity issues in academic technology commercialization (patenting, licensing, and startup creation). As part of this project, the Murray Center will build on best practices, providing enhanced mentoring and experiential learning for women students funded by the NSF Secure Computing Initiative (SCI), and offering workshop training for all SCI students and faculty on strategies to recognize and mitigate various forms of stereotyping and bias.

The Murray Center also hosts an annual Women Designing the Future Conference that showcases innovative, high-impact work by women STEM professionals. The conference typically attracts an audience of over 400 people, including NJIT students, faculty, alumni, local area high school and middle school girls, NJ entrepreneurs, and environmental NGOs.

A CORE OF FACULTY WITH SUFFICIENT RESPONSIBILITY (SIII.C2, ROA 15)

As active participants in shared governance, faculty hold significant degrees of institutional autonomy and academic freedom in most, if not all, primary decision-making. As stated in the Faculty Handbook (FH) (ROA-15 Faculty Handbook 2020), the faculty maintains university-wide jurisdiction over general academic policies and procedures, beginning with each department's approved bylaws and including all decisions relating to faculty promotion and tenure, sabbatical leaves, the formation of university committees, university awards, and the formal management of all standing and prospective faculty resources.

It is the faculty's responsibility to oversee and maintain appropriate academic curricular standards and to review and adjust degree requirements (ROA-15 Faculty Handbook 2020 Section 2.1.1, pg. 7). The faculty has sole responsibility for development and maintenance of the academic curricula through a process that involves two Faculty Senate standing committees: the Committee on Undergraduate Education (CUE) and the Committee on Graduate Education (CGE) (ROA-15 Fac Sen CUE CGE). CUE monitors the quality of undergraduate education, reviewing and making recommendations about the undergraduate curriculum including the approval of new or substantially changed courses or degree programs. CUE also oversees general education requirements (GER) and other academic programs (e.g., accelerated and Honors programs). CGE has similar oversight over the quality of graduate education.

A good example of the role of faculty in maintaining curricular continuity and coherence is the inclusion of the faculty in COVID-19-related matters. The Pandemic Recovery Steering Committee (PRSC) (ROA-15 Pandemic Recovery Plan, pp. 6-10) includes the President of the Faculty Senate, with 15 faculty members (who do not carry formal administrative positions) serving on the various subcommittees.

In cooperation with our administration and the Board of Trustees (BoT), the faculty maintains and updates the Faculty Handbook which defines the roles of faculty in governance including election of Chairs for academic departments (ROA-15 Faculty Handbook 2020 Section 3.3, pp. 16-19), restructuring of academic units (ROA-15 Faculty Handbook 2020 Section 3.5, pp. 22-24), the promotion and tenure process (SIII.C2.e Faculty Handbook 2020 Section 4, pp. 25-38), the administration of teaching (SIII.C2.a Faculty Handbook 2020 Section 5, pp. 38-41), faculty development (SIII.C2.d Faculty Handbook 2020 Section 6, pp. 41-45), and the selection and evaluation of administrators (ROA-15 Faculty Handbook 2020 Section 7, pp. 45-48). The Faculty Handbook also outlines expectations for faculty instruction, scholarly research, and service (SIII.C2.a Faculty Handbook 2020 Section 2.1.2, pp. 7-8). As experts in their disciplines, faculty develop course syllabi, establish course outcomes, ensure academic integrity in all student work, and devise learning assessments (SIII.C2.a Faculty Handbook 2020 Section 5.2, pg. 39) used to regularly evaluate student learning outcomes.

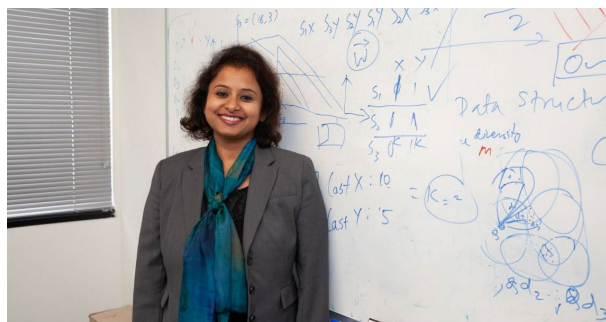
FACULTY QUALIFICATIONS AND EXPERTISE (SIII.C2.A, SIII.C2.B)

100% of our T/TT faculty hold terminal degrees in their fields, enabling them to share their knowledge by teaching and assessing student learning, conducting scholarly research, and providing service to NJIT, the community, and their professional organizations. These criteria relate directly to our mission which sets forth the goals of Education, Research, and Engagement, all of which contribute to our fourth goal of Economic Development.

Instructor and learner interaction is expected to proceed at the highest level possible., supported by ongoing pedagogical development and communication of resource needs. In response, departments provide mentoring opportunities for faculty and instructional staff that include constructive feedback on teaching performance, a review of course evaluations and course materials, and the opportunity to recommend improvements in areas such as technological support, classroom management, and curriculum development

(SIII.C2.b Faculty Handbook 2020 Section 5.3, pg. 39). To strengthen such opportunities, faculty training and mentoring is included as an objective in *NJIT 2025* (SIII.C2.b NJIT 2025, pg. 19).

Faculty also contribute through research and scholarly activities to the advancement of their disciplines (SIII.C2.b Faculty Handbook 2020 Section 6, pp. 41-45). Evidence of faculty research



productivity includes awarded grants, peer-reviewed articles and books, creative works, and honors and awards recognizing a faculty member's research efforts. During *2020 Vision*, our faculty were successful in obtaining prestigious research awards, increasing our count from two to 11. Externally funded academic research also increased during *2020 Vision*, from \$24M in 2014 to \$37M in 2019, with total externally funded research and development almost doubling, from \$63M to \$106M. *NJIT 2025*

continues to focus on these and new faculty and research-related KPIs.

Faculty also participate in service activities that strengthen the university. Service contributions can be to a department, degree program, college, or to the university as a whole, but service to professional disciplines and relevant service to the community is also important (SIII.C2.b Faculty Handbook 2020 Section 4.2.2.3, pg. 26). Our application for the Carnegie Community Engagement designation highlights the many service activities our faculty undertake on behalf of our host city and local community (SIII.C2.a Carnegie Comm Engagement Appl).

REGULAR AND EQUITABLE FACULTY REVIEWS (SIII.C2.E)

Many factors determine the hiring and subsequent professional support of our faculty, chief among them being individual disciplinary expertise and the overall confidence that the faculty member will successfully serve the appropriate academic department(s). The evaluation of faculty members is performed in two areas: 1) review of existing faculty members; and 2) evaluation and selection of faculty members for new positions.

Faculty Evaluations

Faculty evaluations include annual, three-year, tenure, and promotion reviews (when applicable). The criteria for faculty reviews are well defined and publicly available, including in the Faculty Handbook (SIII.C2.e Faculty Handbook 2020 Section 4, pp. 25-32). The annual reviews (SIII.C2.e Faculty Handbook 2020 Section 4.3.6.1, pp. 29-30; Section 4.4.3.1, pg. 31) and third-year reviews (SIII.C2.e Faculty Handbook 2020 Section 4.3.6.2, pg. 30) are conducted by the Promotion and Tenure (P&T) Committee of the relevant program/department, with additional reviews provided by Program Chairs and Deans in the process of recommending merit raises. Faculty members submit a Faculty Annual Report (SIII.C2.e Faculty Handbook 2020 Section 2.1.2, pp. 7-8; SIII.C2.e Faculty Report Guidelines) of activities, providing information about publications, presentations, awards and honors, sponsored research, and other scholarly and professional activities.

Teaching is assessed through several means including formal course evaluations (SIII.C2.e Faculty Handbook 2020 Section 5.4, pg. 39; SIII.C2.e Guidelines for Course Evaluations) conducted toward the end of the fall and spring terms. These evaluations provide feedback to instructors and identify courses that require intervention based on longitudinal trends. Comprehensive promotion and tenure reviews (SIII.C2.e Faculty Handbook 2020 Section 4.5, pp. 32-37) are conducted by the departmental and university P&T committees based on criteria (SIII.C2.e Faculty Handbook 2020 Section 4.2, pp. 25-27) regarding the broad categories of teaching, research/scholarship, and service. Commentary on the requirements for Tenure and Promotion is provided by an annual memorandum on Promotion and Tenure Guidelines (SIII.C2.e Promotion Tenure Guidelines), with additional guidance in an annual memorandum on Institute Promotion and Tenure Consideration (SIII.C2.e P&T Consideration Memo). Procedures for hiring and promotion of

University Lecturers are available in the Memorandum on Hiring and Promotion of University Lecturers (SIII.C2.b Hiring Promotion Univ Lecturers).

The process of P&T is also described in the Faculty Handbook (SIII.C2.e Faculty Handbook 2020 Section 4.5 + addendum, pp. 32-38). The process involves several committees, beginning with the departmental P&T committee (composed entirely of faculty) which makes recommendations to the dean. Supported recommendations and dean evaluations are then sent to the University Committee on Promotion and Tenure (UCPT) (also composed entirely of faculty), which passes its evaluations to the Provost. The recommendation of the UCPT is almost always accepted and becomes the decision of the BoT.

Through this rigorous process, we ensure that new faculty granted academic tenure not only possess the qualifications for the positions they hold, but also demonstrate the potential to assume greater roles and responsibilities. These reviews also ensure that the rank of Professor is only granted to individuals with a superior track record in their scholarly field and academic duties.

During the 2016-17 AY, shared concerns arose over the lack of instructional staff representation in evaluation activities. At the request of the Lecturers and Educators Congress, a separate Committee of Lecturers was established (appointed by the departmental P&T committee) to undertake three new duties: 1) serve as a search committee for open Lecturer positions; 2) conduct annual reviews of full-time Lecturers; and 3) review the dossiers of Lecturers applying for promotion. This gives instructional staff more input regarding their career growth.

Evaluation of Faculty Candidates

Evaluation and selection of faculty candidates for new positions occurs during the recruiting process guided by our Faculty Search and Selection Criteria (SIII.C2.b Fac Search Select Guidelines). Faculty search committees always include members of the departmental P&T Committee to ensure alignment between candidate qualifications and departmental expectations. Almost without exception, hiring of faculty to positions that lead to academic tenure requires that candidates have terminal degrees in their fields (e.g., Ph.D., D.Sc., MFA), and almost without exception, all new hires are expected to be researchers as demonstrated by their past activities and stated plans for activities once hired.

FACULTY PROFESSIONAL GROWTH (SIII.C2.D)

NJIT offers opportunities for faculty professional growth and innovation, including the Institute for Teaching Excellence (ITE) which disseminates best practices in STEM teaching techniques, curriculum, digital technology, assessment, and student engagement. ITE topics include Technology-Enhanced Instruction and Blended Learning; Integrating Authentic Research Into the Classroom; Online Grading; Technology-Enhanced Learning in a Math Course; and even a moderated panel discussion covering best practices from “pandemic teaching” (SIII.C2.d May 2021 ITE Schedule).

The Office of Digital Learning (ODL) aids faculty in developing classes using instructional technology to ensure teaching excellence in all modalities. ODL’s instructional designers became a critical resource during the pandemic, easing the sudden transition to remote instruction by assisting faculty in modifying their courses and teaching practices to better suit the converged and synchronous online modalities used in Fall 2020 and Spring 2021.

2020 Vision proposed a Faculty Seed Grant initiative (FSG) (SIII.C2.d Appl FSG Funding) that was in part responsible for our tremendous increase in research productivity. This initiative provides seed funding to obtain preliminary results or to establish hypotheses for future grant proposals. Approximately 25 FSGs are awarded each year, with funding ranging from \$7,500 (single principle investigator (PI) and specific research initiative) to \$10,000 (multidisciplinary, collaborative projects). In FY2021, seed grant program expenditures exceeded \$200,000, with two-thirds of recipient projects leading to subsequent research proposals to external agencies. One interdisciplinary example is Connecting Limited English Proficiency Communities in North Jersey via Smart Technologies (a collaboration between the Newark College of Engineering (NCE), the Martin Tuchman School of Management (MTSM), and the Ying Wu College of Computing (YWCC)). Additionally, some academic colleges have their own seed funding

initiatives, such as the Leir Research Institute Faculty Seed Grant (LRI FSG) program in MTSM that focuses on sustainable economic development (SIII.C2.d Appl LRI FSG Award).

NJIT also regularly funds faculty participation in professional development workshops and conferences, spending \$30,000-\$50,000 a year on faculty participation in conferences on education. In addition to online development and training resources, starting in FY 2018-2019 we launched a Professional Development Fund for Adjunct Professors (SIII.C2.d UCAN-ADJUNCT-Contract Article XXXI, pg. 20). \$10,000 per year is dedicated to supporting the pedagogical and related professional development needs of adjunct instructors, with two to five adjunct professors benefitting annually.

RESEARCH

Research and development projects are conducted in academic units as well as in research institutes, centers, dedicated labs, and the New Jersey Innovation Institute (NJII). *2020 Vision* proposed the following research objectives: 1) foster increased faculty participation in scholarly research with an emphasis on collaboration; 2) strengthen a research organization that supports, facilitates, and promotes faculty research success; 3) take a leading research role in emerging areas of multidisciplinary research; 4) expand innovative research and forge business relationships through NJII and the Enterprise Development Center (now VentureLink); and 5) optimize existing facilities and equipment while developing new infrastructure to support research (SIII.C2.d 2020 Vision Priority Three-Research).

The university successfully implemented these and other efforts, spurring a significant growth in research institutes, centers, and laboratories (from 31 in 2010 to 136 in 2021). On 31 December, 2019 (six months before the end of the period covered by *2020 Vision*), every research KPI had shown significant improvement (as shown in Table 4-5), resulting in NJIT being designated a Carnegie Very High Research Activity (R1) university.

Table 4-5: Key Performance Indicators: Research, Actual vs. Target

Research Key Performance Indicators			
Objective	Metric	Baseline (2014)	Actual (2020)
Increase Research	Externally funded academic research	\$22.1M	\$37M
	External academic research/faculty	\$80,000	\$116,000
	Total externally funded R&D	\$63M	\$103M
Multidisciplinary Research	Externally funded research with PIs from multiple departments	5	36
NJII	NJII administered research projects	\$30M	\$66M
Doctoral	Total enrolled doctoral students	381	525
Intellectual Property	Total patents/invention disclosures	310	415
Publications	Refereed publications/faculty (FY)	1.55	2.6
	Total books published by NJIT	14	16
Faculty Recognition	Faculty Awards	2	11

NJIT 2025 continues our focus on research, proposing objectives including 1) promoting collaborative, translational research through seed funding; 2) fostering innovation and entrepreneurship toward commercialization of marketable ideas; 3) promoting partnerships between academic, private, public, and government sectors through NJII and VentureLink; and 4) expanding research management and

support systems. Together, these efforts will enhance our national and international reputation for high-impact research.

Research Areas and Support for Scholarly Activities

Our research activities are organized in five clusters: Bioscience and Bioengineering, Data Science and Management, Environment and Sustainability, Material Science and Engineering, and Robotics and Machine Intelligence. Table 4-6 provides a list of the five largest research projects undertaken in 2020 (by budget).

Table 4-6: Five Largest Research Projects (Active) at NJIT in 2020 (by Total Budget Awarded)

Title	Agency	Total Budget
NJ Health Information Technology Network	USDHHS/NJDOH	\$21M
Advanced Manufacturing for Weapons Systems Standardization and Effectiveness	US Dep of Defense (Picatinny Arsenal)	\$10.4M
Transformative Manufacturing Enhancements for Munitions and Weapon Systems Standardization and Effectiveness	US Dep of Defense (Picatinny Arsenal)	\$8.95M
Advanced Development of Asset Protection Technologies	US Dep of Defense (Picatinny Arsenal)	\$6.5M
Van Allen Probes RBSpace Phase E Operations - Extended Mission 1	NASA	\$5.95M

NJIT provides financial support for research ranging from the direct infusion of funds to matching the support of research grants and cost sharing in research proposals. In particular, we provide direct cash support for equipment and supplies ranging between \$200K and \$600K for each of the 18-22 faculty members hired per year for the past several years. They also receive research assistants, summer salaries, and allocations for travel. In total, we spend \$1M-\$3M every year on lab renovation for incoming faculty.



One key activity of *2020 Vision* was enhancing the capabilities of the Office of Research (OR). Through improved resources, services, equipment, and facilities, the Office of Research provided enhanced support in the areas of pre-award services, post-award management, and research compliance and integrity. OR oversees research-related policies including Rights and Responsibilities in the Conduct of Research (SIII.C2.a Research Policies); Appointment of Research Professors; Establishing and Managing Research Institutes, Centers, and Laboratories; Human Subjects Research; and Inventions, Patents, and Licensing. OR also publishes a weekly newsletter (SIII.C2.a OR Weekly Newsletter) that alerts researchers to grant opportunities and highlights recently awarded grants.

Research collaborations with industry and governmental partnerships are further supported through NJII, a collaboration in which faculty develop new projects and funding proposals in implementation areas and services that are not traditionally associated with universities. NJIT also provides NJII with expertise and human resources from the academic side. NJII reports annual revenue in excess of \$30M annually.

ASSESSMENT OF EDUCATIONAL EFFECTIVENESS

NJIT is committed to excellence and global impact through education, research, economic development, and engagement. To fulfill our mission, we employ faculty who are experts in their fields and are rigorous and effective in teaching and assessment. Faculty are therefore ideally suited to assess the academic programs they manage and to participate in a review of the assessment process to ensure it is

effective and appropriate to our mission. Our approach to ensuring the effectiveness of our academic programs and their assessment consists of the following steps:

1. Alignment of program learning goals with our institutional learning goals
2. Design of the student experience to achieve institutional and programmatic learning goals
3. Consistent delivery of educational experiences to attain institutional and programmatic goals
4. Assessment of the extent to which the institutional and programmatic goals are met
5. Integration of the results of assessment into an iterative improvement process
6. Evaluation of the assessment process and continuous improvement of assessment procedures

Educational and Curricular Goals (SV.C1, SV.C2)

At the institutional level, NJIT possesses a mission, vision, and core values that inform the goals outlined in our strategic plan. Our Institutional Learning Goals (ILGs) operationalize these elements and provide a framework that drives the learning goals of our academic programs.

- Research-Based Inquiry: Students employ research methods appropriate to their disciplines.
- Collaboration: Students work effectively in teams, applying multidisciplinary and global perspectives.
- Sustainability: Students evidence a cross-disciplinary understanding of the concepts of sustainability and their applications locally and globally.
- Ethical Conduct: Students demonstrate professional and civic responsibility, including respect for all individuals.
- Creativity: Students use heuristics to evaluate, analyze, and synthesize innovative solutions to existing and emerging problems.
- Professional Readiness: Students exhibit knowledge, skills, and experience necessary for professional growth.

By aligning program learning goals to our ILGs, we ensure that students achieve the skills and knowledge necessary to excel in their chosen field. ILGs (SV.C1 Institutional Learning Goals) are an essential part of every academic program review and are publicly available on our website, while program goals and learning outcomes are available for each academic program through Degree Finder (SV.C2.b Major and Degree Finder).

Meaningful Goals and Defensible Standards (SV.C2.a)

Academic program goals (PGs) align with program missions (PMs) and broadly describe the educational goals of each program. Student Learning Outcomes (SLOs) specify the knowledge and abilities we expect of all students upon program completion. By assessing SLOs in relation to PGs and PMs, and by mapping existing courses and experiences to SLOs, program directors and faculty gain a strategic perspective of learning that informs action planning. Actions can include curricular changes, revisions of learning assessments, or the allocation of resources such as additional faculty lines.



Program Goals and Student Success (SV.C2.b)

We assess SLOs through measures based on learning experiences with targets for expected levels of achievement. Program directors and instructors can compare outcomes against measures to assess the

extent of student achievement and identify areas requiring intervention. In the 75 programs most recently assessed, an average of 78% of SLO targets have been met (SV.C2.b Assessment Dashboard).

Our assessment process includes a trend analysis based on five years of high-level data (e.g., the number of newly enrolled and total enrolled students, average overall GPA, and degrees awarded by term). This allows program directors to observe and address longitudinal changes in student outcomes. For undergraduate programs, this data also includes enrollment, retention rates, and four- and six-year graduation rates by cohort (e.g., SV.C2.a Data BS Mathematics).

Assessment Support and Communication (SV.C2.c)

Program assessments are initiated by the Assistant Director for Assessment and Accreditation (ADAA), who tracks the assessment status of all academic programs, student support services, the general education program, and externally accredited programs through a custom dashboard. The ADAA initiates the assessment process, periodically reviews ongoing efforts, and plans ahead for subsequent stages of the process (e.g., coordinating meetings of the FSCAA).

Multiple program stakeholders (instructors, program directors, chairs, deans, the Provost, and the Faculty Senate through the FSCAA) are included in our process of educational assessment. Faculty participate in the collection of data and discussion of SLO measures, while the chairs, deans, and the FSCAA review completed assessment reports to ensure educational effectiveness and to allocate resources appropriately. The involvement of the FSCAA taps into our shared governance, giving faculty and other stakeholders (e.g., students) a voice in academic assessment. Submission of program review reports and the FSCAA summary report to the Provost integrates senior administrators, and the Provost's annual report to the BoT at their retreat (entitled the Assessment of Education and Research) (SV.C2.c Provost Assess Ed Rsrch 2021 Pres) ensures their involvement in the assessment process.

USE OF ASSESSMENT RESULTS (SV.C3)

The process of educational effectiveness assessment ensures that our assessments are meaningful and impactful, with results being used in a variety of ways.

Improving Learning, Pedagogy, and Curriculum (SV.C3.a, SV.C3.b)

Academic assessment is conducted by faculty who serve as academic program directors, with input provided by the program's instructors as well as department, college, and university administrators. Although program review reports are not typically shared with students, assessment results enable stakeholders to address issues and allocate resources to facilitate continuous improvement. For example, a comparison of SLO measures and targets may provide evidence that students in the program are struggling to acquire a particular learning outcome. Through the action planning process, the program director and other instructors develop remediation efforts with the goal of improving those outcomes (e.g., SV.C3.a.b BSET CMT (12-02-2021)). Additionally, a review of longitudinal program data can reveal subtle changes, prompting longer-term action plans. For example, declining average GPAs in one master's program initiated a review of incoming students' GRE scores, resulting in a plan to gradually strengthen admission criteria.

In another example where assessment results informed improvements, a program undergoing external accreditation identified a sophomore-level course and a senior-level course with seemingly identical assignments. Upon closer examination, the faculty found that the senior-level assignment was more complex in subject matter and analytical tasks (SV.C3.b IS ABET Remediation pg. 43, item 5). The instructors for these two courses collaborated to ensure that these assignments would continue in alignment moving forward.

Other efforts to continuously improve student outcomes include in-depth assessments such as the survey of converged learning implemented in the Fall 2020 semester (and repeated in Spring 2021). The survey, distributed to students and faculty, provided immediate feedback regarding issues with the converged learning experience and classroom technologies, allowing the university to make real time adjustments to improve the teaching and learning experience.

Reviewing and Revising Academic Programs (SV.C3.c)

Assessment results can also lead to the development of new academic programs. For example, significant enrollment in a cyberpsychology course by students from various majors led to the development of a new cyberpsychology degree program (SV.C3.c Cyberpsychology Enrollment). In another example, NJIT developed the state's first bachelor of science in forensic science program in response to industry demand and student interest. On the other hand, degree programs in which industry demand or student interest is declining are designated for sunseting, allowing current students to complete their studies while not enrolling new students. This ensures that programs prepare students with knowledge and expertise sought by employers.

Planning, Conducting, and Supporting Professional Development (SV.C3.d)

With our revised assessment cycle now implemented, faculty have requested assessment-related professional development opportunities. To date, program directors have requested workshops on each stage of the assessment process with opportunities to discuss and collaborate on their assessments with other program directors. Other requests include reviewing previously completed assessments submitted by program directors with a positive assessment mindset.

The Institute for Teaching Excellence (ITE) also offers in-house professional development relating to instruction and assessment. ITE hosts brown-bag lunch workshops several times per month, offering frequent sessions on assessment. During the pandemic, ITE workshops (SV.C3.d ITE Workshops Fall 2021) focused on teaching in the converged mode and using advanced features of WebEx such as breakout rooms, while earlier ITE topics included summative assessment through student portfolio reviews. Feedback regarding ITE workshops is solicited routinely and used to develop more targeted offerings for the next semester.

Communicating Assessment Data for Planning and Budgeting (SV.C3.e, SV.C3.f)

Chairs, deans, and senior administrators introduce a broader perspective to assessment, comparing outcomes across programs, departments, and colleges to initiate high-level discussions when programs have significantly different outcomes. For example, undergraduate programs with low retention rates are investigated to identify potential barriers to student success and to determine if students are leaving the university or changing to a different major. Such issues only become apparent at the department, college, or institutional level, but they are essential to planning and budgeting activities. For this reason, assessment data is communicated to a variety of stakeholders.

Educational outcomes and academic assessment results are compiled by the program directors with support from the ADAA and shared with the department chair and dean for budgeting and planning purposes. These individuals, along with the FSCAA, review and approve academic program assessment reports. A summary report (e.g., SV.C3.e FSCAA Approvals (12-15-2021)) and the individual approved reports are then shared with the Provost and SEVP to inform budget approval and institution-level planning. The Provost and SEVP summarizes program assessment results in his annual report to the BoT (Assessment of Education and Research) (SV.C3.f BOT Assess Ed Rsrch (07-22-2021)). A detailed review of assessment outcomes is provided to the Academic Affairs subcommittee of the BoT with a summarized version presented to the full Board. In this way, the BoT is kept informed of educational outcomes, assessment efforts, planning and resource needs, as well as any special assessments conducted during the prior FY.

This assessment data is then used for budgeting and resource allocation. While instructional staff constitute a significant investment in any program, other necessities (e.g., instructional laboratories and software) are also considered in academic program planning and budgeting. Additionally, renewal of instructional spaces is one of the goals specifically addressed in *NJIT 2025*, with an associated KPI capturing the percentage of scheduled classrooms meeting our classroom technology standards.

Improving Key Indicators of Student Success (SV.C3.g)

As a result of our assessment efforts and our drive towards continuous improvement, our six-year graduation rate increased from 59% in 2014 to 70% in 2020, with our retention rate also increasing significantly (from 84% to 89%) (SV.C3.g 2020 Vision Final KPI Table). *NJIT 2025* builds on these accomplishments: FTFTU retention rate and six-year graduation rate continue to be essential KPIs in *NJIT 2025*, but new metrics expand our focus on student success to include retention of transfer students into their third semester, underrepresented minority retention and graduation rates, and the number of students applying for and receiving prestigious fellowships. These metrics will continue to be broadly disseminated to all stakeholders.

Implementing Other Educational Program Improvements (SV.C3.h)

Our academic program assessment process is robust, involving multiple stakeholders in an evaluation of student outcomes, academic curriculum, and program needs. Experiential learning opportunities (e.g., undergraduate research and industry-sponsored capstones), however, are currently assessed at the department level, with results shared internally. With *NJIT 2025* proposing the expansion of such learning experiences, we are developing a more formal evaluation process for these opportunities to allow university-wide assessment of all student learning experiences (discussed in greater detail in Chapter 2).

Review of Third-Party Assessment Services (SV.C4)

NJIT does not employ systematic assessment by third-party providers. However, from time to time, programs within the university invite a group of academic peers to conduct comprehensive program reviews. In addition, the university organizes routine “mock accreditation” reviews between formal visits of external accrediting agencies.

Assessment of the Effectiveness of Assessment Processes (SV.C5)

Over the last decade, our academic program assessment process has evolved to ensure that it is effective, efficient, and facilitates continuous program improvement. This has resulted in periodic updates to the process and format of program assessments and report submissions.

Prior to 2019, our five-year cycle of program review included program-level data collection and analysis, the mapping of course, program, and institutional mission and goals, and the assessment of SLOs, with results informing ongoing improvements (SV.C5 Prog Rvw 5-Yr Templ (04-04-2016)). In 2019, a new three-year/three-step assessment process was implemented: initial assessments were conducted in the first year (Assess), followed by analysis of findings and creation of an action plan in year two (Analyze), with the third year focused on assessing how the action plan improved upon the previous findings (Close the Loop). To support this new process, the university invested in an assessment management system. Unfortunately, the initial assessment template (SV.C5 MS CE Plan Results Matrix) was found to be confusing and cumbersome, and the assessment system was also difficult to use.

In early 2021, we conducted a comprehensive review of the assessment process and recent reports. Feedback from program directors about the process, and complaints about the assessment management system and template matrix, informed major revisions. Our revised process (discussed in Chapter 2) returns to a format closer to our earlier 5-year cycle, beginning with a full self-assessment report every four years with annual follow-up reports. This shift more closely aligns academic program assessment with our strategic planning cycle and simplifies the assessment process, while producing comprehensive program assessments and data-driven action plans.

All of our academic programs are up-to-date on their assessments, with nine programs scheduled to complete full assessment reports in 2022. The input of the FSCAA has been instrumental in strengthening the quality of assessment reports, with six of the assessment reports submitted in 2021 requiring revision based on FSCAA feedback. For approved program reviews, examples of FSCAA feedback include comments about prerequisite knowledge and SLO targets. Examples of feedback for non-approved programs include a lack of context in the assessment report or insufficient benchmarks and targets.

In the near future, the ADAA will initiate an extensive effort to facilitate, for all internally reviewed programs, a collaborative review of mission statements, program goals, and student learning outcomes. This process is expected to take at least a year to complete. Updates made during this process will inform more precise and effective program assessments and continuous improvement going forward.

CONCLUSION

After Students, our strategic plans set Faculty and Research as the next priorities. Teaching is the counterpart of learning; therefore, *NJIT 2025* establishes three key objectives in this area that parallel the objectives in the Student priority: 1) improve teaching and research; 2) strengthen training and mentoring programs for faculty; and 3) become nationally and internationally recognized for faculty excellence.

In the areas of Faculty and Research, decision making and resource allocation are guided by quantitative KPIs that measure our progress towards strategic goals, with unmet KPIs analyzed to inform corrective actions. We are confident that our strategic plan-driven management of Faculty and Research is both sufficient and efficient—all university constituencies participated in developing the strategic plan, and it is well disseminated at all administrative and faculty levels. Our accomplishments following the onset of the pandemic demonstrate that the structures, procedures, and responsibilities established at NJIT pre-pandemic were sufficiently adaptable and flexible to address the operation of the university and the needs of key constituents (primarily our students) in times of crisis.

Chapter 4 addresses the key topics of Faculty and Research, as well as Educational Effectiveness Assessment. In the former, we discuss our faculty in relation to Standard III.2. In the latter, we demonstrate how we satisfy Standard V, with an emphasis on robust assessment processes that ensure results inform actions when objectives and goals are not reached.

SUGGESTIONS AND RECOMMENDATIONS

Based on our self-assessment in the area of faculty, research, and the assessment of educational effectiveness, we have identified the following suggestions and recommendations as opportunities for ongoing improvement.

Suggestions

- Assemble and charge an Institutional Diversity Committee to monitor and guide faculty recruitment searches to ensure intentionality in identifying a diverse pool of candidates. In support of this effort, implement divisional performance indicators (DPIs) to track the effectiveness of the committee's efforts.
- Initiate a collaborative review of academic program mission statements, program goals, and student learning outcomes for academic programs. With the revised assessment process underway, a collaborative review of these elements will strengthen future assessment activities.
- To date, assessment of capstones and undergraduate research experiences has been conducted at the department level. Moving forward, assessment of these experiences will be formalized to facilitate university-wide assessment of all student learning experiences.

Recommendations

- Continue to hire faculty with expertise in high-impact disciplines while focusing on diversity. This will enhance our teaching and research, provide more opportunities for faculty-student interactions, and provide more role models for our diverse population of students.

CHAPTER 5: RESOURCES

Capitalizing on the successes achieved in the *2020 Vision* priorities of Community and Investments, the Resources priority in *Building on a Strong Foundation—NJIT 2025* focuses on strategic efforts relating to Human, Digital, Physical, and Fiscal resources. This chapter is organized according to these categories, identifying how NJIT meets the applicable MSCHE standards for each type of resource, with evidence provided to support our assertions. Specifically, Criteria VI.4 and VI.8 are addressed in relation to each resource type for clarity and completeness. The relationship between resources, the strategic planning process, and the utilization of key performance indicators (KPIs) for assessment is also addressed.

This chapter therefore discusses our compliance with the MSCHE Standards for Accreditation and Requirements of Affiliation shown in Table 5-1. (Note that Standard II.7 is addressed in Chapter 3, while the remainder of Standard II is discussed in Chapter 6, while Criteria 1 through 3 of Standard VI are discussed in Chapter 1.)

Table 5-1: Standards, Criteria, and Requirements of Affiliation Addressed

STD/ ROA	Statement	Meets Criterion
Standard II: <i>Ethics and integrity are central, indispensable, and defining hallmarks of effective higher education institutions. In all activities, whether internal or external, an institution must be faithful to its mission, honor its contracts and commitments, adhere to its policies, and represent itself truthfully.</i>		
SII.C5	Fair and impartial practices in the hiring, evaluation, promotion, discipline, and separation of employees	✓
Standard VI: <i>The institution's planning processes, resources, and structures are aligned with each other and are sufficient to fulfill its mission and goals, to continuously assess and improve its programs and services, and to respond effectively to opportunities and challenges.</i>		
SVI.C4	Fiscal and human resources as well as the physical and technical infrastructure adequate to support its operations	✓
SVI.C5	Well-defined decision-making processes and clear assignment of responsibility and accountability	✓
SVI.C6	Comprehensive planning for facilities, infrastructure, and technology that includes consideration of sustainability and deferred maintenance	✓
SVI.C7	An annual independent audit confirming financial viability with evidence of follow-up on any concerns cited in the audit's accompanying management letter	✓
SVI.C8	Strategies to measure and assess the adequacy and efficient utilization of the institutional resources required to support the institution's mission and goals	✓
SVI.C9	Periodic assessment of the effectiveness of planning, resource allocation, institutional renewal processes, and availability of resources	✓

INTRODUCTION

2020 Vision specifically prioritized two resources: Community and Investments. The Community priority focused on increasing the ethnic/racial and gender diversity of faculty and administrative leaders, while the Investments priority focused on allocating sufficient resources to 1) support education; 2) hire, develop, and retain faculty; 3) develop a research infrastructure; and 4) invest in facilities and technology. These objectives were assessed through KPIs including the percentage of women and underrepresented minority faculty and administrative leadership, the percentage of faculty hired in the past 10 years, the number of total T/TT faculty, student satisfaction with instruction, faculty satisfaction with research support, and student and faculty satisfaction with facilities and technology.

While our faculty renewal efforts met with great success (discussed in Chapter 4), some of these other KPIs declined, including the percentage of underrepresented minority (URM) faculty, the percentage of women and URM administrative leadership, faculty satisfaction with facilities, and student and faculty satisfaction with technology. *NJIT 2025* continues efforts to address these areas in conjunction with a related Information Services and Technology (IST) plan focused on our digital transformation. *NJIT 2025* sets objectives and KPIs for four categories of resources: Human, Digital, Physical, and Fiscal. These four categories are discussed individually in the remainder of this chapter.

RESOURCES – HUMAN (SVI.C4)

The most important asset of any organization is its people. Our Department of Human Resources (HR) works to attract, develop, reward, and retain a talented and diverse workforce in support of our mission of excellence in education and research. The ability of our human resources to support our operations is clearly evidenced through the successes we achieved under *2020 Vision* as well as in our ability to quickly pivot to virtual and hybrid operations during the pandemic. The Resources—Human section of *NJIT 2025* includes tactics to develop and sustain our human capital, including developing diverse talent pools and ensuring the strategic assessment of leadership skills (SVI.C4 Internal Mobility Policy). This will ensure that staff have the skills necessary to complete their assigned responsibilities.

In addition to our 466 full-time faculty (T/TT and non-tenured), NJIT currently has almost 900 full-time (non-faculty) employees responsible for student support and administrative services (SVI.C4 Employee Headcount (01-31-2022)). To attract and retain superior employees, we offer a comprehensive benefits package that includes health and dental insurance, retirement benefits, and life insurance (SVI.C4 Employee Handbook). HR also manages employee assistance and wellness programs to increase staff satisfaction and retention, and recently announced a remote work policy (SVI.C4 Remote Work Guidelines).

Fair and Impartial Employer Practices (SII.C5)

The HR department ensures that all employees are treated fairly during recruitment, employment, evaluation, and separation. As part of the implementation of the *2020 Vision* Community priority, HR hired a Director of Organization Performance Excellence charged with developing and facilitating best practices in performance management, supporting our diversity initiatives, and creating the Management and Staff Academy (SVI.C4 FY20 Management Academy) dedicated to increasing professional management and staff competencies.

NJIT 2025 expands on these efforts with an intentional approach to our human capital. Focusing on the employee lifecycle, a new Talent Management function has been added to proactively define workforce planning needs that align with university goals. These efforts will serve as the foundation for succession planning and support career development for staff. In addition to staff promotions and upward mobility, *NJIT 2025* KPIs assess operational effectiveness and employee satisfaction through objectives including developing our employer brand, strengthening our recruiting processes, capitalizing on employee management and leadership skills, increasing staffing commensurate with increased enrollment, becoming a more family-friendly employer, and providing career opportunities for high-performing employees.

Our recruiting process (SII.C5 Hiring Onboarding) ensures equitable search processes through diverse search committees that ensure different perspectives are considered in final hiring decisions. While all recruiting efforts are rigorous and compare applicants against clearly defined job descriptions, senior level searches (typically deans and vice presidents) also include on-campus finalist interviews.

HR oversees structured evaluation processes to fairly reward employee performance and contributions. At the individual level, employees are assessed through annual performance processes defined by their respective Collective Bargaining Agreements (CBA). (SII.C5 Union Contracts on the HR website lists all unions affiliated with NJIT. The current (tentative) PSA contract is provided here as evidence (SII.C5 PSA Tentative Contract) with other union contracts available as supplemental evidence.) Non-unionized staff receive written annual performance reviews based on goals set at the beginning of each fiscal year. All staff provide a written self-assessment via an online performance management system, with

training and how-to guides provided to ensure fair and impartial evaluations. (Note that faculty evaluations, promotion, and tenure are discussed in Chapter 4.) Processes and practices for discipline and separation are also established as part of each CBA, including the use of Performance Improvement Plans with appropriate union representation.

During the development of *NJIT 2025*, difficulties associated with staff career planning were raised. This resulted in a KPI that monitors our efforts to improve employee mobility and increase employee satisfaction through career advancement.

Assessment of Human Resources (SII.C5, SVI.C8)

To ensure that we effectively utilize our human resources, both *2020 Vision* and *NJIT 2025* monitor and biannually assess KPIs related to personnel (SVI.C8 Performance Rvw Mgmt Guide). In particular, *2020 Vision* outlined an aggressive plan to achieve a meaningful increase in the diversity of our administrative leadership, as well as in T/TT faculty and instructors in non-tenure track positions. Specific actions to increase the number of women and URM administrators included the creation of university diversity liaison officers (for faculty and staff), the creation of a committee focused on ensuring a robust university-wide approach to diversity and diverse hiring, and HR counsel and oversight of search committees to ensure fair and equitable hiring practices. Other efforts included annual search committee training on non-discriminatory hiring practices and implicit bias as well as applicant demographic monitoring and reporting. Additionally, diversity liaisons were appointed for each school and college, acting as counsel to department chairs and overseeing a proactive and intentional approach to faculty hiring through revised Faculty Search and Selection Guidelines (FSSG).

While *2020 Vision* prioritized increasing diversity, our efforts did not succeed as intended. As a result, in fall 2020, the FSSG were revised again to allow deans to intervene earlier in the process if candidate pools are not sufficiently diverse (SII.C5 Fac Search Select Guidelines). Specifically, the FSSG were revised to 1) include a review of the diversity of the applicant pool before commencing interviews, 2) provide a diversity statement on all external faculty advertisements, and 3) add interview questions which affirm the candidate's commitment to diversity (SII.C5 FSSG Fac Recruit Workflow).

We were also recently awarded a grant from an anonymous foundation to engage a nationally-recognized consulting firm that will perform a DEI assessment and develop recommendations for strengthening our actions on this front. Such a survey is the necessary initial step in developing a set of recommendations for achieving our equity goals. It is our expectation that the resulting DEI Action Plan will provide the essential roadmap we have previously lacked. We also expect our DEI task force to involve students, faculty, and staff to bolster the inclusiveness of our university community, our sensitivity to cultural and personal differences, and our active stance against discrimination. These efforts will also be linked to the goals of *NJIT 2025* to assess whether we are creating an environment that allows employees to be engaged and productive in supporting our mission and vision.

In addition to diversity, *NJIT 2025* expands our focus on human capital through objectives calling for improved employee satisfaction and becoming a best place to work as measured through KPIs including employee career advancement, percent of non-instructional staff receiving professional development, and employee satisfaction. In May 2021, HR launched the "Best Places to Work in New Jersey" survey to establish a baseline against which we will measure our efforts to improve the employee experience. The survey addresses eight areas: 1) Leadership and Planning; 2) Culture and Communications; 3) Role Satisfaction; 4) Work Environment; 5) Relationship with Supervisor; 6) Training, Development and Resources; 7) Pay and Benefits, and 8) Overall Engagement. The feedback provided by the 45% of employees who responded will inform our action plan to become a great place to work (SVI.C4 Great Places to Work Results).

RESOURCES – DIGITAL

Information Services and Technology (IST) is leading our transformative journey towards digital maturity, enabling the university to take our next technological leap forward. Based on a preliminary vision (SVI.C6 IST Vision 2020-23), the IST plan (SVI.C6 IST Strategy) sets strategic imperatives and prioritized

goals that will contemporize enterprise applications, build scalable infrastructure for enterprise and research, and provide support to a diverse group of campus stakeholders including faculty, staff, students, and alumni.

The IST planning process addresses feedback from all campus partners and incorporates the findings of past assessments and audits. Internal assessments include detailed analyses of internal infrastructure, applications, processes, and security. Coupled with external benchmarks, these assessments have formed a plan designed to deliver a scalable and agile infrastructure that fuels our strategic growth.

Digital Infrastructure (SVI.C4, SVI.C6)

The IST strategic plan prioritizes initiatives fundamental to building a digital operating model while scaling functions and services that add value. The plan includes six strategic imperatives: 1) data, enterprise analytics, and instituting business intelligence; 2) scalable architecture for advanced research computing; 3) technology to fuel multiple learning modalities including global campus goals; 4) security and threat management; 5) enterprise application modernization including contemporizing older applications, automating processes, leveraging cloud, incorporating platform and data integrations; and 6) integrated service management.

We have a number of well-managed enterprise systems that serve as critical data sources, but the lack of an enterprise-wide data system traps data in silos and prevents the implementation of business intelligence. The IST plan outlines an enterprise analytics framework that will aggregate data and facilitate decision making. A critical element is the establishment of an Enterprise Analytics Governance Committee and a Data Governance Subcommittee providing guidance and prioritization to initiatives, thereby ensuring that data can be transformed into actionable knowledge (SVI.C4 Analytics and Data Governance).

As a Carnegie R1 (Very High Research Activity) university, high performance computing is essential for our faculty. The IST plan calls for establishing a new architecture that supports the convergence of High Performance Computing, Grid Computing, Analytics and AI workloads, 5G-related research, and advanced research with computational needs. Additionally, we have initiated new efforts to leverage cloud computing resources for research and are in the process of developing a cyberinfrastructure plan that will be available to university administrators and researchers (SVI.C4 FRAB Rsrch Cyberinfrastructure Comm).

We are continuing to move toward our goal of expanding online learning opportunities and developing a global campus (outlined in *NJIT 2025*) with efforts including the creation of the Office of Digital Learning (ODL) in 2015. ODL has actively engaged with our faculty on issues such as proctoring in an online mode and was instrumental in our transition to remote learning during the early days of the pandemic. Other actions in support of our global campus effort include instituting high touch marketing and recruitment strategies specifically for online programs. Upcoming plans for online learning go further with the piloting and implementation of simulation and AR/VR tools, as well as virtual labs (SVI.C4 Online Sections Enrollment).

To ensure the safety and protection of our data and systems, we have increased our emphasis on cybersecurity and data protection by replacing our legacy antivirus solution and launching security awareness training and simulated phishing awareness programs. Our IST plan calls for a more formal security and threat intelligence detection and prevention program, development of explicit security policies that protect our digital assets and data, and the establishment of mature business continuity practices (SVI.C4 Vulnerability Assessment Log; SVI.C4 Server Inventory List).

Our primary Enterprise Resource Planning (ERP) application, Ellucian Banner, manages the student lifecycle, finance, and HR. Planning is underway, with support from a cross-campus functional and technical team, to move our ERP to the cloud. Additionally, we are planning to invest in contemporary integration and monitoring tools that enable data integration between our ERP and other significant systems such as our Learning Management, admissions, student success, and fundraising systems. To support these efforts, a cross-functional enterprise systems advisory committee has been established that provides ongoing guidance and management (SVI.C4 ES Advisory Committee).

As our primary data center approaches end of support (SVI.C4 Data Center Eng Rprt), we have engineered a hybrid infrastructure promoting a cloud first strategy that aligns with current industry trends.

IST has also migrated about 75% of on-premise workloads to our primary cloud provider, leveraging virtualization.

In addition to the IST strategic plan, a five year capital plan (SVI.C6 IST Capital Plan FY2021-25) is in place to ensure the reliability and availability of our critical infrastructure. The five year plan is proactive and flexible and mitigates the cumulative risk of aging infrastructure. The work ahead involves collaboration and decisions that will continue incorporating feedback from many campus constituents.

Assessment of Digital Resources (SVI.C8)

Under *2020 Vision*, strategic objectives relating to technology were included in the Investments priority. Specifically, *2020 Vision* called for an update to our Technology Plan to drive campus technology decisions and the evaluation of funds for technology renewal in the annual capital budget. These KPIs were assessed through two survey-based metrics: faculty satisfaction with technology and student satisfaction with technology (SVI.C8 2020 Vision Final KPI Table). Despite efforts to improve technology during the plan's implementation, both metrics experienced a decline.

The IST strategic plan was informed in part by digital assessments undertaken during *2020 Vision*. In 2018, the Strata Information Group (SIG) was engaged to assist us in implementing an Enterprise Data Warehouse (EDW). As the result of a discovery conference, the focus changed to a readiness assessment to develop a clear understanding of the issues related to data and reporting at NJIT, identifying unmet reporting needs and data management issues. This led to the determination that EDW resources should be redirected toward other needs, along with recommendations for next steps including a (now completed) upgrade of the Cognos reporting environment and development of a future-state business intelligence architecture, which is part of the current IST plan.

During the following spring, NJIT retained Grant Thornton's Higher Education Advisory Services Practice to perform an IT assessment and roadmap development project with the aim of implementing an eventual, campus-wide IT transformation. This team conducted a campus-wide needs assessment and a review of the current IT environment, identifying key areas for improvement and developing strategies to remediate issues including formalizing governance, developing an infrastructure refresh policy, launching an IT service management initiative, and reorganizing the IT structure. All of these strategies are currently underway.

These assessments, supplemented by a review of our digital assets undertaken by our new Vice Provost and CIO, have informed the IST strategic plan and led to the initiatives discussed above. As a result, we anticipate more positive outcomes in the Resources (Digital) domain during *NJIT 2025*. While we continue to utilize surveys to capture the perceptions of students, faculty, and staff regarding their experience with IT, *NJIT 2025* also introduces new KPIs (e.g., percentage of scheduled classrooms meeting established technology standards, student and faculty satisfaction with library services, and average time to resolution of IT projects) that will assess our digital resources moving forward.

RESOURCES – PHYSICAL

NJIT has a robust facilities master planning process to ensure the university has the appropriate physical infrastructure to support institutional operations. Our 2008 Facilities Master Plan (FMP) and 2013 Amendment (SVI.C6 FMP 2008 with 2013 Amendment) examined all aspects of the university, including but not limited to instructional delivery, research, student support and activity spaces, athletics, and administrative offices. This plan has guided infrastructure investments over the past decade, supplemented by a Space Needs Analysis (SNA) conducted in 2017 (SVI.C6 SNA for Master Plan (02-2017)). The SNA identified opportunities to improve space utilization and enhance our schedule to optimize the use of facility resources, serving as the basis of the 2018 Facilities Master Plan Update (SVI.C6 FMP Update 2018).

Physical Infrastructure (SVI.C4, SVI.C6)

Two recently completed projects were part of the 2008 FMP: the Wellness and Events Center (WEC), and the renovation of the Central King Building (CKB) into a collaborative teaching, learning, and research facility. Motivated by our core value of sustainability, the CKB renovation integrated sustainable

principles and is certified as a US Green Building Council LEED Gold Building (SVI.C4 US Green Building Council CKB). Through the 2013 FMP amendment, we further enhanced our multidisciplinary research capacity with the 24,000 square foot Life Science and Engineering Center, and the new 980 car parking garage and surface lot (SVI.C4 Parking System Adequacy 2013; SVI.C4 Parking System Adequacy 2018) provides additional parking, a critical improvement for a predominantly commuter campus.

In addition, we continued investing in existing facilities. Annual capital renewal and replacement budgets focused on improvements to teaching and learning facilities, with spending growing from \$3.9M in 2011 to \$27M in FY20, providing visible changes to campus facilities as well as improved energy efficiency and system reliability. Investment in academic infrastructure and scholarly research facilities grew from 9% of renewal funds in 2008 to 67% in 2019, showing our commitment to our mission of education and research (SVI.C6 REDCO Goals Objectives 2019-20).

Assessment of Physical Resources (SVI.C8)

Since 2014, we measure our use of both capital and operating resources through a benchmarking process assisted by Sightlines. This annual analysis benchmarks us against peer and aspirational universities in the areas of stewardship of physical resources, facilities management metrics in personnel and cost per square foot, and energy consumption and expenditures. The outcomes of this analysis provide a roadmap to mitigate our deferred maintenance backlog, increase staffing to effectively manage day-to-day campus needs, migrate to a more proactive facilities organization, and celebrate our excellent energy outcomes (e.g., SVI.C8 Facilities Sightlines Report FY21).

In *NJIT 2025*, we will focus on becoming more sustainable in all we do. In response to a new KPI, we will assess our current carbon footprint as the foundation for our climate action plan. In addition, we will create more opportunities for learning outside of the classroom through additional learning commons facilities like CKB. Finally, creative initiatives such as an energy savings improvement program, funded with university reserves and paid back through energy savings, will allow focused investments in teaching labs, classrooms, and needed equipment.

RESOURCES – FISCAL (SVI.C4)

NJIT consistently demonstrates solid financial performance. We are reviewed annually by Moody's and S&P rating agencies and rank second in the state (after Rutgers) with an A1 credit rating (SVI.C4 Financial Health Pres (04-01-2021) pg. 3). As noted by Moody's in its March 31, 2021 report (SVI.C4 Moodys Ratings Report (03-31-2021), pg. 1):

NJIT's very good credit quality is supported by favorable student demand as a science and engineering based public university with reasonable projections for enrollment growth. NJIT's revenue diversity and conservative budgeting support ongoing favorable operations, indicated by consistently positive operating cash flow margins. These strengths, combined with good financial planning and forecasting, help the university mitigate some of the challenges associated with a constrained state funding environment.

Standard and Poors noted in its April 9, 2021 report (SVI.C4 S&P Ratings Report (04-09-2021)):

NJIT's enterprise profile is very strong, reflecting its solid retention and experienced senior management team, offset by a trend of weakened matriculation. We have assessed the financial profile as strong, reflecting its relatively diverse revenue streams and expectations of increased stability in State appropriations. The breadth of NJIT's academic programs and strong research capabilities, including being only one of three Carnegie Classified R1 research universities in New Jersey.

The annual Moody's scorecard reviews four key financial factors including:

- Market profile (30%) – Operating revenues, annual change in revenues, strategic positioning
- Operating performance (25%) – Operating cash flow margin, revenue diversity
- Wealth and Liquidity (25%) – Cash and investments, spendable cash and investments to operating expenses, monthly days cash on hand
- Leverage (debt) (20%) – Spendable cash and investments to total debt, total debt to cash flow

NJIT's overall rating is at the high end of A1 and closer to an Aa3 rating; however, given financial challenges at the State level, Moody's has kept our rating at A1.

Annual Operating Budget (SVI.6, SVI.C8)

The annual operating budget is established in an open, transparent and collaborative process, with our strategic plan providing a focus for funding (FY16 – FY20). Each November, vice presidents prepare their upcoming FY budget requests, linking them to strategic priorities (SVI.C8 Budget Dev Calendar FY20-21). The operating and capital development workflow (SVI.C6 Budget Dev Workflow) visually displays how the annual budget is collaboratively developed with input from division heads and subsequently summarized and presented at the VP level. This workflow also documents the process in which we fine-tune our projected revenues and expenditures, resulting in a balanced budget. Multiple presentations on the status of the budget are given throughout the year to the BoT (Audit & Finance Committee, Buildings & Grounds, Executive Committee, and full board), vice presidents, senior staff, University Senate Committee on Finances, and joint meetings of the Strategic Planning Steering Committee, the Committee on Academic Strategic Planning and Budget Priorities, and the Faculty and University Senates.

Over the course of *2020 Vision*, budgeted investments in strategic priorities cumulatively totaled \$136M (SVI.C6 2020 Vision Objectives Investments) with the largest investment supporting facilities infrastructure (\$49M), followed by faculty renewal (\$27M). New funding allocations to support *NJIT 2025* priorities were temporarily paused due to the pandemic but will resume in FY22.

NJIT's budget has grown substantially since the baseline year (FY14) of *2020 Vision*. In FY14, our operating budget was \$365.7M; in FY21, the operating budget totals \$546.7M, an increase of \$181M (49.5% growth). The FY21 annual operating budget reflects the impact of the COVID-19 pandemic and federal programs (including CARES act funds). Note that restricted programs include all external grants and contracts as well as restricted student awards.

Table 5-2: Revenues and Expenses FY14 and FY21

Revenues - \$ in Millions			Expenses - \$ in Millions		
	FY14	FY21		FY14	FY21
Tuition & Fees	150.3	202.0	Personnel	170.3	218.0
State Appropriation	37.7	40.4	CRR/IST	11.2	17.3
State Appropriation - Fringe	45.9	60.5	Debt Service	16.6	18.8
Federal Programs	-	19.7	Student Awards	23.5	38.9
Auxiliaries/Other	33.0	40.6	General Non-Personnel	45.3	70.2
Subtotal NJIT Unrestricted	266.9	363.2	Subtotal NJIT Unrestricted	266.9	363.2
NJII Direct Operations	-	28.5	NJII Direct Operations	-	28.5
NJIT Restricted Programs	98.8	155.0	NJIT Restricted Programs	98.8	155.0
Total Revenues	365.7	546.7	Total Expenses	365.7	546.7

- Tuition & Fees make up the largest portion of revenues at 36.9% and have grown by \$51.7M (34.4%) since FY14. The total average tuition and fee rate increase over this time was approximately 2.7% (the lowest of all time). The majority of growth is attributed to enrollment increases.
- Restricted programs make up the second largest source of revenue at 28.4% and have grown by \$56.2M since FY14.
- State appropriation (Base & Fringes) make up the third largest sources of revenue at 18.5%. State supported fringe benefits have experienced the largest increase at \$14.6M since FY14.

- Personnel is by far the largest expense making up 60% of total unrestricted expenditures. Personnel expenses have increased 28% mostly due to CBA salary program increases.
- While the overall budget has increased 49%, annual debt service has a modest increase of 13%.
- Student awards have substantially increased (65.5%), consistent with the increase in the quality and financial needs of the incoming student and the goals of *2020 Vision*.

As a university, we continually monitor our fiscal resources. On a monthly basis, the University Budgeting Office prepares and distributes month-end budget management reports including a memo summarizing the current budget status (e.g., SVI.C6 April 2021 Budget Memo). Examples of topics addressed in month-end reports include: revenues, expenses, personnel, student awards, research, restricted funds, plant funds, start-up/seed grants/grant match, residence halls, athletics, special programs, and NJIT. On a daily basis, the online Executive Budget Management System provides current budget management reports at the department, division, and executive organizational level.

Student Enrollment. From Fall 2015 to Fall 2021, NJIT witnessed a steady growth of its undergraduate population which increased from 8,008 to 9,183.

According to Statista, a leading market and consumer data provider, total enrollment for U.S. colleges peaked in 2010 and remains below the 2014 level even today. Our continued growth in undergraduate enrollment during *2020 Vision*, secured through prudent enrollment management and the appeal of a strong STEM+ education, defies this trend. At the graduate level, we experienced a decline in master's degree students (mostly in the population of international students) during the period from F2015 to F2020; however, in F2021 this trend has reversed with a 10% increase in master's enrollment (including a 30% increase in international students). Overall enrollment rose despite the pandemic, from 11,325 (fall 2015) to 11,901 (fall 2021) (SVI.C8 Enrollment Dshbrd (09-03-2021)).

We expect this trend to continue as students and their families continue to value the career options available to STEM+ graduates and to appreciate the high return on investment offered by NJIT. Continued enrollment growth is also anticipated as we develop our global campus initiatives through additional online programs and international campuses.

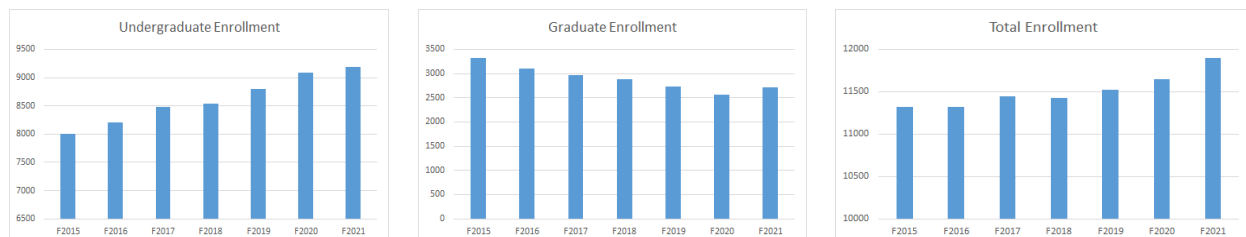


Figure 5-1: Undergraduate, graduate, and total enrollment during *2020 Vision*

Fundraising. We successfully completed the NJIT NEXT Campaign on June 30, 2018, exceeding the revised goal of \$200M by raising \$201,019,052 in gifts, pledges, and grants towards our *2020 Vision* strategic priorities. Gifts to the campaign 1) supported much needed campus improvements including renovation of classrooms and laboratories; 2) provided funding for new academic programs and faculty research; and 3) created over 275 new scholarship funds over the course of the past 10 years. Looking to the future, the Office of Development and Alumni Relations (DAR) has created a five-year strategic plan aligning fundraising and alumni relations goals with the priorities identified in *NJIT 2025*. Highlights include 1) increasing total philanthropic support to more than \$20M annually by 2025; 2) growing the endowment to at least \$185 million by 2025 by raising at least \$4 million a year in gifts; 3) increasing undergraduate alumni giving rate to 15% and the overall alumni giving rate to 12%; and 4) strengthening support of the annual fund to over \$1.6M annually. Finally, NJIT is in the quiet (planning) phase of its next comprehensive fundraising campaign, which will be focused on raising fiscal resources for the priorities of *NJIT 2025*.

Cash Management. In 2017, we improved our investment strategies, redesigning our overall banking structure early in the implementation of 2020 Vision (SVI.C8 NJIT Banking Structure). Cash is now invested in three tiers: cash in a checking account of up to \$14M that is swept nightly into a money market account, short term investments with a targeted return of 3.5%, and long term investments with a targeted return of 5.5%. These funds are tracked daily and investment calls are held once a month (at minimum) with the investment advisors. The controls over these funds were reviewed as part of an internal audit performed by Baker Tilly US, LLP, with no recommendations for improvements. We also solicited bids for a new banking partner, selecting JPM Chase to take advantage of their expertise in financial business intelligence.

Working capital has continued to increase over time. At the end of FY15, working capital was \$81.2M. This increased to \$106.1M at the end of FY20 (SVI.C4 Monthly Cash Balances Types), resulting in an increase in net investment gains from \$0.6M in FY15 to a projected \$6.2M in FY21.

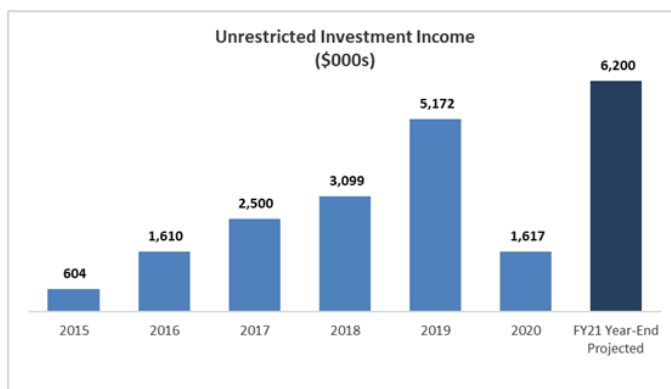


Figure 5-2: Unrestricted investment income throughout 2020 Vision to November 30, 2020

Endowment Growth and Performance. NJIT's endowment, including beneficial interest in perpetual trusts and Independent Alumni Association at NJIT, has grown 34%, from \$102.1M in FY14 to \$156.7M as of April 30, 2021. Gifts to the endowment comprise \$34.5M of this increase, with additions ranging from \$2.6M to \$8.6M annually (SVI.C4 Endowment Investment Pool).

We participate in the NACUBO-TIAA Study of Endowments. Per the 2019 study, our three-year return of 5.5% ranked 12th out of the 49 universities reporting endowment size between \$100M to \$150M. In addition, our one-year return of 3.7% ranked 160th of the 675 universities that published their portfolio details, and 8th out of the 52 universities reporting endowment size between \$100M to \$150M (SVI.C4 Study of Endowments 2019).



External Grants and Contracts. NJIT's total research expenditures have grown from \$106M in FY14 to \$156M in 2020, an increase of \$50M (47%) over five years (SVI.C4 2020 Vision Report (07-01-2020)). The number of research institutes, centers and laboratories increased from 31 in 2010 to 136 in 2021. We achieved this growth despite an increase of federal R&D expenditures of only 30% during the same period. To continue monetizing assets, we have modified internal processes to update grant reporting and improve collections, reducing our overall grant receivable balance by more than \$20M over the past 18 months.

Impact of COVID-19 Pandemic (FY20 & FY21). By the end of March 2020, the FY20 financial impact of COVID-19 was estimated to exceed \$16M. This impact was driven by factors such as 1) issuing prorated spring housing, meal plan, and parking credits; 2) the elimination of the 4th quarter (April - June) State appropriation; 3) recognizing and reserving additional student tuition and fee receivables; 4) additional remote learning technology spending; and 5) other COVID-19 related safety and security expenses. Immediate actions by the administration (e.g., immediate hiring pause of all non-essential personnel and reserving approximately \$10M from various operating budgets) as well as the receipt of approximately \$4.1M in CARES Act funds to support revenue losses and additional expenses resulted in returning to a balanced budget by the end of FY20.

Due to continuing funding uncertainties entering FY21 (July 2020 – June 2021), we initially adopted an austere six-month budget (7/1/20 – 12/31/20), allowing us to freeze tuition, fees, and room and board rates at their FY20 level in light of the financial hardship many of our students were facing. This preliminary FY21 budget was balanced by continuing many of the budget savings implemented in the fourth quarter of FY20. In addition, various employee savings programs were negotiated with collective bargaining units, including a salary freeze, vacation bank reductions, voluntary and involuntary furloughs, salary and pension contribution reductions, and voluntary separation programs.

By mid-October, many of the initial FY21 budget uncertainties were resolved, allowing for the approval of an annual budget by the BoT in early November (SVI.C4 FY2021 Budget BoT Approved). This budget includes Federal funding totaling \$19.6M, level State appropriations for October 2020 to June 2021, and significant decreases in auxiliary revenues (residence halls, parking, and meal plan commissions). Continued analysis of both internal and external factors were closely monitored and, as necessary, swiftly addressed in order to maintain a balanced budget.

Note that the FY21 budget includes a \$3.5M pandemic contingency reserve. The pandemic has put a tremendous strain on recruitment of new students and the retention of existing students. We have responded by enhancing support of our students in need, holding the line on tuition increases, and refocusing our scholarship funding to allocate greater resources to need-based aid.

Looking To The Future. NJIT 2025 efforts relating to fiscal resources include affordability, developing alternative revenue streams, fundraising, intellectual property, and entrepreneurship. This will require a continual review of existing budgets for efficiencies as well as a prioritization of new funding consistent with strategic priorities. Moving forward, we will strive to keep tuition, fees, and room and board rates affordable, as evidenced by the NJIT 2025 KPI measuring the ratio of our tuition increase to the Higher Education Pricing Index (HEPI) national average (SVI.C8 NJIT 2025, pg. 42). At the same time, we will seek additional State support and alternate revenue sources, particularly through the expansion of our NJIT@JerseyCity offerings, our NJIT Global Campus initiative, and international campuses such as the one under consideration in Egypt. The WEC provides opportunities to grow conferencing and athletics revenues, while NJIT provides technology development opportunities to commercialize or license our intellectual property.

Decision Making and Accountability (SVI.C5)

Decision making and accountability is discussed throughout this chapter and visually represented in our hierarchical organizational chart that illustrates the clear assignment of responsibility and accountability relating to budgeting and fiscal resource allocation. The hierarchy, combined with our collaborative budget development process, clearly shows who is accountable to whom and the functional nature of that accountability (SVI.C5 NJIT Organizational Chart S2022).

Accountability for the appropriate allocation of resources is also ensured through the KPIs of 2020 Vision (SVI.C5 2020 Vision Report (07-01-2020)) and NJIT 2025 (SVI.C5 NJIT 2025, pp. 39-42), which are the responsibility of the respective vice presidents/senior administrators in the areas being addressed. These individuals bear ultimate responsibility for progress towards the strategic goals under their units, with periodic KPI reports informing the president and BoT of these efforts.

External and Internal Audits (SVI.C7)

NJIT takes part in an annual independent financial audit. This audit confirmed our financial viability with evidence of follow-up on any concerns cited in the audit's accompanying management letter (e.g., SVI.C7 Financial Audit (06-30-2020)). Other audits are discussed throughout this chapter with additional details in Chapter 4.

ASSESSMENT (SVI.C9)

Throughout this chapter, we have discussed our planning, budgeting, and resource allocation activities in relation to our Human, Digital, Physical, and Fiscal resources. Our mature strategic planning process drives periodic assessment of the effectiveness of these activities as measured and reported through published KPI reports. Results inform ongoing implementation efforts, realigning resources to support strategic goals not being met. The effectiveness of our planning, resource allocation, and renewal processes, and the availability of resources supporting our strategic goals, are evidenced by the many successes achieved under *2020 Vision*.

CONCLUSION

To guide the development and allocation of capital, *NJIT 2025* sets four key objectives within the Resources priority: 1) develop and sustain the strengths of NJIT's human capital; 2) renew technologies to support teaching, learning, and research; 3) renew facilities to support teaching, learning, and research; and 4) build a sustainable financial model. These objectives focus our efforts on continuous improvement in pursuit of our mission.

Mirroring the Resources priority in *NJIT 2025*, this chapter addresses our alignment with MSCHE Standard II.5 and Standard VI.4 through VI.9 as they relate to our Human, Digital, Physical, and Fiscal resources. The successes we realized through *2020 Vision* provide evidence of the sufficiency of our resources and their efficient utilization in support of our operations. Our biannual KPI reports, as well as other assessments, also indicate areas requiring additional resources (e.g., our legacy data center). Responsibility and accountability for planning and decision making is clearly assigned and implemented through budgeting and resource allocation processes that are comprehensive and collaborative. In an era of great uncertainty, our financial viability is sound as confirmed through an annual independent audit.

SUGGESTIONS AND RECOMMENDATIONS

Based on our self-assessment in the areas of human, digital, physical, and fiscal resources, we have identified the following opportunities for improvement:

Suggestions

- As fostering diversity is one of our strategic goals, we must practice greater transparency in monitoring hiring, retention, and promotion demographics. While our strategic plans track these metrics at the university level, divisions and departments must also track and report these metrics to ensure consistent implementation of diversity strategies across the entire university.
- To address the challenges we have experienced in increasing diversity among faculty and administrative leadership, we must commit to implementing the DEI Action Plan that will emerge from our DEI campus climate survey. By doing so, we can create a culture and environment in which all feel welcome.
- Create additional common learning spaces, similar to CKB, to provide areas for students to learn together outside the classroom. Such spaces encourage peer learning and provide welcoming spaces for students to collaborate.
- Continue the implementation of our IST strategic plan to complete our digital transformation.

CHAPTER 6: ETHICS AND INTEGRITY

As New Jersey's public polytechnic research university, NJIT takes our responsibilities to our stakeholders and to the residents of the State of New Jersey very seriously. Evidenced in *2020 Vision* and reaffirmed in *Building on a Strong Foundation—NJIT 2025*, our core values—Excellence, Integrity, Civility, Sustainability, Social Responsibility, Diversity, and Communication (SII.C2 NJIT 2025 Core Values, pg. 2)—embody our commitment to integrity and ethical conduct.

This chapter discusses the central role of ethics and integrity to our community and describes how we have used strategic planning to articulate our commitment to diversity and respect for all. It describes our compliance with all policies, processes, and best practices to ensure our adherence to the following MSCHE Standards for Accreditation and Requirements of Affiliation. (Standard II.5 is discussed in Chapter 5; Standard II.7 is discussed in Chapter 3.)

Table 6-1: Standards, Criteria, and Requirements of Affiliation Addressed

STD/ ROA	Statement	Meets Criterion
Standard II: <i>Ethics and integrity are central, indispensable, and defining hallmarks of effective higher education institutions. In all activities, whether internal or external, an institution must be faithful to its mission, honor its contracts and commitments, adhere to its policies, and represent itself truthfully.</i>		
SII.C1	A commitment to academic freedom, intellectual freedom, freedom of expression, and respect for intellectual property rights	✓
SII.C2	A climate that fosters respect among students, faculty, staff, and administration from a range of diverse backgrounds, ideas, and perspectives	✓
SII.C3	A grievance policy that is documented and disseminated to address complaints or grievances raised by students, faculty, or staff	✓
SII.C4	The avoidance of conflict of interest of the appearance of such conflict	✓
SII.C6	Honesty and truthfulness in public relations announcements, advertisements, recruiting and admissions materials and practices, as well as in internal communications	✓
SII.C8	Compliance with all applicable federal, state, and Commission reporting policies, regulations, and requirements to include reporting regarding:	✓
SII.C8.a	The full disclosure of information on institution-wide assessments	✓
SII.C8.b	The institution's compliance with the Commission's Requirements of Affiliation	✓
SII.C8.c	Substantive changes affecting institutional mission, goals, programs, operations, sites, and other material issues which must be disclosed in a timely and accurate fashion	✓
SII.C8.d	The institution's compliance with the Commission's policies	✓
SII.C9	Periodic assessment of ethics and integrity as evidenced in institutional policies, processes, practices, and the manner in which these are implemented	✓
ROA1	The institution is authorized or licensed to operate as a postsecondary educational institution and to award postsecondary degrees	✓
ROA2	The institution is operational, with students actively enrolled in its degree programs	✓

ROA4	The institution's representatives communicate with the Commission	✓
ROA5	The institution complies with all applicable government (usually Federal and state) laws and regulations	✓
ROA6	The institution complies with applicable Commission, interregional, and inter-institutional policies	✓
ROA14	The institution and its governing body make freely available to the Commission accurate, fair, and complete information on all aspects of the institution and its operation	✓

INTRODUCTION

NJIT's core values reflect the guiding principles around which we shape our activities and community. Of these, Integrity is fundamental and requires that we be "honest and ethical in all we do, keep[ing] our promises, and acknowledg[ing] our mistakes." This chapter highlights our efforts to ensure honesty, integrity, and ethical behavior through our policies and procedures, forms, documents and other materials such as position statements and explanations of processes. We also discuss our other core values, providing evidence that our dedication to these values leads to our compliance with MSCHE Standard II and the relevant Requirements of Affiliation listed above.

ACADEMIC AND INTELLECTUAL FREEDOM (SII.C1, SII.C2, SII.C3)

Maintaining and continuously improving the ethical and responsible conduct of education and research is key to achieving our mission. For the purpose of this Self-Study, we gathered policy documents relevant to academic freedom, intellectual freedom, freedom of expression, and respect for intellectual property rights. We also highlight procedures for faculty to follow if any of these freedoms are called into question.

Academic Freedom for Faculty

Our commitment to the academic freedom of our faculty is evidenced in various policy-related documents and supported through the granting of tenure and the availability of a grievance procedure to address claims that an individual's freedoms may have been curtailed. While the Faculty Handbook (FH) (SII.C2 Faculty Handbook Section 2.1.3, pg. 8) discusses academic freedom, the collective bargaining agreement (CBA) for the Professional Staff Association/American Association of University Professors (PSA/AAUP), which represents the faculty at NJIT, articulates this in greater detail (SII.C1 PSA Contract 2015-2019 Article VII, pp. 16-18). Each faculty member is "entitled to full freedom in research and in the publication of the results," subject to limitations regarding performance and financial considerations.

In the classroom, faculty retain academic freedom, but must remain mindful not to present wholly unrelated material. In this way, academic freedom is balanced by academic responsibility. Faculty members indicate their speech is not on behalf of the institution; instead, it is made in the faculty member's capacity as a private citizen. Similarly, the CBA for adjunct instructors represented by the United Council of Academics at NJIT (UCAN) outlines academic freedom in teaching for the unit's members (SII.C1 UCAN-Adjunct Contract Article VIII, pg. 11). For both negotiating units, a documented procedure is available to seek a remedy in the event of a grievance related to academic freedom (SII.C3 PSA Contract 2015-2019 Section VI, pp. 8-10).

Academic Freedom for Students

To meet our mission of excellence and global impact through education, research, economic development, and engagement, students have freedom in connection with their academic pursuits, referenced in the preamble to the Code of Student Conduct (CSC), which states that "the university promotes the intellectual and personal development of its student population within an environment of freedom of inquiry" and the behavior of students helps to "preserve this climate of academic freedom."

(SII.C1 Code of Student Conduct Article 1, # 1) Additionally, our Privacy of Records Policy (discussed in Chapter 3) references excerpts of the Joint Statement on Rights and Freedoms of Students by the AAUP (SII.C1 Privacy of Records Policy).

Intellectual Property Rights

The significant progress made in scholarly research during *2020 Vision* (SII.C1 2020 Vision Report (12-31-2019), Priority 3 – Research, pp. 7-8) builds on our commitment to respecting the intellectual property rights of our community members as detailed in our Patent Policy, Copyright Policy and the Clarification to the Copyright Policy (SII.C1 Patent Policy; SII.C1 Copyright Policy; SII.C1 Copyright Policy Clarification). In regard to the implementation of the Patent Policy, the internal procedure to determine whether to pursue a patent application was refined such that oversight of the Intellectual Property Committee is now maintained by the Office of Research (OR), with reporting to the Office of General Counsel (OGC) (SII.C1 2020 Vision Report (12-31-2019) Section 3.4.1.3, pp. 39-40). These modifications were driven by a lack of systematic review and assessment of invention disclosure forms, which is the first step in the procedure (SII.C1 IP Assessment Improvements). If the university determined that a provisional patent, which affords the inventor more time to develop their idea, should be filed, there was no subsequent systematic review to assess whether the inventor's idea was ready for commercialization. Additionally, there were no assessment forms available to use when following up to discuss commercialization efforts with the inventor. All these important check points along the path from disclosure to commercialization required assessment of scientific merit, novelty, market needs, patentability, intellectual property strength and the commercialization plan. With the new systemic evaluation and forms, our Intellectual Property Committee can better support the patent application process.

Further, our Intellectual Property Committee was revamped and membership was expanded to better represent all colleges, schools, and research areas, as well as multidisciplinary areas such as life sciences, sustainability, data science, and information technology. NJIT also formed an Enterprise Development and Licensing Administration Committee to discuss and approve all commercialization, enterprise development, and licensing activities, and address issues related to patent maintenance fees. Consistent with our core value of Communication, the Office of Research updated and posted these changes on its website (SII.C1 IP and Tech Licensing OR). Overall, the efforts made during *2020 Vision* had quantifiable success, with the three KPIs related to intellectual property all increasing (SII.C1 2020 Vision Final KPI Table (KPIs 25, 26, & 27)). Total IP assets increased from 310 to 415, the average number of refereed publications per faculty member increased from 1.54 to 2.6 per fiscal year, and total books published per fiscal year increased from 14 to 16.

NJIT makes efforts to ensure our community members respect the intellectual property rights of others. Compliance with copyright laws are required by our Acceptable Use Policy for Cyber Resources (SII.C1 Acceptable Use Cyber Resources). In additional locations on our website, the Information Services and Technology (IST) department further explains actions taken to respect intellectual property (SII.C1 Copyright and IP Policy; SII.C1 Combat Illegal Copyright Sharing). Respect for intellectual property is reflective of our core value of Social Responsibility (SII.C1 NJIT 2025 Core Values, pg. 2), which is further demonstrated through our initiative to transform the library into an open knowledge resource, an objective of *NJIT 2025* (SII.C1 NJIT 2025, pp. 28-29). By creating a digital scholarship environment and a learning commons, we will enhance the greater academic community as well as amplify academic freedom, intellectual freedom, and freedom of expression, all while respecting intellectual property rights.

CLIMATE OF RESPECT FOR ALL (SII.C2)

The core value around which we shape our activities and community is Civility: each community member must treat others with respect and dignity. Our policies, strategic priorities, and initiatives reinforce the civility that fosters a respectful campus climate. For our students, we seek to “protect the safety and well-being of the campus community” (SII.C2 Code of Student Conduct Article 5, #1). The Code of Student Conduct sets expectations for appropriate behavior, detailing conduct that would violate these norms and the procedures to address any violations (SII.C2 Code of Student Conduct Article 1, #4). Our Anti-

Discrimination and Anti-Discriminatory Harassment Policy sets expectations for the conduct of our community. For our employees, the policy seeks “equal opportunity, diversity and inclusion, and affirmative action in employment, and in providing a work environment free from unlawful discrimination and discriminatory harassment” (SII.C2 HR Anti-Discrim Harassment Policy).

Discrimination on the basis of sex and/or gender is also prohibited (SII.C2 Title IX Students; SII.C2 Title IX Faculty-Staff). The U.S. Department of Education recently announced new regulations revising the legal requirements under Title IX. In response, we assembled a cross-functional committee consisting of representatives from the Dean of Students and Campus Life (DSCL), the Office of General Counsel, Risk Management, and HR to support the implementation of the new regulations by the deadline of August 14, 2020. The Title IX Committee achieved its initial goal of revising our policy and supporting training efforts. Both students and faculty were provided access to a Title IX training module and were required to confirm receipt of the revised Title IX policy, which notes that “NJIT is committed to protecting the university community, the rights of its members, and to cultivating and sustaining a positive living and learning environment free from discrimination and harassment for all students and employees.” Additionally, the Dean of Students and Campus Life and HR created and delivered workshops that expanded on content provided in the baseline training (SII.C2 Title IX Trainings).

As part of the Self-Study process, we reviewed our efforts to build a community of diverse backgrounds, ideas, and perspectives. Diversity, our fifth core value, was a key part of *2020 Vision* and continues to be a guiding principle of *NJIT 2025*. One of the outcomes of *2020 Vision* was the creation of a Diversity Plan Framework that articulates three overarching goals pertaining to cultivating an atmosphere of civility and mutual respect across our community: increasing the number of women and underrepresented minority tenure and tenure-track faculty as well as instructors in non-tenure track positions, and increasing the number of women and underrepresented minority administrators (SII.C2 2020 Vision Report (12-31-2019) Priority 4 – Community, pp. 8-9).

Picking up where *2020 Vision* left off, *NJIT 2025* is resolute and unambiguous in asserting that “[b]uilding a robust and diverse community of educators and researchers who serve our students, the state, the nation, and the globe is critical to NJIT’s continuing status as a premier institution of higher education and a leading polytechnic university” (SII.C2 NJIT 2025 Faculty, pg. 17). Specifically, we will create an Institutional Diversity Committee to assist in faculty recruitment searches; develop family-friendly programs, resources, and policies; enhance relationships with diverse professional organizations; establish a Diverse Faculty Fellows Program; institute a category of “opportunity hire” to recruit faculty of diverse backgrounds; and design postdoctoral positions focused on women and underrepresented minority candidates. Similar actions will be taken to increase diversity within administrative positions. Further, *NJIT 2025* includes a strategy to develop a diverse talent pool by increasing diversity across all employee groups through intentional recruiting and strategic selection processes (SII.C2 NJIT 2025 Resources-Human, pg. 26).

We are also in the process of recruiting and hiring a Chief Diversity Officer (CDO) who will report to the President and work closely with the VPs for HR and Student Affairs (SII.C2 CDO Job Description). The Chief Diversity Officer will be better able to harmonize and streamline our activities including the Diversity, Equity and Inclusion Taskforce, which was formed in the wake of unrest following the death of George Floyd. The Taskforce hosted a university-wide virtual forum on Black Lives Matter and secured a grant to support its future efforts (SII.C2 NJIT Black Lives Matter; SII.C2 News Diversity Survey). The grant was used to conduct a climate assessment survey, fielded by a nationally recognized external firm, to assess how students, faculty and staff perceive the university climate and how the community responds to concerns raised by its members. The results, available in spring 2022, will be used to develop a diversity and inclusion action plan. By being more intentional about our diversity efforts, and by coordinating those efforts through the Chief Diversity Officer, we will continue to build a community of diverse backgrounds, ideas, and perspectives.

GRIEVANCE POLICIES AND PRACTICES (SII.C3)

We have policies and procedures to address complaints and grievances; these are primarily disseminated online and through training. Grievance procedures are shared with community members during new student orientation and employee onboarding. When a grievance process is initiated, the process is once again outlined to ensure the individual is fully informed. Through the grievance-related policies and procedures described below, we provide a fair and impartial process that ensures grievances are addressed promptly, appropriately, and equitably.

Code of Student Conduct (CSC)

For students, the CSC ensures that all persons accused of violating the Code are treated in a “fair and just manner and are afforded an opportunity to have an alleged violation fairly adjudicated” (SII.C3 Code of Student Conduct Article 1, #4). As previously stated, the CSC describes the behaviors we expect from our students (and those that are prohibited), outlines the procedures for adjudicating alleged violations, and states the possible resulting sanctions if a student is found to have violated the CSC. In addition, the CSC outlines the appeal process and provides information on how a student can submit requests to revise aspects of the CSC to the Dean of Students and Campus Life.

Grade Appeals

For grade-related concerns, students have access to adjudication through the Grade Appeal Policy. References to the policy are found in the University Catalog, with the actual policy being housed on the Provost’s website. Grievances related to grade appeals are administered by each department. As part of the process, students first speak with their instructor. If the two parties cannot achieve a satisfactory outcome, the matter is escalated to the relevant Department’s Chair. Thereafter, the matter can be appealed to the Dean for final adjudication (SII.C3 Grade Appeal Policy; SII.C3 Grade Disputes (University Catalog), pg. 8).

Title IX Grievances

NJIT maintains a Title IX grievance process requiring the investigation and adjudication of formal sexual harassment/misconduct complaints (SII.C3 Title IX Grievance Procs). The design of the Title IX grievance process includes due process principles, treats all parties fairly, reaches reliable responsibility determinations, and prohibits retaliation. For other student concerns, the student is encouraged to first speak with the individual, department or office with which he or she has a complaint (SII.C3 Student Title IX Grievance). If the student is not satisfied with the response, then the student is directed to contact the Dean of Students and Campus Life, which will promptly acknowledge the complaint and seek to provide a response in approximately thirty business days.

Assessment of Student Grievance Procedures

For incidents reported through Maxient (a conduct tracking and management system used by the Dean of Students and Campus Life, Residence Life, and Fraternity and Sorority Life), the duration from when a case is reported to when it is adjudicated has averaged twenty-one days (SII.C3 Maxient Resolution Time). This data (including the date(s) student grievance reports are submitted, violation type, as well as the parties involved, alleged violations, responsible findings, sanctions involved and a documented timeline associated with the adjudication or resolution to ensure grievances are addressed in a timely manner) is reviewed periodically. These data are also used to identify patterns of behaviors and/or climate concerns which university administration can subsequently address through methods such as programming education, policy review, and/or changes to operating procedures. Additionally, such assessments can identify adjudicators who have multiple appeals submitted against their judgments, enabling further inquiries.

Employee Grievances

All staff and faculty members are asked to address other complaints or concerns with their manager and/or HR (SII.C3 HR Conflicts in Workplace). For employees who are members of unions, the respective CBAs contain detailed grievance procedures. If the union employee involved believes there was a breakdown or error in the process, the individual can engage with an outside body to resolve complaints associated with alleged unfair labor practices (SII.C3 PSA Contract 2015-2019 Section VI, pp. 8-16). For faculty, a grievance or complaint-reporting process is available addressing activities specific to their role, including academic units and their administration, promotion and tenure, teaching, faculty development, and the role of faculty in selecting and evaluating administrators (SII.C3 Faculty Handbook, pp. 14-47).

Discrimination and Harassment

Lastly, applicable to both students and faculty/staff, there is a separate grievance policy and procedure for alleged reports of acts of bias or intolerance as detailed in our Anti-Discrimination and Anti-Discriminatory Harassment Policy (SII.C3 Non-Discrimination Policy). Students are directed to the Dean of Students and Campus Life for such reporting, while faculty and staff are directed to the Director of Labor and Employee Relations in HR.

AVOIDANCE OF CONFLICT OF INTEREST (SII.C4)

To avoid conflicts of interest, or the appearance of such conflicts, NJIT, as a public research university, is guided by federal, state and institutional policies and processes. Our commitment to ethics and integrity is evident through policies and processes woven into our daily activities and in our adherence to the State of New Jersey's ethics regulations. In alignment with our core value of Integrity, each faculty and staff member plays a role in continually upholding our commitment to the trust of our students, our community, and the public.

State of New Jersey Ethics Regulations (ROA5)

State of New Jersey ethics regulations require transparency and full disclosure to "hold the respect and confidence of the people." This applies to all NJIT employees and trustees (ROA-5 NJ Uniform Ethics Code). As such, university employees and trustees are required to avoid conduct in violation of this public trust or to have any interest, financial or otherwise, in conflict with the proper discharge of their university duties. Our processes to assure adherence to these regulations begin during the recruitment phase: the job application utilized by HR screens applicants for certain information in order to avoid violation of the State nepotism guidelines (ROA-5 NJ Uniform Ethics Code, pg. 83-84). Additionally, Executive Orders define reporting requirements for trustees in recognition of the special volunteer service they provide to public institutions, with such reporting beginning at the commencement of their trusteeship (ROA-5 NJ Exec Order 64).

The Ethics Liaison Officer is charged with the implementation and enforcement of the Uniform Ethics Code (UEC) and Supplemental Ethics Code (SEC). As permitted by the State of New Jersey, the SEC was crafted to meet the needs and issues unique to NJIT, notably faculty and staff engagement with commercial enterprises outside the university (SII.C4 NJIT Ethics Code). Housed within the Office of General Counsel, our Ethics Office monitors the required conflict of interest disclosure forms and the annual financial disclosure forms for trustees, officers, faculty, and employees. In addition to the reporting required under the UEC, trustees must complete an Outside Employment Questionnaire triennially and Personal and Business Relationship Disclosure annually. Further, the trustees must complete an annual Conflict of Interest form requiring them to certify that they have reviewed our vendor list and their ethics training status. Trustees complete the State's online ethics training module triennially and are provided an ethics briefing each April (SII.C4 Email Ethics Additional Info).

The Ethics Office seeks to ensure that requirements are well communicated by posting the UEC on its webpage and disseminating a copy to all new employees. In the past few years, we have adopted stronger measures to achieve compliance with all State ethics regulations including the electronic filing of the previously mentioned ethics forms, expansion of the ethics webpage, and increased university-wide ethics

training. In addition, with the implementation of Chrome River (our cloud-based expense reporting system), the State-mandated ethics form to obtain approval for attendance at events was incorporated into the system's workflow, significantly reducing the number of steps required to receive reimbursement while creating more efficiencies for those involved in the ethics and reimbursement process.

Conflicts of Interest in Research Activities

The Office of Research, with the support of the Office of Procurement Services, plays a key role in monitoring the university's research activities for conflicts of interest or the appearance thereof. The Office of Research has established a Financial Conflict of Interest Policy requiring faculty or research staff to disclose significant financial interest occurring when a certain threshold of monetary value is derived by the individual or their family member from the research (other than monetary value provided by NJIT). When submitting any research proposal or application for external funding, individuals must certify adherence to the Financial Conflict of Interest Policy in addition to any external sponsor requirements, and external sponsor requirements are also passed through to third parties with which we work. As part of our procurement process, the third party certifies that it will comply with all applicable state or federal regulations as may be identified in the contract (SII.C4 Consulting Agreement Template; SII.C4 Purchase Order Terms; SII.C4 Subcontract for Profits Template).

Our community also plays a role in ensuring we live up to our core value of Integrity. We maintain a confidential hotline that allows individuals to anonymously report workplace fraud issues and concerns including but not limited to matters involving the Uniform Ethics Code and our Supplemental Ethics Code; reports are received by an independent third party in order to keep them confidential. As an additional layer of protection, the State of New Jersey's whistleblower law protects employees from retaliation when reporting alleged workplace wrongdoing (SII.C4 NJ Conscientious Empl Prot Act). Taken together, all the previously described processes allow us to uphold our commitment to the trust of our students, our community, and the public by avoiding conflicts of interest or the appearance thereof.

HONESTY AND TRUTHFULNESS IN PUBLIC RELATIONS (SII.C6)

Our core values of Communication and Integrity are adhered to as we seek to be honest and truthful in all our public and internal communications (SII.C6 Guidelines for Assuring Accuracy). All materials published by the Office of Strategic Communications (StratComm), including statistics, rankings, and other institutional data, are submitted to the Office of Institutional Effectiveness (OIE) for review and verification prior to dissemination. The same is true for internal and external digital communications such as messages from the Provost and President. This process of reviewing and verifying information is indirectly evidenced by the accuracy and consistency of printed materials such as brochures and infographics about the university shared with prospective students, alumni, and other constituencies.

Information about the university and our academic programs is also broadly available through our website, Degree Finder, our university catalog, and on the websites of our academic departments, with many course syllabi publicly available in our digital repository, DigitalCommons@NJIT. These sources provide information about our academic programs and student outcomes, with Degree Finder enabling a program comparison including average starting salaries, average mid-career salaries, common job titles, and top employers.

COMPLIANCE WITH APPLICABLE POLICIES (SII.C8, ROA1, ROA2, ROA4, ROA5, ROA6, ROA14)

NJIT achieves compliance with all applicable federal and state laws through a decentralized matrix environment where compliance functions are embedded within various employee day-to-day tasks, employee job roles, and the activities of university departments, evidenced by our policies. A number of these policies are maintained and communicated online at our Catalog of Official University Policies (SII.C8 Catalog University Policies). While the Catalog remains the official repository, additional locations include our intranet (the Highlander Pipeline) and sections of our website maintained by individual university departments.

To guide evidence collection confirming compliance, the Higher Ed Compliance Matrix was analyzed and refined into five broad topic areas for the purposes of our Self-Study: Human Resources, Research, Students, Finance, and Miscellaneous. Evidence for all areas is provided in a single evidence file (ROA-5-SII.C8 Compliance Matrix Combined) with individual matrices available as supplemental evidence.

To ensure we maintain more consistent oversight of university policies, we established a University Policy Committee (UPC) in early 2020. The first initiative of the UPC was to promulgate a “Policy on Policies” that formalizes the procedure for creating, reviewing, revising and retiring university policies as well as instituting a set period for regular review of each policy (SII.C8 Policy on Dev Univ Policies). The UPC has since started, in collaboration with the policy’s sponsoring administrative departments, to review newly drafted or revised policies. The next essential step for the committee will be to establish a schedule for the review of existing policies.

Additional evidence demonstrating compliance with this criterion is training and the information disseminated as required by law. HR conducts required training such as Title IX and unlawful harassment (SII.C9 Title IX Trainings). The Office of Research, through the Institutional Review Board, confirms that those involved in research complete training in its responsible conduct (SII.C8 Institutional Review Board). Environmental Health & Safety and the Ethics Office conduct in-person training regularly (SII.C8 EHS Spring 2020 Training Sched), and Student Financial Aid Services (SFAS) maintains a website providing student consumer information to satisfy the disclosure requirements under the Higher Education and Opportunity Act/Higher Education Act (SII.C8 Consumer Info Act Indicators 2021).

Full Disclosure of Institution-Wide Assessments (SII.C8.a)

NJIT discloses student outcomes including graduation and retention rates through our online, publicly available Fact Book (SII.C8.a Interactive Fact Book). Our Fact Book is produced and published by the Office of Institutional Effectiveness, which is also responsible for the submission of data to public data centers including the Integrated Postsecondary Education Data System (IPEDS) maintained by the U.S. Department of Education’s National Center for Education Statistics (NCES). The NJIT Fact Book also provides information about our campus (acreage and number of buildings), admissions and enrollment, degrees awarded, academic programs offered, student profile, and faculty data. The Fact Book also includes links to research and budget reports. Other student success metrics were tracked and published as part of *2020 Vision* (SII.C8.a 2020 Vision Report (12-31-2019)), including the NCEES Fundamentals of Engineering (FE) exam passing rates and job placement data. *NJIT 2025* will continue to track metrics of student success, including placement of students in high visibility co-op and internship programs and the number of students receiving prestigious fellowships or awards (SII.C8.a NJIT 2025 Report (12-31-2021)).

Other assessments, including accreditations and results of internal and external surveys, are also publicized on our website. The OIE website serves as a public repository for survey results and trend reports, and our university accreditation by MSCHE and program accreditations by national organizations (e.g., AACSB, ABET, NAAB, and NASAD) are published on the relevant web pages and also listed in our annual Institutional Profile.

Compliance with MSCHE Requirements of Affiliation (SII.C8.b, SII.C8.c, SII.C8.d, ROA1, ROA2, ROA6, ROA14)

NJIT complies with all applicable Commission Requirements of Affiliation. We are formally authorized to operate in the State of NJ by the NJ Office of the Secretary of Higher Education and are one of four public research universities in the state (ROA-1 NJIT Act of 1995; ROA-1 NJ College Univ Directory). NJIT is operational, with a total of 11,901 students enrolled in 126 degree programs in the Fall of 2021 (ROA-2 NCES College Navigator NJIT).

As shown in our Verification of Compliance document, we comply with all MSCHE policies, including the disclosure of consumer information, compliance with the credit hour definition, the submission of substantive changes, the avoidance of political intervention, the review of contracts for education-related services (Contracts for Accredited and Candidate Institutions for Education-Related

Services), and the review of international programs (International Programs Offered by Accredited Institutions) (ROA-6-SII.C8.d Verif of Compl Report; ROA-6-SII.C8.c SCR NJIT-at-Jersey City). NJIT makes available to MSCHE all information regarding the university and our operations.

ASSESSMENT OF ETHICS AND INTEGRITY (SII.C9)

With respect to our sponsored research, we currently assess compliance by undergoing an audit of our financial statements and a Uniform Guidance audit concerning research-related expenditures. In addition, the State Ethics Commission, through its Compliance Review Program for all Executive branch agencies (including the State's public universities and colleges), conducts a compliance review. The State Ethics Commission ensures that State agencies meet reporting, training and other requirements of the State's ethics laws and regulations and determines whether State agencies have implemented the needed procedures and practices to prevent and detect ethics violations. The Commission rated NJIT as having effectively implemented ethics procedures "in substantial compliance" (SII.C9 State Ethics Comm Letter (08-02-2018)) after the most recent review in 2018.

Additionally, the UPC has standardized the proposal, review, and approval of new policies and is initiating a review of existing policies. The UPC, comprised of vice presidents and other senior administrators as well as the Office of General Counsel, provides an additional layer of oversight to ensure that policies are fair, equitable, and align with state and federal requirements.

CONCLUSION

NJIT 2025 builds on a set of core values. Critical among these are Integrity, Diversity, and Social Responsibility. To have an impact on an institution, however, values must be transformed into actions. Our strategic plan does this by setting objectives for the diversity of students and faculty with ambitious KPI targets for these areas. It also establishes an objective for Social Responsibility: "Engage with the City of Newark." Finally, *NJIT 2025* sets strategies that emphasize ethical goals including "Becom[ing] recognized as a 'Great Place to Work'" and "Promot[ing] sustainability as part of professional development. This will ensure that sustainability becomes a consistent factor in decision making."

In this chapter, we provided evidence of compliance with all federal and state regulations, Commission policies, and our own internal policies. We protect the rights of our students, faculty, and staff, and provide grievance procedures to address violations. We protect our community from discrimination, we avoid conflicts of interest, and we are honest and ethical in our actions. Through our University Policy Committee, we have strengthened our commitment to ensure clear, equitable, publicly available, and periodically reviewed policies. NJIT also has in place effective procedures to assure accuracy in data reporting and other communications. In these ways we ensure that our community lives up to our core values of Excellence, Integrity, Civility, Sustainability, Social Responsibility, Diversity, and Communication.

SUGGESTIONS AND RECOMMENDATIONS

Based on our self-assessment in the area of ethics and integrity, we have identified the following suggestion as an opportunity for ongoing improvement.

Suggestions

- Develop and implement a review schedule for existing university policies. The University Policy Committee has been effective in standardizing a policy template and reviewing new or updated policies. It is essential that the committee now embark on a thorough review of existing policies.

CHAPTER 7: LEADERSHIP AND ADMINISTRATION

Effective leadership moves a university toward a strong vision for the future. In addition to the priorities of *2020 Vision* and *Building on a Strong Foundation—NJIT 2025*, the latter also articulates clear guiding principles for the university: Diversity, Sustainability, Recognition, and Transformation. Together, these guiding principles make transparent the imperatives underlying key decisions and have an impact throughout our administration.

NJIT has a well-developed and effective governance structure consisting of a Board of Trustees, a university President, and administrators supporting all aspects of university operations. Following our 2012 reaffirmation of accreditation, the university redefined our shared governance efforts resulting in an improved model in place since 2014. All elements of NJIT leadership and administration, and their alignment with the MSCHE Standards for Accreditation and Requirements of Affiliation listed below, are discussed in this chapter.

Table 7-1: Standards, Criteria, and Requirements of Affiliation Addressed

STD/ ROA	Statement	Meets Criterion
Standard VII: <i>The institution is governed and administered in a manner that allows it to realize its stated mission and goals in a way that effectively benefits the institution, its students, and the other constituencies it serves. Even when supported by or affiliated with governmental, corporate, religious, educational system, or other unaccredited organizations, the institution has education as its primary purpose, and it operates as an academic institution with appropriate autonomy.</i>		
SVII.C1	A clearly articulated and transparent governance structure that outlines roles, responsibilities, and accountability for decision making by each constituency	✓
SVII.C2	A legally constituted governing body that:	
SVII.C2.a	Serves the public interest, ensures that the institution clearly states and fulfills its mission and goals, has fiduciary responsibility for the institution, and is ultimately accountable for the academic quality, planning, and fiscal wellbeing of the institution	✓
SVII.C2.b	Has sufficient independence and expertise to ensure the integrity of the institution	✓
SVII.C2.c	Ensures that neither the governing body nor its individual members interferes in the day-to-day operations of the institution	✓
SVII.C2.d	Oversees at the policy level the quality of teaching and learning, the approval of degree programs and the awarding of degrees, the establishment of personnel policies and procedures, the approval of policies and by-laws, and the assurance of strong fiscal management	✓
SVII.C2.e	Plays a basic policy-making role in financial affairs to ensure integrity and strong financial management	✓
SVII.C2.f	Appoints and regularly evaluates the performance of the Chief Executive Officer	✓
SVII.C2.g	Is informed in all its operations by principles of good practice in board governance	✓
SVII.C2.h	Establishes and complies with a written conflict of interest policy designed to ensure the impartiality of the governing body	✓
SVII.C2.i	Supports the Chief Executive Officer in maintaining the autonomy of the institution	✓

SVII.C3	A Chief Executive Officer who:	
SVII.C3.a	Is appointed by, evaluated by, and reports to the governing body and shall not chair the governing body	✓
SVII.C3.b	Has appropriate credentials and professional experience consistent with the mission of the organization	✓
SVII.C3.c	Has the authority and autonomy required to fulfill the responsibilities of the position	✓
SVII.C3.d	Has the assistance of qualified administrators, sufficient in number, to enable the Chief Executive Officer to discharge his duties effectively	✓
SVII.C4	An administration possessing or demonstrating:	
SVII.C4.a	An organizational structure that is clearly documented and that clearly defines reporting relationships	✓
SVII.C4.b	An appropriate size and with relevant experience to assist the Chief Executive Officer in fulfilling his roles and responsibilities	✓
SVII.C4.c	Members with credentials and professional experience consistent with the mission of the organization and their functional roles	✓
SVII.C4.d	Skills, time, assistance, technology, and information systems expertise required to perform their duties	✓
SVII.C4.e	Regular engagement with faculty and students in advancing the institution's goals and objectives	✓
SVII.C4.f	Systematic procedures for evaluating administrative units and for using assessment data to enhance operations	✓
SVII.C5	Periodic assessment of the effectiveness of governance, leadership, and administration	✓
ROA12	The institution fully discloses its legally constituted governance structure including any related entities	✓
ROA13	A majority of the institution's governing body's members have no employment, family, ownership, or other personal financial interest in the institution	✓

INTRODUCTION

NJIT has achieved tremendous successes since our last Self-Study. In education, we have significantly improved retention and graduation rates and enhanced our student profile. In research, we have substantially expanded our scholarly and applied research and are now designated a Carnegie R1 research institution. Our contribution to economic development in New Jersey is estimated at \$2.81B, and our engagement with our community has yielded programs including the Math Success Initiative and the Newark Mayor's Scholars. These successes were only possible through an effective governance structure that gives all stakeholders a voice in setting, implementing, and assessing our university's strategic goals.

SHARED GOVERNANCE (SVII.C1, ROA12)

NJIT's administration consists of Governing Boards, the President, the Provost and Senior Executive Vice President (SEVP), and the two primary entities in shared governance: the University Senate and the Faculty Senate (ROA-12 Organizational Chart S2022; ROA-12 NJIT Administration). This model of shared governance reflects significant changes implemented over the past decade.

During spring 2011, the BoT passed a resolution in response to national, regional, and state demands for post-secondary education to establish "a contemporary university governance structure in

which administrators, faculty, staff, students, and alumni work collaboratively to respond to issues of institutional context and educational effectiveness.” As a result, a shared governance model was launched to enable equal shareholder representation while providing “authoritative reporting, deliberative review, and a structured environment of transparency, timeliness, and closure” (SVII.C1 BoT Public Mtg Min (04-07-2011), pp. 48-59).

As part of our 2012 MSCHE evaluation, the Commission recommended that we “submit to the Commission a functioning plan for shared governance, adopted by consensus of the faculty, the President and Board of Trustees” (SVII.C1 Periodic Rev Rprt (06-01-2017), pg. 5). Our current governance structure, formally implemented in February of 2014, establishes our two-senate shared governance model and outlines each constituency’s roles and responsibilities. The Faculty Senate oversees faculty and academic affairs, and the University Senate oversees other aspects of university business. As stated in the Policy on Shared Governance (SVII.C1 Policy Shared Governance), the BoT serves as the highest entity in our shared governance structure. The BoT assigns and delegates authority to the President, who informs the BoT of University Senate and Faculty Senate business. The Provost and SEVP is the presiding officer for the University Senate, and the Faculty Senate reports to the Provost as head of academic affairs, with the Provost reporting directly to the President. Over the past six years, shared governance has resulted in regular engagement between our chief executive officers (including the President and Provost), faculty, students, staff, and other constituents, ensuring open communication across campus.

Each senate consists of a president and vice president, a five-person executive committee (that includes the president and vice president), and standing committees. Each senate can also establish ad hoc committees on an as-needed basis, and each senate holds open meetings. Together, these senates help guide and shape our climate of shared decision making.

University Senate

The University Senate is “responsible for deliberating and making recommendations relating to the welfare and improvement of the university, exclusive of faculty and academic matters, which are reserved for the Faculty Senate.” The University Senate has the authority to:

“[R]ecommend policies and procedures, issue appropriate approvals, communicate with university stakeholder groups and the administration, draw upon the services of all members of the university community, collect and disseminate information, and initiate and pursue inquiries, regarding any matters within its purview.”

The Constitution of the University Senate (SVII.C1 Constitution Univ Sen) defines eight stakeholder groups that have representation: Faculty, Lecturers and Educators Congress, Administrators Council, Staff Council, Student Senate, Graduate Student Association, Alumni Association, and Senior Staff.

Faculty Senate

The central role of faculty in academic deliberations is acknowledged through the Faculty Senate (SVII.C1 Constitution Fac Sen), a voting body composed solely of faculty members. The Faculty Senate has the same authority as the University Senate, except that the Faculty Senate’s authority focuses on academic and faculty matters. The Faculty Senate is also required to conduct evaluations of senior administrative positions once at least every three years. This responsibility extends to all administrative positions between and including the ranks of the Provost and Department Chairs. (As the President’s position reports solely to the BoT, no lower rank associated with any other stakeholder is required to provide formal evaluations for university record.) The advisory role that faculty currently have in evaluations underscores the shared interest among all stakeholders for a functional balance between administrative autonomy and accountability, enabling feedback based on a sense of trust and not suspicion.

The process of faculty evaluations of senior administrators is published in the Faculty Handbook, and past reviews have been conducted according to the published guidelines. More recently, the Faculty Senate proposed modifications to the process that have not yet been approved by the President. Reviews

have not been conducted in the past few years but should resume in the next academic year under the current guidelines while the proposed guidelines are considered.

Success of Shared Governance (SVII.C5)

At a February 2017 BoT meeting, the president of the Faculty Senate underscored the role of shared governance in improving communication and transparency in decision making (SVII.C5 BoT Public Min (02-09-2017), pp. 2-3). He commended the new system for streamlining the Faculty Handbook, developing departmental bylaws, and reforming the department chairperson selection process, among other accomplishments.

Shared governance plays a significant role in strategic planning at NJIT. Perhaps the best example of our success in building a community-led governance model can be found in the development of our two most recent Strategic Plans: *2020 Vision* and *NJIT 2025*. Discussed in greater detail in Chapter 1, the



development of each strategic plan starts with the BoT and their definition of a preliminary roadmap as a framework upon which the broader NJIT community can build. Specifically, the framework proposed by the BoT forms the basis for community surveys, focus groups, and town hall meetings to capture stakeholder input. The BoT periodically reviews progress on strategic planning at its meetings, but the final plan emerges from the planning process and reflecting community priorities (SVII.C5 Planning Accredited Roadmap).

Emerging directly from the principles of shared governance, *2020 Vision* proposed a “new trajectory” focused on five strategic priorities: Students, Learning, Research, Community, and Investments (SVII.C5 2020 Vision), with each priority detailing specific objectives and related Key Performance Indicators (KPIs) (with targets) to assess progress. During the implementation phase, unified strategic planning reports from the various Priority Implementation Committees (PICs) were compiled biannually and delivered to the Provost, who produced progress assessment presentations for the BoT and, separately, the faculty at large. The final *2020 Vision* report was delivered online during the pandemic, reduced and reorganized into a concise document available for download on our website (SVII.C5 2020 Vision Report (12-31-2019)).

Following a similar model, the initial planning sessions for *NJIT 2025* began with the BoT establishing a roadmap, with strategic planning committee participants selected through the shared governance system. When *NJIT 2025* was launched in July 2020, pandemic recovery took precedence over initial implementation activities. Nevertheless, the plan’s guiding themes—Diversity, Sustainability, Recognition, and Transformation (SVII.C5 NJIT 2025, pg. 37)—drove strategic activities as we faced the challenges of rebuilding and strengthening our community.

THE BOARD OF TRUSTEES (SVII.C2)

The BoT occupies a unique role in governance by serving the public interest while working directly with other institutional stakeholders to ensure that we clearly state and fulfill our mission and goals. It is the legal governing body for NJIT, and its responsibilities are set out in the NJIT Act of 1995 (N.J.S.A. 18A:64E-18) (SVII.C2 NJIT Act of 1995). The legislation explicitly sets forth: 1) the governance and conduct of the university shall be free of partisanship; and 2) no Board members shall be paid by the State of New Jersey. The BoT Handbook, developed in 2017 and adopted by the Board for guidance, provides essential information for the BoT, including expectations for Trustees and extensive information about NJIT, ethics rules, and forms. This Handbook (SVII.C2.b BoT Handbook (03-2020)) is continually updated and maintained on an electronic Board portal for ease of access, along with archived Board minutes, resolutions, and essential university documents.

Members of the BoT are appointed by the Governor of New Jersey and include the Governor (or designee) and the Mayor of Newark as ex officio (non-voting) representatives. The Governor can appoint up to 15 citizens of the State with the advice and consent of the Senate and upon recommendation by the Board's Nominating Committee. Recommendations are based on each member's anticipated contribution to Board service, along with careful consideration of their professional backgrounds, commitment to NJIT, and ties to the school (including prior Advisory Board or other university service), all with a goal of promoting diversity among Board representation. While students are not permitted by law to serve on the Board, we amended our bylaws in June 2019 to include student membership on Board Committees, with certain guidelines to limit participation in matters that are legally confidential (i.e., personnel matters).

The Board is governed by its bylaws (SVII.C2.g.i BoT Bylaws) and has sufficient independence and expertise to ensure our integrity while not directly interfering with day-to-day operations, with policies and procedures clearly outlining the autonomy and expertise of the administrative and academic bodies. The BoT establishes long-term strategic policy and direction; plays a policy-making role in financial affairs, assuring strong fiscal management through oversight of the budget, expenditures, and investments, including review and approval of audited financial statements on an annual basis; stewards our endowment and other capital resources; and appoints and supervises the President. The BoT also oversees at the policy level the quality of teaching/learning, approval of degree programs and awarding of degrees, and approval of policies and by-laws, including the Faculty Handbook and Board by-laws. The Board grants P&T pursuant to the recommendations of the academic departments, the University Committee on Promotion and Tenure, and the Administration and authorizes all HR Policies, procedures, and by-laws. In general, the Board works closely with the President for the good of the university.

The BoT is constituted with committees focused on critical factors including: Academic Affairs and Research; Audit and Finance; Buildings and Grounds; Campus Life; the Executive Committee; the Nominations Committee; the Joint Committee on Investments; the New Jersey Innovation Institute (NJII) Committee; and the Gateway Committee. The Trustees recently voted to approve and revise our Vision, Mission, and Core Values as part of their endorsement of the *Building on a Strong Foundation—NJIT 2025* strategic plan on June 25, 2020 (SVII.C2 Resolution Endorsing NJIT 2025) and endorsed this document prior to its submission to the Commission.

Academic Responsibility. The Board is ultimately responsible for ensuring the quality of academic work is maintained while supporting the autonomy of faculty and all college, school, and department level administration. Standards in teaching and learning are assured, in part, through the Board's authority to review and approve all promotion and tenure applications. A series of checks and balances are in place, however, as the tenure and promotion of faculty, which starts at the department level, proceeds to the college and then the Provost/President and Trustee level (SVII.C2.d Faculty Handbook Part 4, pp. 25-38). The same process governs the tenure-track hiring of faculty and deans, with the Board having final approval authority. The Board reviews and approves budget requests for new faculty lines and grants approvals of faculty sabbaticals (SVII.C2.d Faculty Handbook Part 6.7, pp. 42-44). It approves all degree programs and authorizes each program's capacity to award degrees, while individual academic units ensure autonomy by certifying degrees at the departmental level in consultation with the Registrar and the Bursar. It is the BoT, however, that confers degrees at commencement.

Fiduciary Responsibility. The Board has overall legal and fiduciary responsibility for the business of NJIT. The BoT reviews and approves capital and operating budgets and has custody of NJIT's funds and securities (SVII.C2.e BoT Bylaws Article II Section 3, pg. 2). The BoT exercises its fiduciary responsibility through its Audit & Finance Committee which meets at least six times a year. This committee reviews the external audits conducted annually and makes its recommendations to the full BoT for approval. Additionally, the committee sets the schedule of the internal audits that will be conducted throughout a given year.

The budget, including tuition and fee rate, is developed by the administration, reviewed by the Audit & Finance Committee, and approved by the BoT. Two members of the BoT serve on a Joint Investment Committee with representatives of the Board of Overseers (BoO) for the Foundation at NJIT to

oversee our endowment. Additionally, starting in April 2019, the Board Treasurer presented an Annual Financial Health Assessment to the Board, reviewing our credit profile and ratings and our annual financial statements, and conducting a SWOT analysis reflecting on our enrollment history and projections, budget history, budget projects, debt capacity (and potential), and endowment history, along with business service improvements. As a related responsibility, the BoT reviews facilities planning and upgrades through the BoT Committee on Buildings and Grounds (SVII.C2.a BoT Bylaws Article 4 Section 1.2, pg. 5).

Board of Trustees Meetings (SVII.C4f; SVII.C5)

The Board holds a minimum of six regularly scheduled meetings a year. In addition to the regularly scheduled June and November meetings (which are preceded by Committee meetings), the Trustees convene an annual public and closed session followed by a half-day retreat in closed session. While Board retreat topics vary, they are focused on a limited agenda of in-depth presentations and interactive discussions concerning planning for the future while assessing the efficacy of existing programs and operations. Examples of retreat topics include Planning and Accreditation (SVII.C5 BoT Retreat Pres (06-07-2018)) and the *NJIT 2025 Strategic Plan, Master Planning and Visibility* (SVII.C5 BoT Retreat Pres (06-06-2019)). The retreats are attended by Deans and senior administrators to enhance communication and understanding of specific university initiatives.

The BoT meeting agendas are prepared in advance and publicly posted. The subsequent public minutes are posted on our website; all minutes, including closed session minutes, are archived. In accordance with the New Jersey Open Public Meeting Act, the schedule of BoT meeting dates is published on our website and in local news outlets and the NJIT newspaper. The schedule is also mailed to the Essex County Clerk. While public participation at BoT meetings is not required under the New Jersey Open Public Meetings Act, the BoT provides for public participation with respect to items of university business in accordance with established procedures. The BoT holds an annual budget meeting for the campus community prior to adoption of the budget and setting of tuition and fees. Additionally, the Executive Committee of the Board meets with the leadership of the Faculty Senate; as an example, the Presidential Search Guidelines were developed through this process.

Appointing and Evaluating the President (SVII.C1, SVII.C2.f)

The BoT appoints and regularly evaluates the President. Appointment processes are informed by shared governance, and evaluations of the President are conducted on a yearly basis beginning with a review of the President's self-assessment of goals and objectives based on the strategic plan. These materials are then reviewed in depth by the Executive Committee which assesses the attainment of the goals and assigns metrics to determine the component of salary attributable to performance-based pay. The Executive Committee develops an evaluation narrative and makes its recommendations to the BoT, which then reviews it with the President. In this way, the Executive Committee also serves as the Compensation Committee, having "the responsibility to establish and evaluate the compensation and performance measures for the President, Vice-Presidents and other senior administrators of the university" (SVII.C2.f BoT Handbook). The Board then communicates its expectations to the President, and determines any compensation and performance bonus earned based on his/her achievement of the goals and objectives outlined. While the Board is the only body responsible for formally evaluating the performance of the President, the Faculty Senate has a process for providing feedback relating to their assessment of senior administrators including the President. Part 7 of the Faculty Handbook (SVII.C1 Faculty Handbook Section 7, pp. 45-48) is dedicated to outlining the faculty's role in selecting and evaluating administrators under the principles of shared governance.

General procedures for the conduct of a Presidential Search follow guidelines adopted by the BoT, in consultation with and agreed to by the Faculty Senate as outlined in the Faculty Handbook. Section 7.1 makes clear that the formal selection of the President is carried out solely by the BoT with faculty playing an advisory role via a Faculty Senate-appointed search committee (SVII.C2.f Faculty Handbook Section 7.1.6, pg. 48).

During spring 2021, a new formal search process with a specific timeline was implemented in response to Dr. Bloom's announced retirement (SVII.C2.f Pres Search Timeline). In accordance with the guidelines agreed to through shared governance, the designated search firm engaged the entire NJIT community, holding a series of meetings and open forums to collect input on the desired attributes and qualifications of our next President. The forums were held virtually and took place during April 2021, culminating in a Presidential Profile that was published and distributed by email on June 2, 2021 (SVII.C2.f Presidential Profile). In addition, a 21 member search committee was formed with participants drawn from the BoT, the BoO, Senior Administration, Deans, members of the Faculty Senate and University Senate, faculty working at each college and school, representatives of the Lecturers and Educators Congress, the Student Senate and Graduate Student Association, alumni, and finally the Board of Visitors (SVII.C2.f Pres Search Committee). A pool of candidates was interviewed and selected during the fall of 2021, with our new president announced on January 5, 2022 (SVII.C2.f New President Announced).

Ethics of the Board of Trustees (SVII.C2.b, SVII.C2.c, SVII.C2.h, ROA13)

The BoT complies with state-mandated conflicts of interest requirements including training, annual disclosures, and adherence to recusal policies. All Board positions are unpaid, and Board members are prohibited by State ethics laws and regulations from directly engaging with the university, or receiving an unwarranted benefit from their Board service. Additionally, a majority of the Board's members have no employment, family, ownership, or other personal financial interest in NJIT except in specific and exceptional circumstances which are disclosed to the Ethics Liaison Officer and managed in accordance with State Ethics Commission procedures. The Board adheres to a conflict of interest policy that assures that those interests are disclosed and that they do not interfere with the impartiality of Trustees or outweigh the greater duty to secure and ensure the academic and fiscal integrity of the institution.

Accountability requires that Trustees review vendor reports provided by the Ethics Liaison Office and disclose any actual or potential conflicts. Because of their status as special State officers, NJIT Trustees must also file an Outside Employment Questionnaire (OEQ) (SVII.C2.b NJIT OEQ Form) and a Personal and Business Relationship Disclosure (PBRD) (SVII.C2.b NJIT PBRD) form when they commence their trusteeship. The OEQ is updated every three years, while the PBRD is updated annually.

Additionally, all university Trustees are required to annually file Executive Order 64 Conflict of Interest (COI) forms (ROA-13-SVII.C2.h NJ COI Form EO 64). To complete this annual form, trustees must certify their ethics training status and their review of our vendor report for conflicts. The COI form process is also outlined in Executive Order 14 which requires Trustees to fully disclose all conflicts of interest or potential conflicts of interest (ROA-13-SVII.C2.h NJ EO 14 COI).

Finally, Trustees must complete the State's ethics training module for college and university trustees when they commence their trusteeship. Trustees must complete the online ethics training module every three years, and an online ethics briefing any other year.

THE CHIEF EXECUTIVE OFFICER (SVII.C3)

Our administration is headed by the President, Dr. Joel Bloom, who is approved by the Board, consistent with the law. "The President of NJIT shall be the chief executive officer to the Board, and may be the Secretary or Treasurer to the Board, but shall not be a member of the Board" (SVII.C3.a BoT Handbook, pg. 32).

Dr. Bloom holds monthly executive-level meetings with his direct reports as well as with senior staff and vice presidents. These meetings guide daily operations and provide an opportunity for collaboration, updates, delivery of announcements, solicitation of feedback, sharing of information, and collaborative participation. Accountability in the office of the President is largely self-directed and remains a key characteristic when reviewing and appointing new presidents as part of our governance structure, although accountability is also maintained directly by the BoT which appoints, evaluates, and oversees the President. This structure is outlined in the BoT Bylaws: "The Board is vested with the authority to appoint and fix the term of office of the President. Presidential search procedures shall be conducted in accordance

with the Board's statutory authority to appoint the President and to determine the President's duties, pursuant to N.J.S.A. 18A:64E-18(g)" (SVII.C2.f NJIT Act of 1995).

Choosing a Chief Executive Officer (SVII.C3)

Dr. Bloom possesses appropriate credentials and professional experience that align with our mission. This is evidenced by the tremendous achievements NJIT has realized under his tenure. From the NJIT BoT Handbook (March, 2020) (SVII.C3.b BoT Handbook, pg. 59), Dr. Bloom's credentials are outlined below:

Dr. Bloom began his career in industry working as an economist, later becoming an educator and administrator for the New York City public schools. He also worked as a research director and instructor at Teachers College, Columbia University before coming to New Jersey for the purpose of directing state- and federally-funded curriculum development and training centers. From 1983 through 1990, Dr. Bloom served as assistant commissioner at the New Jersey Department of Education. Since joining NJIT in July 1990, Dr. Bloom has served in several capacities, including as dean of the Albert Dorman Honors College, vice president for academic and student services, and as president. He is chair of the Science Park Board, chair of the New Jersey Innovation Institute, vice chair of the New Jersey President's Council, and treasurer of the NJEDge.Net Board. Dr. Bloom serves as a member of the following boards: U.S. Air Force Civilian Advisory Board, Governor's Innovation Council, NJ Technology Council, Newark Alliance, Philadelphia Alliance for Minority Participation, La Casa Don Pedro, and the Association of Public and Land-grant Universities Presidents Council. Dr. Bloom holds a master's degree and a doctorate from Teachers College, Columbia University. He also earned master's and bachelor's degrees from Hunter College of the City University, New York City.

As outlined in the BoT handbook, Dr. Bloom has the authority and autonomy to fulfill the responsibilities of his position, including developing and implementing institutional plans, overseeing staffing, allocating resources, and directing the university toward the goals of our mission. The President provides executive leadership and oversees our operations. He manages the senior administrative team and plays a central role in strategic planning, fundraising, government and industry partnerships, and constituent relations. Additionally, he is a fierce advocate for students.

Other documents provide further evidence regarding the delegation of authority and autonomy to the President to fulfill his duties. According to the Faculty Handbook, "The role of the President is specified as the chief executive officer of the university and as such, the President is appointed by and subject to the authority of the university's Board of Trustees, and the President has primary responsibility for all educational and administrative functions of the university." Our organizational chart (SVII.C3.d Organizational Chart) summarizes the number of administrative units currently reporting to the President. As indicated, all senior positions directly serve the President who remains the primary authority responsible for executive decisions.

Regarding decisions to restructure academic units, the President has the duty to seek the advice of administrators and faculty and to ensure that all faculty and staff affected by such restructuring are consulted before a final decision is made. The President is responsible for ensuring that decisions take into account the rights and needs of current faculty, staff, and students.

The President may also hold a tenured faculty position. In this capacity, the President must approve/recommend all changes to academic units, the Faculty Handbook, and promotion and tenure decisions before those changes are sent to the Board. The President frequently addresses attendees at faculty meetings and attends Faculty Senate meetings, at their request, where he discusses relevant topics.

As our mission statement (SVII.C3.c NJIT 2025, pg. 2) makes clear, the President is expected to function with complete autonomy when administering the areas outlined in our mission: Education, Research, Economic Development, and Engagement. His aim in education is to prepare a diverse population of students across the state for positions of leadership as professionals and as citizens. These opportunities depend on the President's specific ability to assemble innovative curricula and attract a committed faculty

to deliver it. The President's active interest in cultivating relevant research and scholarship sustains our resources and contributes to the economic development of the city and state we serve. The President's vision constitutes a vital component in this relationship as a guide for growth, innovation, and entrepreneurship. Finally, the President must serve as an active diplomat to help introduce and apply university expertise in ways that benefit society as a whole.

THE ADMINISTRATION (SVII.C4)

Our administration has an organizational structure that is clearly documented and defines reporting relationships as evidenced by the University Organizational Chart (SVII.C4.a Organizational Chart). These charts reflect the current senior leadership's reporting structure and the reporting relations to the director level of management within each division. Vice Presidents and other senior administrators are direct reports to the President with a dotted reporting line to the Provost and SEVP. Included in the Senior Staff but reporting to the Provost are the Deans of each college, the Senior Vice Provost for Academic Affairs and Student Services, the Senior Vice Provost for Research, and the Vice Provost and Chief Information Officer. At the time of this Self-Study, we are in the process of searching for a Chief Diversity Officer (CDO) and anticipate that position to be filled this calendar year. The CDO will report to the President and work closely with the VPs for HR and Student Affairs. It is important to note that despite the recent growth in the university's enrollment, the size of the administration has remained relatively stable over the past decade.

Administrative Organizational Structure, Size, and Experience (SVII.C4.a, SVII.C4.b, SVII.C4.c)

All senior administrators are hired based on defined criteria required to successfully fulfill the needs of each position. Job responsibilities include essential skills, position competencies, and prerequisite qualifications. Candidates are evaluated to ensure they are the most qualified and have the best opportunities for success. Summaries of the job descriptions and qualifications of our senior administrators are provided below.

Provost & Senior Executive Vice President. The Provost and Senior Executive Vice President is our chief academic officer, overseeing academics (i.e., academic colleges and schools, the Office of Undergraduate Education, and the Office of Graduate Studies), enrollment management and student services, NJIT Global, research and development, information services and technology, the libraries, institutional effectiveness, and planning and accreditation. The faculty and instructional staff ultimately report to the Provost, granting the office the authority to direct, review, and issue all university-level academic policies, protocols, and procedures relating to research, instruction and service duties. These are publicly available online as part of the Provost's general resources index for faculty and instructional staff.

The Provost also serves as our Senior Executive Vice President (SEVP), and collaborates with the President in setting overall university priorities and allocating funds to carry these priorities forward. Should the President be away or otherwise unavailable, the Provost and SEVP acts as President.

Dr. Fadi P. Deek's professional career at NJIT spans 37 years. He is currently in his tenth year as Provost and SEVP. He has risen through administrative and faculty ranks, holding joint appointments as Distinguished Professor in the departments of Informatics and Mathematical Sciences. Dr. Deek is also an accomplished researcher with numerous publications and grants including a \$3M NSF grant. Prior to his tenure as Provost and SEVP, Dr. Deek served as the Dean of CSLA for ten years (SVII.C4.c Deek CV).

Senior Vice President for Finance & Chief Financial Officer. The Senior Vice President for Finance and CFO is responsible for our financial health and oversees our capital structure. With the retirement of our previous SVP for Finance and CFO, Catherine Z. Brennan was appointed to this role in August of 2021.

Before joining NJIT, Ms. Brennan served as the Deputy Treasurer for the State of New Jersey where she led the Office of Management and Budget and the Office of Revenue and Economic Analysis. She also served as the State Treasurer's designee for the boards of the New Jersey Economic Development

Authority, the New Jersey Capital Budget and Planning Commission, and the State House Commission (SVII.C4.c Brennan Resume).

Senior Vice President for Real Estate Development and Capital Operations. In May 2014, the President's cabinet expanded with the appointment of a Vice President of Real Estate Development and Capital Operations (REDCO) who has since been promoted to Senior Vice President (SVP). The SVP of REDCO oversees our facilities master plan and is responsible for real estate development, facilities services, design and construction, facilities systems, building services, public safety, campus health services, and environmental health and safety.

Mr. Andrew Christ holds BS and MS degrees in Civil Engineering and is a Professional Engineer licensed in the State of New Jersey. Prior to returning to his alma mater, Mr. Christ was Associate Vice President for Facilities and Construction Management at New Jersey City University and Assistant Vice President for Operations at Georgian Court University (SVII.C4.c Christ CV).

Vice President for Development and Alumni Relations. The Vice President for Development and Alumni Relations (DAR) is responsible for planning, executing, managing, and assessing the university's overall constituent engagement and fundraising program, with a view to strengthening the external relationships and securing philanthropic resources that contribute directly to NJIT's strategic priorities. The VP for DAR works closely with the President, Provost, deans, and others, including alumni volunteer leadership, to 1) engage various constituent groups in conversation concerning the needs and priorities of NJIT; 2) promote sustainable, mutually beneficial relationships between NJIT and these constituents; and 3) cultivate, secure, and steward their support, both financial and otherwise, for those needs and priorities.

Dr. Kenneth Alexo, Jr. joined NJIT in 2017. Prior to that, he held various Advancement-related positions at Drew University, beginning as Associate Director for Corporate and Foundation Relations and eventually being named Vice President for University Advancement. He holds an MA and PhD from Princeton University and a BA from Rutgers New Brunswick (SVII.C4.c Alexo CV).

Vice President for Human Resources. The Vice President for Human Resources interacts with administrators on activities such as strategic staffing plans, compensation, benefits, training and development, and labor relations. The VP for HR has overseen significant departmental changes that have introduced new roles for talent management and total rewards.

Mr. Dale McLeod holds a BS in Information Systems from Pace University and an MS in Information Systems Technology from The George Washington University, and is a Society for Human Resource Management (SHRM) Senior Certified Professional (SHRM-SCP). Prior to joining NJIT, he served as Associate Vice President – Human Resources Services & Talent Acquisition at The George Washington University (SVII.C4.c McLeod CV).

General Counsel & Vice President Legal Affairs. The General Counsel and Vice President Legal Affairs is the university's attorney and primary source of legal advice. The General Counsel also serves as the head of our legal department and is the co-chair of the University Policy Committee.

Ms. Stern began her career in NJIT's Office of the General Counsel in 1993, subsequently rising to positions of increasing responsibility until being named General Counsel in 2003. Prior to joining NJIT, Ms. Stern engaged in private and public sector work, serving as the First Assistant Attorney for Wayne Township. She received her bachelor's degree from Stanford University and a dual J.D. and Master of Public Administration from the University of California Law Center (SVII.C4.c Stern Resume).

Vice President for Student Affairs. The Vice President for Student Affairs and Dean of Students directs our activities relating to student services and campus life. Health services, financial aid, housing, and extracurricular activities all fall under the purview of this position.

Dr. Marybeth Boger holds a BA in Sociology and German Literature, an MA in Comparative Education, and a PhD in Educational Leadership and Policy. She began her tenure at NJIT as the Director

for the Center for Academic and Professional Enrichment, advancing to Associate Dean of Students, Dean of Students, and now Vice President for Student Affairs and Dean of Students (SVII.C4.c Boger CV).

Chief External Affairs Officer. The Chief External Affairs Officer develops our external affairs vision and strategy. Working closely with the President, the Chief External Affairs Officer collaborates with external constituents to identify opportunities for meaningful engagement. Recent initiatives include the Math Success Initiative and the Newark Mayor's Scholars program.

Dr. Angela Garretson has extensive experience in the public sector, having served as the Mayor of the Township of Hillside and currently serving as a Union County Commissioner. Her other experiences include program director and adjunct faculty at the Rutgers School of Public Affairs Administration and a legislative staffer in the New Jersey State Assembly. Dr. Garretson holds a joint PhD from Rutgers University and NJIT in Urban Systems, an MPA from Rutgers, and a BS in Management from Syracuse University (SVII.C4.c Garretson CV).

Chief Strategy Officer. The Chief Strategy Officer leads the Office of Strategic Initiatives which oversees all university functions related to communication, marketing, events, and meeting services. The CSO manages all communication channels such as NJIT.edu and our social media accounts, oversees the development of institutional publications, and works closely with the President on all executive communications.

Dr. Matthew Golden holds an EdD from The George Washington University, a Master's in Communications from Rutgers University, and a BA in Sociology from Princeton University. Dr. Golden's professional experience includes serving as Deputy Director of Communications for the New Jersey Department of the Treasury, Associate Vice President for Communications and College Relations at The College of New Jersey, and Vice President for University Relations at Arcadia University (SVII.C4.c Golden CV).

Together, these administrators have the relevant experience and are of sufficient number to support the President in fulfilling his role and responsibilities. Our successes during *2020 Vision* provide evidence of the alignment of our administration's credentials and professional experience with our mission and with their job responsibilities.

This alignment was further evidenced by our prompt and effective response to the global COVID-19 pandemic. Within two weeks of moving to remote operations, university leadership embarked on the development of a *Pandemic Recovery Plan* (SVII.C4.b Pandemic Recovery Plan) that allowed us to successfully offer safe, in-person instruction by the fall. Recovery planning and implementation required collaboration between all senior administrators. For example, through shared governance, we greatly expanded our novel converged mode of instructional delivery for the 2020-2021 academic year. The SVP for REDCO oversaw improvements in air filtration and air exchange in campus buildings and installed wastewater monitoring equipment to identify potential outbreaks in residence halls. The Office of Institutional Effectiveness (OIE) collaborated with administrators to implement COVID-19 surveillance testing on campus, while the Chief Strategy Officer developed a pandemic dashboard to keep the community informed. The CFO worked closely with the President and Provost to institute immediate cost savings that allowed us to balance our budget without having to lay off any staff, and the VP for Development and Alumni Relations worked with the Vice President for Student Affairs to solicit donations to the Highlander Emergency Fund (SVII.C4.c Student Fund Email (04-29-2020)) to assist students affected by the pandemic. The prompt actions of these and other senior administrators evidence their expertise and ability to carry out their assigned duties in support of our mission.

Support for Administration (SVII.C4.d)

All senior-level administrators have the appropriate level of administrative support to carry out their responsibilities and are provided with technology and resources to facilitate their efforts. Personnel,

equipment, and other resources are budgeted to ensure alignment between each division's activities and our strategic initiatives.

To support data-informed decision making, senior administrators receive reports measuring the effectiveness of their divisions and their progress towards institutional goals. We are currently exploring new opportunities to better support the goals of each senior administrator and their respective divisions through enhanced business intelligence capabilities that will facilitate departmental assessments in pursuit of continuous improvement.

Regular Engagement with Stakeholders (SVII.C4.e)

President Bloom regularly engages with faculty and students in advancing our strategic objectives through formal Presidential Newsletters released throughout the Academic Year (AY). These newsletters and other communications are archived on the university website along with Annual Reports (SVII.C4.e Presidential News). (A two-year archive of communications is maintained by the President's Office.) Both the President's and Provost's offices utilize broad email communications and in-person (or virtual) meetings and town halls to communicate with faculty, staff, and students. This frequent communication proved essential during the COVID-19 pandemic, when President Bloom and Provost Deek hosted several virtual open forums about the changing emergency situation, the first one taking place just one month after the campus moved to remote operations. The President also meets monthly with the Senior Staff and Vice Presidents at which time there is opportunity for discussion of major agenda items.

The administration has ongoing engagement with faculty and students as it conducts a regular schedule of open communication through a variety of scheduled and publicized forums. Other administrators also communicate with the community in the spirit of shared governance. For example, during fall 2019, the SVP of REDCO conducted a series of Town Hall meetings in each academic building to provide a face-to-face opportunity for community members to discuss specific facilities issues. The information collected from these town halls was instrumental in identifying buildings most in need of remediation.



The recent pandemic crisis provides another important example of the administration's commitment to regular engagement. The Provost initiated a series of public appearances both on campus (SVII.C4.e Univ Sen Presentation (09-30-2020)) and off (SVII.C4.e Return to Campus PIX-11 (09-30-2020); SVII.C4.e 2020 Back to Campus Video Script) to illustrate our recovery plans with the goal of maintaining operations with as little interruption as possible. Open forums for all constituents were scheduled during the final weeks of the Spring 2020 term and throughout the summer to provide opportunities for dialogue and questions (SVII.C4.e Open Forum Pres (08-11-2020)). Special Faculty Senate meetings and an additional Institutional Faculty Meeting were scheduled to allow stakeholders to engage in discussions about our recovery plans.

Evaluating Administrative Units (SVII.C4.f)

The administration has systematic procedures for evaluating administrative units and for using assessment data to enhance operations. The President, appraised annually by the BoT, in turn appraises each of his direct reports on an annual basis as part of the overall employee performance evaluation program. These evaluations ensure strategic and operational objectives and goals are being addressed and accomplished, and they are shared and discussed with the BoT. In this way, the senior administrators (including the Vice Presidents) are held accountable, particularly through the biannual assessment of how their performance advances the KPIs set forth in our strategic plans.

Senior administrators are further assessed by the faculty every three years. Current procedures for faculty assessment are outlined in Section 7.2 of the Faculty Handbook which states that “[w]ith the knowledge and cooperation of the President, the Faculty Senate will conduct periodic evaluations (at least every three years) by the faculty of the Provost, Vice Presidents, Deans, and Department Chairpersons.” (SVII.C4.e Faculty Handbook Section 7.2 (pg. 48)) To give faculty a fair degree of breadth in their assessments, unstructured written evaluations are utilized. These evaluation documents remain confidential personnel records, assessing the ongoing achievement of administrators against their assigned strategic goals, objectives, and KPIs.

College Deans

All colleges and schools are headed and managed by Deans who are responsible for all department resource allocation. Deans report directly to the Provost and meet monthly as members of a standing Deans’ Council to discuss current administrative matters. Deans are responsible for evaluating and managing their faculty and academic programs delivered.

ASSESSMENT OF GOVERNANCE, LEADERSHIP, AND ADMINISTRATION (SVII.C5)

In 2017, we surveyed five groups (faculty, lecturers, adjuncts, professional administrative staff, and other staff) to gauge their satisfaction with shared governance and identify areas for improvement. Overall, the campus community expressed satisfaction; respondents particularly commended the impact of shared governance on collegiality (SVII.C5 2017 Shared Governance Pres).

In January of 2020, the shared governance surveys were repeated with the same five stakeholder groups. For staff and adjuncts, levels of satisfaction increased on all measures. Professional staff experienced a slight decline in positive responses relating to autonomy, but overall were still satisfied, with 72% of respondents agreeing or strongly agreeing with this measure. Lecturers similarly experienced a slight decline in positive perceptions of autonomy as well as good faith negotiations and timely access to information. Faculty satisfaction with their level of autonomy increased; however, faculty responses indicated slight decreases in satisfaction with collegiality, good faith negotiations, and access to timely information. These metrics will be investigated to inform appropriate interventions. Taken together, the surveys provide a longitudinal understanding of how our community views shared governance, highlighting the strengths of our model and suggesting areas for improvement (SVII.C5 Shared Gov Comparison).

Other surveys assessing the effectiveness of leadership and administration include student satisfaction surveys conducted by OIE (SVII.C5 Student Satisfaction Survey) and external surveys such as the Great Colleges to Work For (SVII.C5 Great Colleges NJIT 2018) and the Best Places to Work in New Jersey (SVII.C5 Best Places to Work Survey). The recently developed Facilities, Library, and IT (FLIT) survey (SVII.C5 FLIT Survey Spring 2021) assesses the satisfaction of students, faculty, and staff with these resources and informs several *NJIT 2025* KPIs.

The size and membership of our senior leadership continues to adapt to our strategic goals and changing needs. One reorganization was prompted by the retirements of the SVP for University Advancement and the VP for Academic Support and Student Affairs. To inform this reorganization, OIE

conducted an environmental scan of the administrative structures of our peer institutions (SVII.C5 Comparison Org Structures; SVII.C5 MTU Org Structure Supplement). As a result, a number of offices and programs formerly under the purview of the Vice President for Academic Support and Student Affairs were realigned within the division led by the Provost and Senior Executive Vice President, and the Assistant Vice President and Director of Athletics and the Dean of Students were transitioned to directly report to the President. These changes enabled two senior-



level positions with significant responsibilities related to the student experience to be in direct communication with the President and our leadership team. The Office of Strategic Initiatives, led by the Chief Strategy Officer, was also established, allowing the Vice President for Development and Alumni Relations to focus entirely on constituent engagement and fundraising.

Another change to the President's cabinet was the addition, in September 2018, of the Vice President of Business Incubation and Executive Director of Commercialization. This externally focused position was charged with developing and expanding our Enterprise Development Center (now VentureLink) and a suite of programs that spur innovation commercialization services and entrepreneurship at NJIT, statewide, and globally (SVII.C4.c Nynens CV). In December 2019, this position was expanded to include serving as the CEO of the New Jersey Innovation Institute (NJII).

CONCLUSION

The guiding principles articulated in *NJIT 2025* aim to transform our university into a “preeminent public polytechnic research university with local and global impact.” By stating clearly our focus on Diversity, Sustainability, Recognition, and Transformation, leadership at NJIT establishes a clear and shared vision to drive consistent decision making. The KPIs behind the guiding principles also set clear benchmarks for the assessment of administrators and our performance as a whole.

This chapter reviews in detail the expectations and accomplishments associated with leadership and governance at NJIT since our last Middle States Self-Study in 2012. With our new model of shared governance, we increased participation from all university constituents in planning and decision making. Our BoT has maintained effective oversight of the university, supporting the President in guiding us through a highly successful strategic plan (*2020 Vision*) and a global pandemic. The President is supported by highly qualified senior administrators who were instrumental in achieving the KPIs of our strategic plans and in taking decisive action to ensure our viability under the challenges of COVID-19.

SUGGESTIONS AND RECOMMENDATIONS

Based on our self-assessment of our leadership, administration, and governance structure, we have identified the following suggestions and recommendations for improvement:

Suggestions

- Investigate the shared governance metrics that experienced a change (in particular, autonomy, good faith negotiations, and timely access to information) to identify opportunities for improvement.
- Present a resolution to the BoT formally delegating the role of policy development to the University Policy Committee. Such a resolution will clearly define the role of this committee in drafting, reviewing, and approving university policies.
- Enhance business intelligence capabilities to improve management and decision making.
- Conduct reviews of senior administrators in the next academic year based on the current process as described in the Faculty Handbook, while also considering the revisions to the process proposed by the Faculty Senate.

CONCLUSION

As President Bloom states in his message in our current strategic plan, *Building on a Strong Foundation—NJIT 2025*, NJIT is an ascending university, and the success of our 2020 Vision Strategic Plan has created the foundation for even higher aspirations. Through our mature strategic planning process, our community establishes goals, strategies, and objectives that emerge from a shared vision of our university's future, with key performance indicators and target values set to periodically assess progress toward our mission and strategic goals. The periodic assessment of our plan and strategic KPIs in turn drive our planning and resource allocation activities. For this reason, the NJIT Self-Study Steering Committee chose to conduct a priority-based Self-Study organized according four of the priorities outlined in *NJIT 2025*: Students, Faculty, Research, and Resources.

THE SELF-STUDY PROCESS

While our self-study process began under normal conditions, our efforts were soon complicated by the COVID-19 pandemic. Given the circumstances, the Self-Study Steering Committee and Working Groups showed great flexibility in adjusting to virtual interactions. Despite a brief disruption of the Steering Committee meetings in the spring of 2020, work had resumed in earnest by the fall of 2020. Draft chapters and accompanying evidence were submitted in December, 2020 and January, 2021, only slightly behind schedule. Comments from the Steering Committee were returned to the Working Groups in early spring, with final drafts submitted by the Working Groups in late May-early June. By September of 2021, the NJIT community was invited to review and submit comments on the completed Self-Study, with comments incorporated immediately after the review period. This draft was shared with our Commission Visiting Team Chair in late October, with modifications made based on his feedback and a final review by the Self-Study Steering Committee Leadership Team. We are grateful to the entire NJIT community, and in particular to the members of the Working Groups, for their efforts in completing this document.

OUTCOMES OF THE SELF-STUDY

This self-study process has allowed us to reflect on the extent to which we are fulfilling our mission and strategic goals and how our actions align with the Middle States Commission on Higher Education Requirements of Affiliation and Standards for Accreditation. Throughout this Self-Study, we provide clear statements and evidence in support of our success on both of these fronts. We also identify opportunities for improvement, highlighted in the Executive Summary and at the end of each chapter. Some of these suggestions and recommendations emerged during the development of *NJIT 2025*, while others emerged holistically through the self-study process, yet all relate to our strategic mission and goals. The suggestions and recommendations identified in Chapters 2 through 5 and their alignment with the priorities and goals of *NJIT 2025* are shown in Table C-1 below.

Table C-1: Alignment of Strategic Priorities Goals and Self-Study Suggestions

NJIT 2025 Priority: Goal/Strategy	Suggestion/Recommendation
Students: Promote and facilitate experiential learning	Expand offerings of structured, service-learning courses
	Enable better tracking of milestone learning experiences
Students: Enhance the curriculum and promote student learning	Formalize industry advisory board feedback
Students: Become nationally and internationally recognized for student achievements	Repeat employer surveys to capture current perceptions of students and graduates
Students: Enroll a diverse population of students	Include diversity metrics in program review data
Students: Support the student experience and engagement	Develop a consistent method for assessing student services

	Better assess student support software and its effects on student outcomes
	Provide additional programming for incoming international undergraduate students
Faculty: Develop a more diverse faculty	Assemble an institutional diversity committee to identify diverse candidates for faculty positions
	Continue to hire faculty in high-impact disciplines while focusing on diversity
Faculty: Improve teaching and research	Collaboratively review academic program mission statements, goals, and student learning outcomes
	Enhance assessment of capstones and other milestone learning experiences
Resources (Human): Develop and sustain the strengths of NJIT's human capital	Achieve greater transparency in hiring, retention, and promotion demographics
	Implement the Diversity, Equity and Inclusion Action Plan
Resources (Digital): Renew technologies to support teaching, learning, and research	Continue implementation of our IST strategic plan
Resources (Physical): Renew facilities to improve teaching, learning, and research	Create additional learning spaces for students to learn together outside the classroom
Resources (Physical): Transform the library into an open knowledge resource	Continue to encourage instructors to identify alternatives to costly textbooks and better track such courses
Resources (Physical): Improve the campus quality of life	Review usage guidelines for athletic facilities to ensure all students have appropriate access
Resources (Fiscal): Build a sustainable financial model	Enhance business intelligence capabilities

The suggestions and recommendations shown above have been shared with the relevant Priority Implementation Committees for inclusion in their implementation efforts. Other suggestions and



recommendations have been shared with appropriate stakeholders, many of whom were instrumental in identifying these opportunities for continuous improvement during the self-study process.

In summary, this document is the culmination of an intense and purposeful self-reflection by many members of the NJIT community. We are proud of the strengths we identified through this process, and we anticipate the positive outcomes that will result from the implementation of the suggestions and recommendations identified by the Working Groups. We also look forward to receiving the

feedback of the Commission's Visiting Team to strengthen the alignment between our mission and goals and the Commission's Standard for Accreditation and Requirements of Affiliation.