



**Fiscal Year 2022  
Budget Submission  
to the  
Office of Management  
and Budget  
November 2020  
[njit.edu](http://njit.edu)**



**NEW JERSEY INSTITUTE OF TECHNOLOGY  
FY 2022 BUDGET REQUEST**

**TABLE OF CONTENTS**

**PAGE**

<b>Section 1.</b>	<b><u>President's Statement</u></b>	1-1
<b>Section 2.</b>	<b><u>Evaluation Data / Enrollment / Organization Chart</u></b>	
	Evaluation Data	2-1
	Organization Chart	2-2
<b>Section 3.</b>	<b><u>Budget Information</u></b>	
	Budget Summary (OMB Form BB-102)	3-1
	Revenue Statement (OMB Form BB-103)	3-2
	FY 2020 Financial Statement Revenue Reconciliation	3-3
	FY 2021 Projected Tuition Revenue	3-4
	FY 2021 Tuition and Fee Rates Schedule	3-5
	Salary Summary	3-6
<b>Section 4.</b>	<b><u>FY 2022 Budget Priority Requests</u></b>	
	Priority Request Summary	4-1
	Engineering Cost Factor	4-1
	State Authorized FTE's	4-4
	Need-Based Financial Aid	4-5
	Teaching Laboratories – Rehabilitation	4-6
	Budget Initiative Forms (BIF)	4-8
<b>Section 5.</b>	<b><u>Capital Budget</u></b>	
	Capital Budget Request Summary	5-1
	Capital Budget Request Details	5-2

## SECTION 1

### PRESIDENT'S STATEMENT

NEW JERSEY INSTITUTE OF TECHNOLOGY  
FY 2022 BUDGET REQUEST

PRESIDENT'S STATEMENT



For our state to prosper, particularly in the face of the challenges presented by COVID-19, New Jersey's institutions of higher education must fill critical roles that include both scientific breakthroughs and preparing a workforce that can thrive within and lead an economy driven by technological innovation.

As our state's public polytechnic university, New Jersey Institute of Technology (NJIT) has been highly successful in achieving each of those goals. NJIT prepares students to become leaders in the technology-dependent economy of the 21st century. And NJIT's multi-disciplinary and computing-intensive approach to education provides technological proficiency, business acumen and leadership skills.

NJIT is one of only 131 universities rated an "R1" research university by the Carnegie Classification®, which indicates the highest level of research activity. NJIT conducts more than \$160 million in research activity each year and has a \$2.8 billion annual economic impact on the State of New Jersey. NJIT is ranked No. 1 nationally by *Forbes* for the upward economic mobility of its lowest-income students and is ranked in the top 100 colleges and universities nationally for the mid-career earnings of graduates, according to PayScale.com. NJIT also is ranked third in New Jersey and 74th among colleges and universities nationwide by the QS World University Ranking® 2020, and is ranked third among New Jersey colleges and universities in the 2021 U.S. News World University Rankings.

**Workforce Development**

NJIT is a launching pad for its students, because we prepare them to excel in the fields and jobs that are in high demand, particularly in the engineering disciplines that are the foundation of our state economy.

- Fifty-five percent of NJIT undergraduates major in an engineering discipline; 40% of our master's students do so as well; and 64% of our doctoral students are engineers. No other public university in New Jersey has engineering students numbering more than 10% of any of those populations.
- Our students have an average of nearly three job offers prior to graduation, and the demand for computer scientists, engineers and technologists far exceeds the supply in our state and nation.
- NJIT educates approximately one-third of our state's engineers and scientists and is a top 20 national university producing African American and Hispanic engineers.



NEW JERSEY INSTITUTE OF TECHNOLOGY  
FY 2022 BUDGET REQUEST

PRESIDENT'S STATEMENT

- We also are home to colleges of architecture, computing, and engineering that are among the largest in the region, and we recently launched the School of Applied Engineering and Technology.
- Much of the diverse workforce desperately needed to serve New Jersey's key industrial sectors is educated at NJIT, and many of the students we enroll come to us from low-income households with great need of support programs in order to navigate our challenging curriculum.
  - Sixty-two percent of all engineering degrees awarded to underrepresented minority students by New Jersey public institutions are earned by NJIT students.
- Our students succeed and, once they graduate, assume high-paying positions that have a multiplier effect on job creation and factor heavily into our state's economic prosperity and tax base. NJIT graduates have an average mid-career annual salary between \$8,000 and \$37,000 greater than their peers from New Jersey's other four-year public colleges and universities.

**Applied and Practical Research**

In addition to its role in preparing the tech workforce of our state, NJIT is a research powerhouse. Last year, NJIT earned R1 status from the Carnegie Classification, making us one of the 131 most productive research universities in the nation.

- NJIT is one of just three New Jersey universities to earn this distinction, which is significant because it attracts external funding and brings promising research activity to our state.
- More than \$160 million in research conducted by NJIT each year is practical or applied in nature, solving real-world problems in areas that include health care and medical devices, civil infrastructure, advanced manufacturing, cybersecurity, transportation, nanotechnology, clean energy, clean water, resilient design, national defense, financial services, materials science, and many other fields.
- Some examples of NJIT projects include traumatic brain injury research that improves diagnostics and care for members of the U.S. Armed Forces, solar weather research that impacts satellites and communication networks, lead abatement work that protects clean water supplies, cybersecurity research that protects the privacy of elections and our financial systems, sensor technology that can improve healthcare and critical infrastructure, and many more that directly impact and improve lives.
- Most recently, NJIT has received two National Science Foundation grants related to COVID-19 research.
  - The first is a RAPID Grant will enhance contact tracing and predicting the environmental spread of the virus.

NEW JERSEY INSTITUTE OF TECHNOLOGY  
FY 2022 BUDGET REQUEST

PRESIDENT'S STATEMENT

- The second is a grant to develop next generation functional carbon nanotube technology (fCNT) for manufacturing scalable membranes for water purification to produce virus-free medical grade water. The fCNT technology also is aimed at the development of adsorbents for air purification and decontamination of PPE to prevent the spread of the virus.

**Economic Growth and Impact**

NJIT also is a catalyst for economic growth. A recent study showed that NJIT's annual economic impact on the State of New Jersey is more than \$2.8 billion, among the highest of any university in our state.

- Our New Jersey Innovation Institute (NJII), VentureLink, and Makerspace at NJIT, which is among the largest academic Makerspaces in the United States, to provide direct linkages to industry and foster partnerships that lead to new products, business solutions, and the application of shared resources and expertise toward solving complex problems.
  - One recent example is a [collaboration between NJIT, University Hospital in Newark, and The Tuchman Foundation](#) to develop modular, mobile medical care facilities that can be deployed to areas of surging disease outbreaks and natural disasters, as well as to regions that lack health care infrastructure.
  - Particularly noteworthy during this pandemic, NJII manages the state's Health Information Network (NJHIN), making it possible for health care providers to share electronic health records across an expansive network, even when providers use dissimilar electronic healthcare information systems. NJII quickly partnered with the New Jersey Department of Health to integrate several statewide databases to support COVID-19 related communications and notifications to providers and health care organizations.
  - Just last month, NJII and Choose New Jersey hosted a virtual ribbon cutting, tour and panel discussions to mark the opening of BioCentriq™, NJII's cutting-edge cell and gene therapy development and clinical manufacturing center located on the campus of NJIT.
    - Biocentriq is NJII's newest and one of its most promising ventures.
    - The objective of Biocentriq is to bring industry, technology developers, regulatory agencies, and academia together to address manufacturing challenges in cell and gene therapy and regenerative medicine.
    - In doing so, we have the capacity to help companies develop processes, conduct clinical production trials, and train employees.

NEW JERSEY INSTITUTE OF TECHNOLOGY  
FY 2022 BUDGET REQUEST

PRESIDENT'S STATEMENT

To continue this historic growth and economic impact on the behalf of the State of New Jersey and its citizens, NJIT respectfully submits this annual budget request. NJIT historically, because of the costs associated with serving as New Jersey's largest college of engineering, has been funded by the state at a level that trails only Rutgers among state universities, but that has changed of late. Aware of New Jersey's financial demands, we limit our FY 2022 budget requests to priorities that will support the state's critical workforce needs, spur to job creation, support applied research and innovation, and drive economic expansion as well as state GDP growth. If these requests are not supported, it is likely our growth will be inhibited given that the engineering and other programs NJIT provides are more costly (60% or higher) than the average academic program. Therefore, our requested priorities are summarized below:

- A. **Engineering Cost Factors – OBA Formula:** If New Jersey is to succeed in developing the workforce necessary to support a knowledge, innovation, and technology economy, we must provide resources that support students in the engineering disciplines as well as the colleges and universities educating those students. We now are facing major fiscal challenges across the higher education sector. If we do not address those challenges and recognize the importance of investing in the engineering workforce that will be the foundation of our future economic strength, our state economy will suffer.

Studies by the Center for STEM Education and Innovation as well as the National Bureau of Economic Research (NBER) have documented the higher costs associated with providing engineering programs, as well as other offered by NJIT. For example, the NBER study found that, in comparison to degree programs such as english, history, psychology, and economics, the costs of offering engineering programs are more than 100% greater. The Center for STEM Education and Innovation determined that engineering programs are 60+% more costly to deliver than the average degree program. Additionally, a Delaware cost study provided "discipline-level comparative analysis of faculty teaching loads, direct instructional costs, and separately budgeted scholarly activity" required to educate students. Nationally, the cost per credit hour associated with a bachelor's in english is \$261. At NJIT, biomedical engineering has the highest cost per credit hour (\$1,003). These higher costs are driven by multiple factors that include: faculty, doctoral student support, academic and research facilities, and an R1 information technology infrastructure.

We recommend that the Outcomes-based allocation (OBA) funding formula be modified to take into account the higher cost of providing engineering programs. Applying a conservative engineering cost factor estimate of 40% to this average

NEW JERSEY INSTITUTE OF TECHNOLOGY  
FY 2022 BUDGET REQUEST

PRESIDENT'S STATEMENT

funding level would equate to a \$545 increase per FTE above the current state FTE funding level for NJIT. Applying this \$545 increase per FTE support to NJIT's 8562 FTE would increase NJIT's base appropriation by \$4,666K.

- B. **Increase to State Authorized FTEs:** NJIT is requesting an increase to our overall State Authorized FTE count. In FY09, after a detailed review of NJIT authorized positions by NJ OMB, the State increased NJIT's State authorized FTE count to 1,246 (95% of 1,313 requested). During the FY11 State budget process, the authorized FTE count was then reduced to 1,187, a decrease of 59, or 4.7%, which it still totals today. To provide the proper faculty and staff to support the ever growing instructional and academic needs of our student body. The ability to provide the best instructors and right support structure for our students will continue to help improve retention and graduation. Additionally, more staff are required to support and enable NJIT to partner with industry to create research and development opportunities. Therefore NJIT requests that our State Authorized FTE count be increased to **1,565**, an increase of **378** above our current 1,187 FTE count.
- C. **Need-Based Financial Aid:** NJIT is requesting need-based aid for undergraduate, in-state students and transfer students. These are students that require additional aid to close the gap between unmet Tuition and Fees after Federal, State and institutional aid. The earlier we are able to provide financial assistance to this population, the more impactful those dollars become in improving the likelihood of retention and ultimately graduation from NJIT with reduced student debt. NJIT is requesting a total cost of **\$7,905K** to support freshmen and transfer students in their first and second year of studies, this program aims at increasing the retention rates by 5% (freshmen admits) and 7% (transfer students) with similar eventual increases in the four- and six-year graduation rates.
- D. **Teaching Laboratories – Rehabilitation:** Since 2011, NJIT has invested significantly in the renewal of our campus including \$87.7M in academic and academic support facilities. However, while the university has made significant progress, we have a need for renovation of teaching laboratories. Engineering and other science and technology focused disciplines offered by NJIT require experiential learning facilities, particularly in the foundational courses. Across all disciplines, NJIT has 35 rooms categorized as teaching laboratories. While some are relatively new, many remain dated and beyond their useful life. Renovation of these highly complex laboratories can be up to four times the cost of standard classrooms, contributing to the higher cost of delivering a STEM education. The total estimated cost of these renovations




NEW JERSEY INSTITUTE OF TECHNOLOGY  
FY 2022 BUDGET REQUEST

PRESIDENT'S STATEMENT

totaling \$26,565,175 is anticipated to be scheduled over the next five years. Therefore, for year 1 of the teaching laboratory renovation, we request **\$5,313K** in funding to renew the physics and chemistry laboratories in Tiernan Hall.

NJIT continues to be strongly committed to the Governor's Economic Prosperity Plan and the Secretary of Higher Education's plan to continue to improve higher education. Thank you for your consideration.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Joel S. Bloom".

Joel S. Bloom  
President

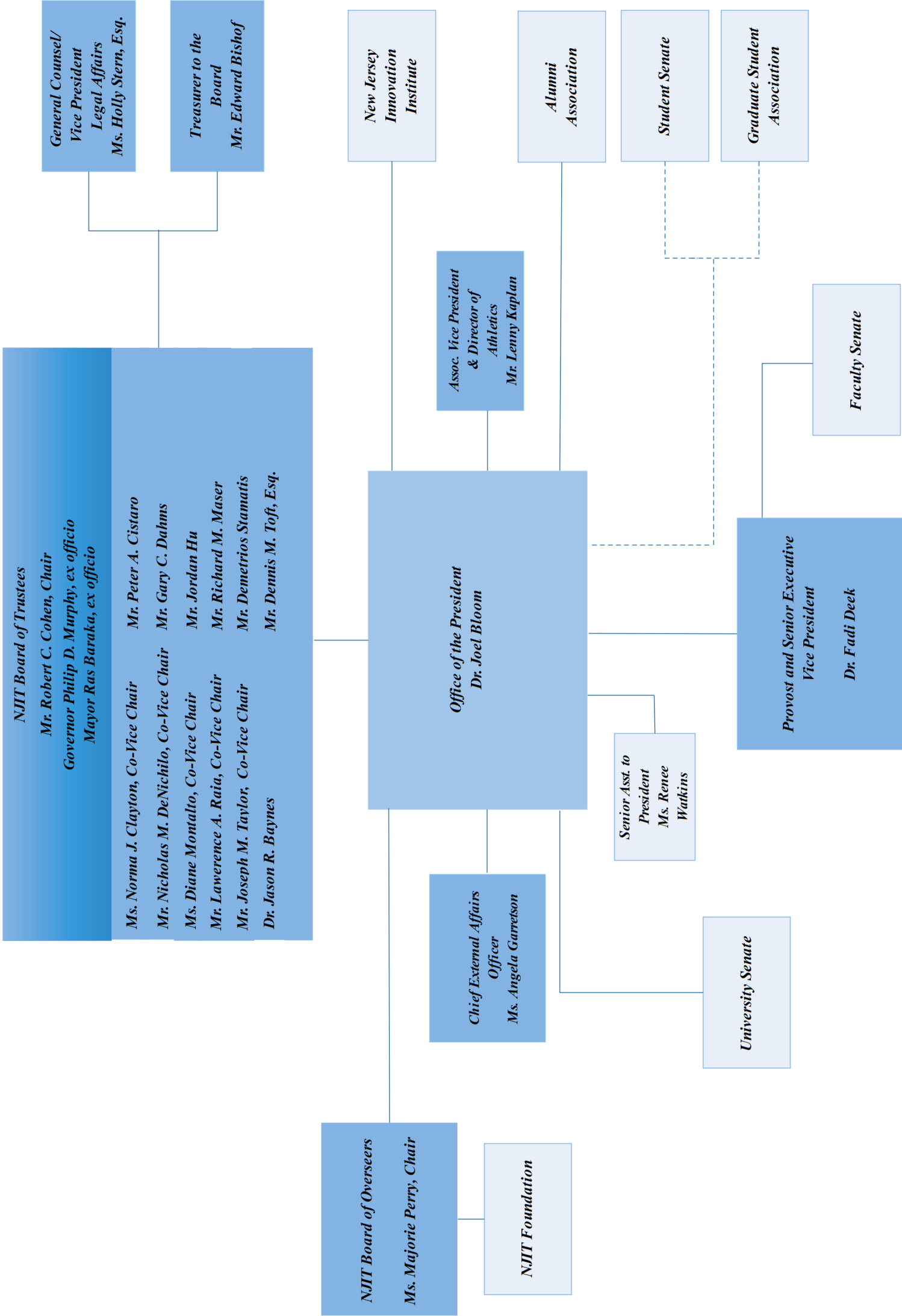
## SECTION 2

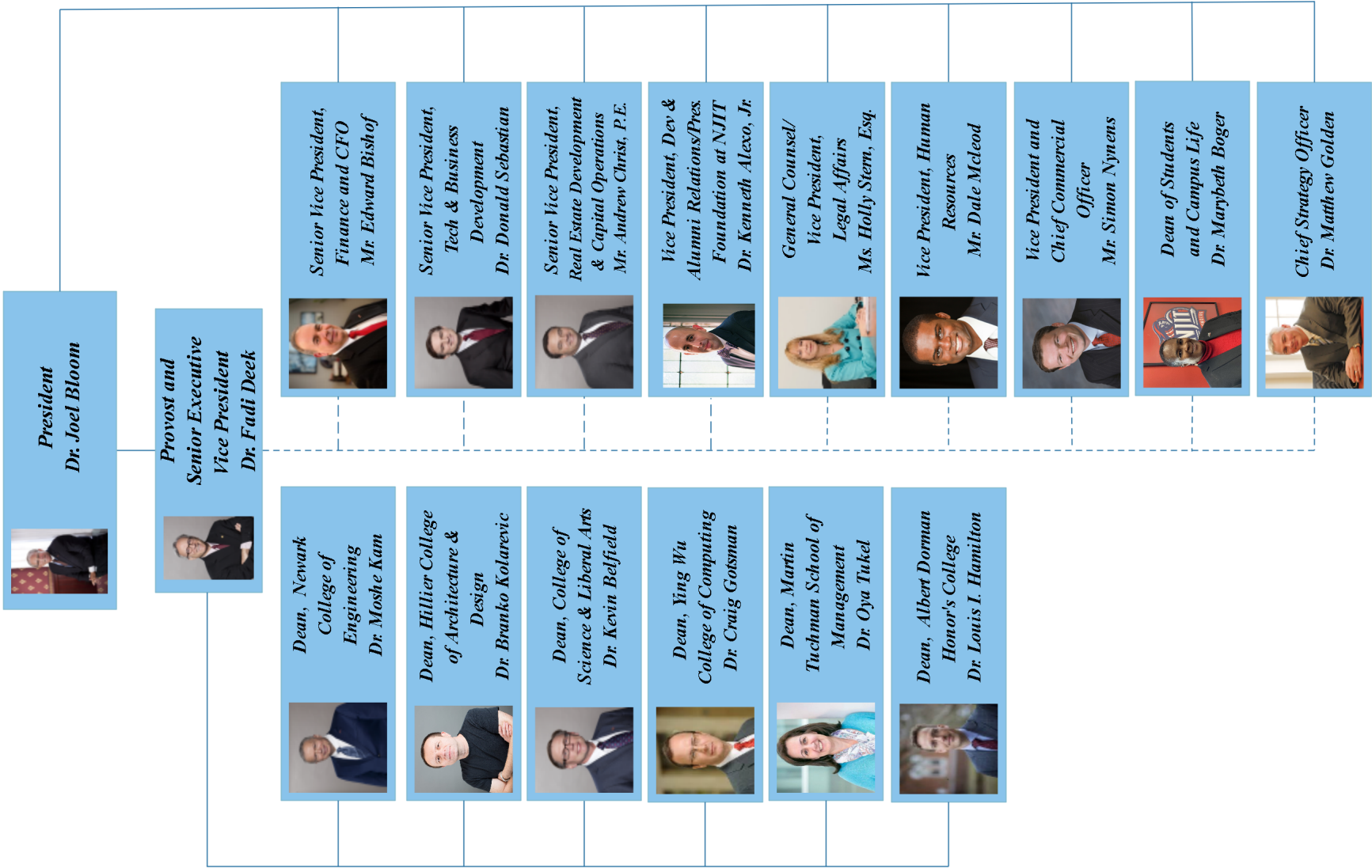
### EVALUATION DATA/ ORGANIZATION CHART

**NEW JERSEY INSTITUTE OF TECHNOLOGY  
FY 2022 BUDGET REQUEST  
EVALUATION DATA**

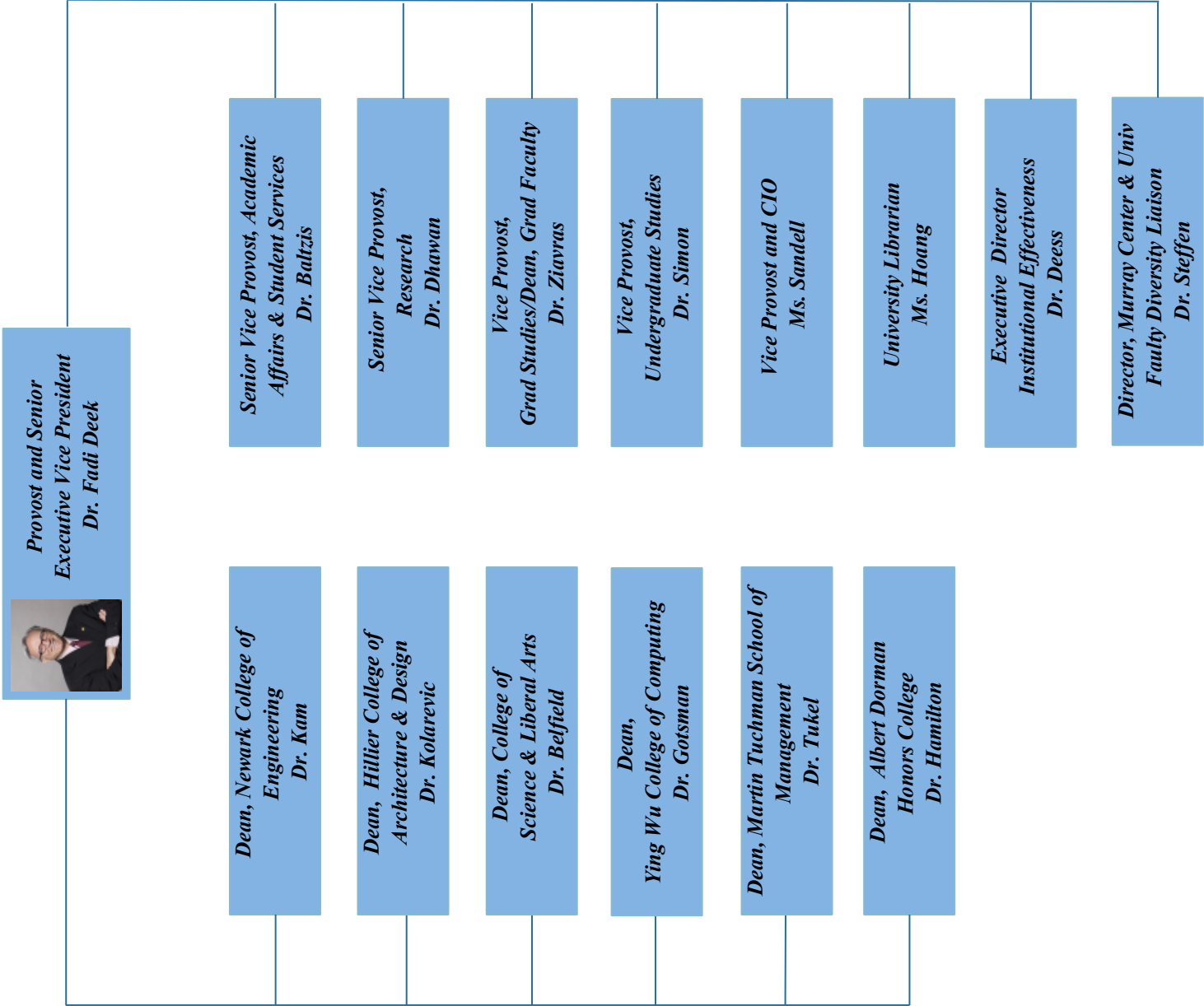
<b>PROGRAM DATA</b>	<b>Actual FY 2019</b>	<b>Actual FY 2020</b>	<b>Revised FY 2021</b>	<b>Budget Request FY 2022</b>
<b>Institutional Support</b>				
Enrollment total (headcount)	14,703	15,154	15,465	15,259
Enrollment total FTE's (a)	9,695	9,977	10,161	10,009
Undergraduate total (headcount)	8,628	9,053	9,084	8,985
Undergraduate total FTE's (a)	7,174	7,451	7,555	7,472
Full-time (headcount)	7,058	7,463	7,449	7,368
Full-time FTE's (a)	6,608	6,880	6,951	6,875
Part-time (headcount)	1,570	1,590	1,635	1,617
Part-time FTE's (a)	566	571	604	597
Graduate total (headcount)	2,931	2,806	2,567	2,399
Graduate total FTE's (a)	1,388	1,562	1,362	1,273
Full-time (headcount)	1,737	1,601	1,351	1,263
Full-time FTE's (a)	938	1,102	901	842
Part-time (headcount)	1,194	1,205	1,216	1,136
Part-time FTE's (a)	450	460	461	431
Extension and Public Service				
Enrollment (headcount) (a)	3,144	3,295	3,814	3,875
Enrollment total FTE's (a)	1,133	964	1,244	1,264
Undergraduate (headcount)	2,442	2,604	3,103	3,153
Undergraduate FTE's (a)	906	787	1,005	1,021
Graduate (headcount)	702	691	711	722
Graduate FTE's (a)	227	177	239	243
Degree programs offered - All	126	123	123	123
Courses Offered	3,818	3,893	3,971	3,918
Courses Offered	4,528	4,528	4,528	4,528
Student credit hours produced	270,051	289,314	295,100	291,169
Degrees and Certificates				
Granted - Total	2,896	2,868	2,925	2,899
Ratio: Student/faculty (b)	16/1	16/1	16/1	16/1
Full-time, First-Time, Degree-Seeking Freshmen who are Regular Admission Students	1,296	1,372	1,238	1,238
Average SAT Score - Math	662	669	663	663
Average SAT Score - Reading/Writing	625	627	629	629
Average SAT Score - Total (e)	1,287	1,297	1,292	1,292
<b>Outcomes Data (c)</b>				
Third Semester Retention Rates	88.0	88.0	89.0	89.0
Seven Year Graduation Rates	68.0	69.0	70.0	70.0
<b>Student Tuition and Fees</b>				
Total Cost of Attendance (d)	36,438	37,074	37,074	37,074
Full-Time Undergraduate Tuition State Residents	14,174	14,448	14,448	14,448
Full-Time Undergraduate Tuition Non - State Residents	29,586	30,160	30,160	30,160
Full-Time Undergraduate Fees	3,164	3,226	3,226	3,226
<b>Operating Data</b>				
<b>Institutional Support</b>				
Institutional Expenditures				
Instruction	126,906,000	127,224,000	129,112,000	
Sponsored programs and research	92,619,000	88,354,000	94,228,000	
Extension and public service	2,153,000	2,452,000	2,190,000	
Academic support	34,374,000	32,135,000	34,971,000	
Student services	31,513,000	31,574,000	32,061,000	
Institutional support	58,291,000	57,747,000	59,304,000	
Physical plant and support services	26,259,000	28,704,000	26,715,000	
<b>Personnel Data</b>				
Position Data				
State-funded positions	1,187	1,187	1,187	1,187

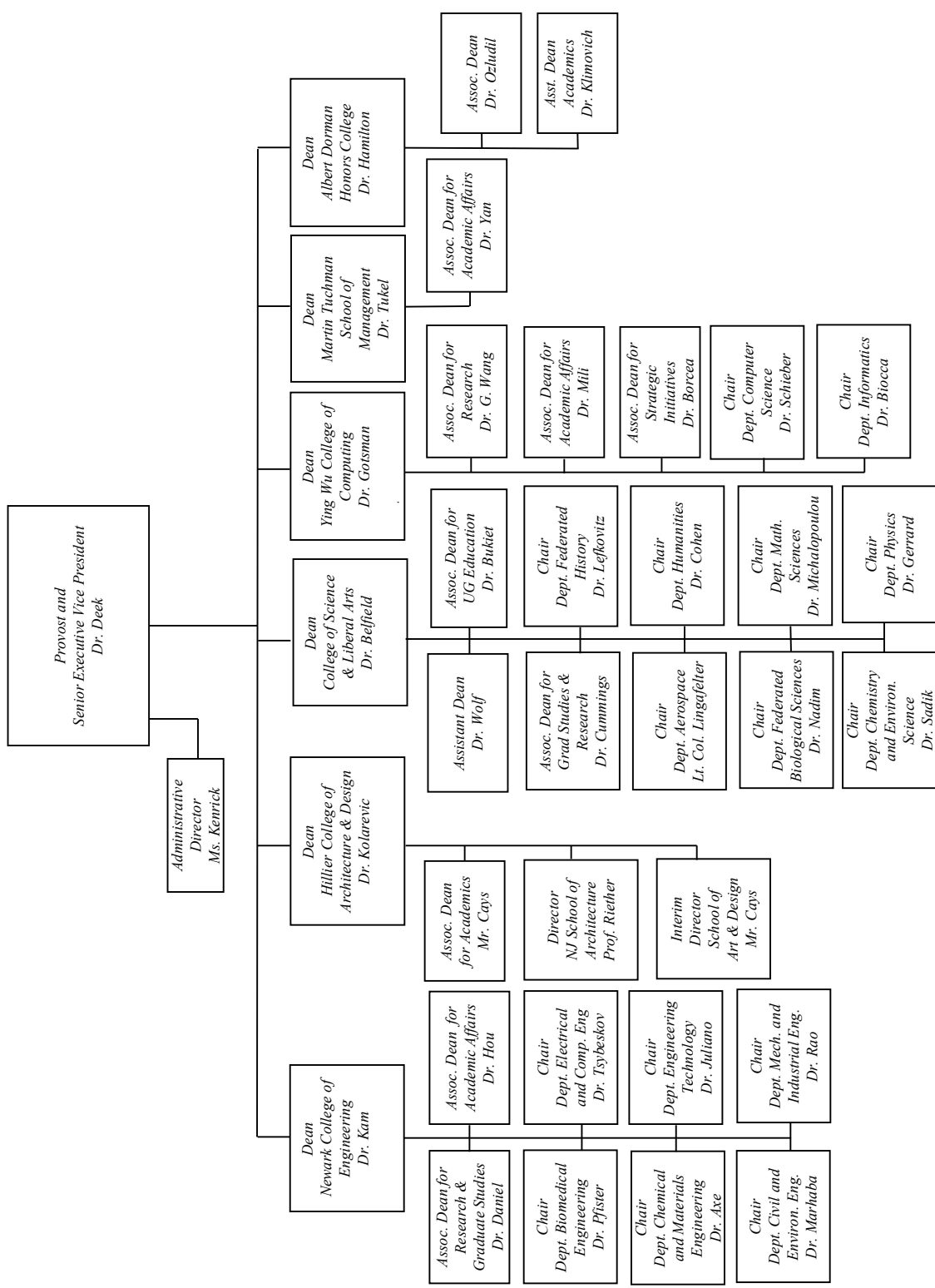
- (a) Equated on the basis of 32 equivalent credit hours per undergraduate student and 24 equivalent credit hours per graduate student,  
(b) Calculated on the number of teaching positions (including adjunct faculty) and equated full-time (weighted) students.  
(c) The data of record is the 10th day of the semester.  
(d) As reported to the Higher Education Student Assistance Authority. Includes tuition, fees, room and board, transportation, and supplies.  
(e) SAT scores in FY17, FY18 and FY19 reflect the new format.

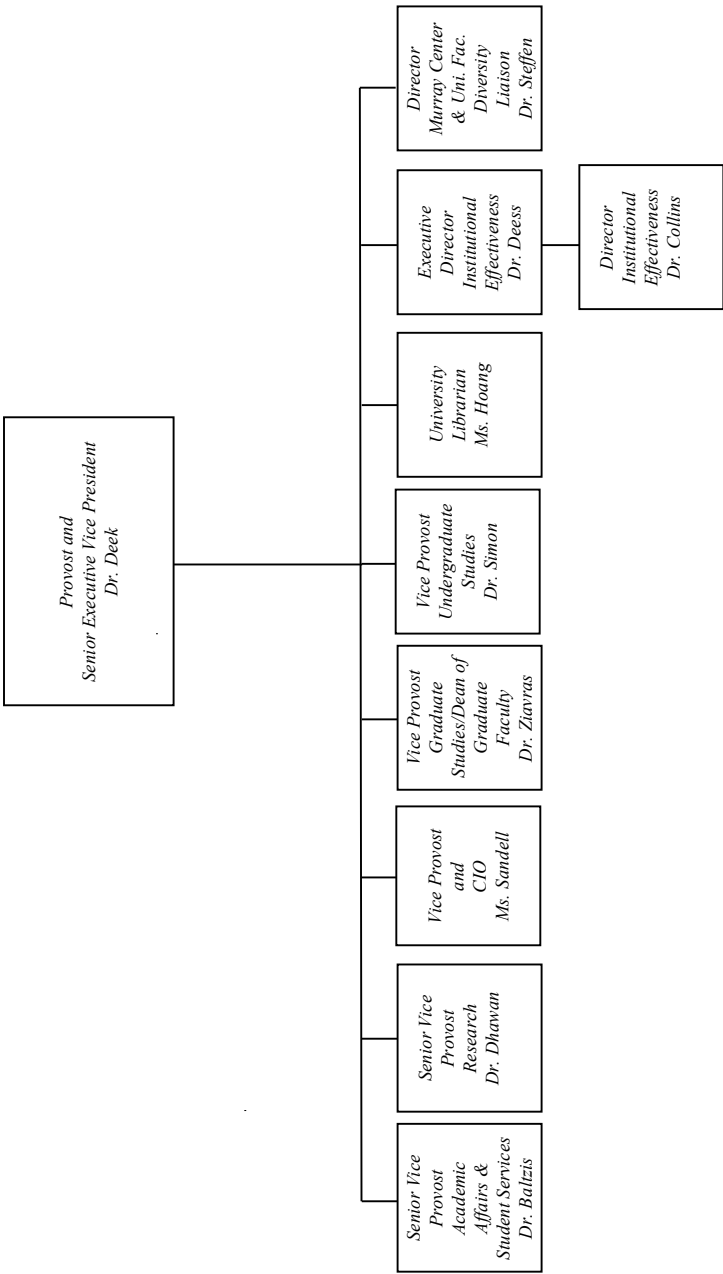


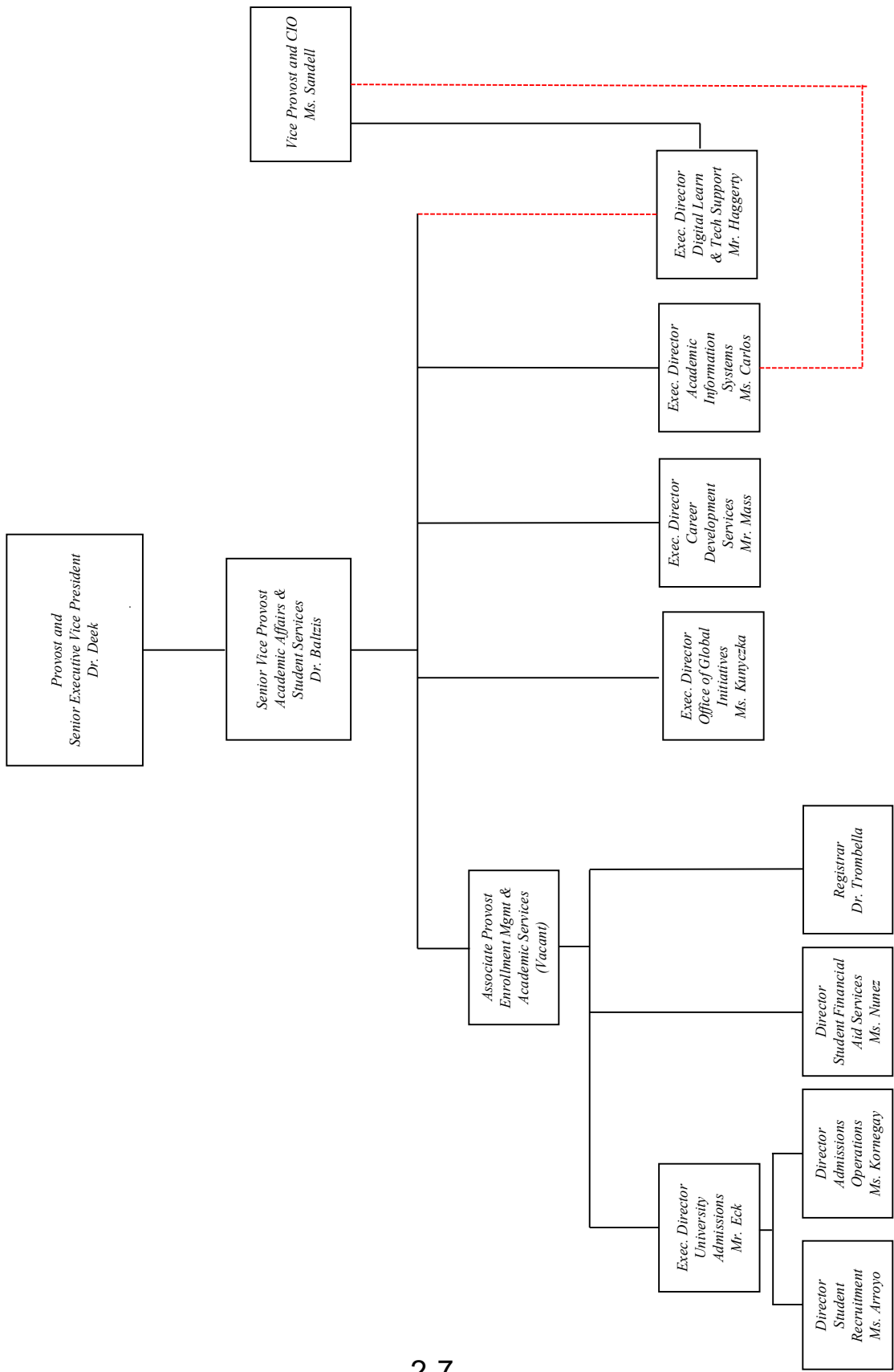


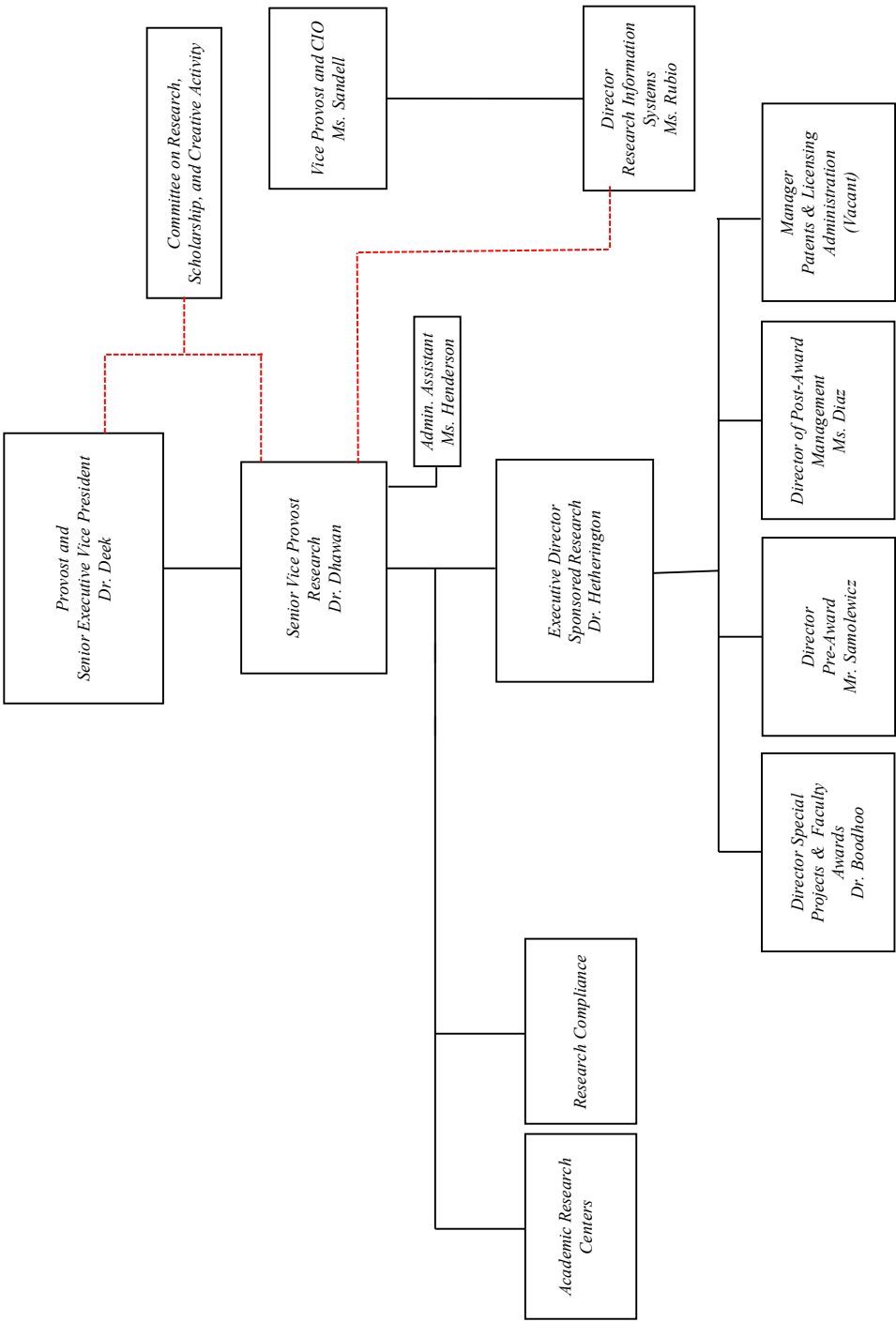




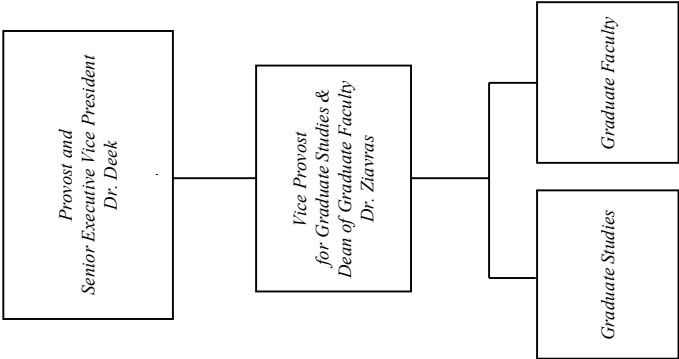


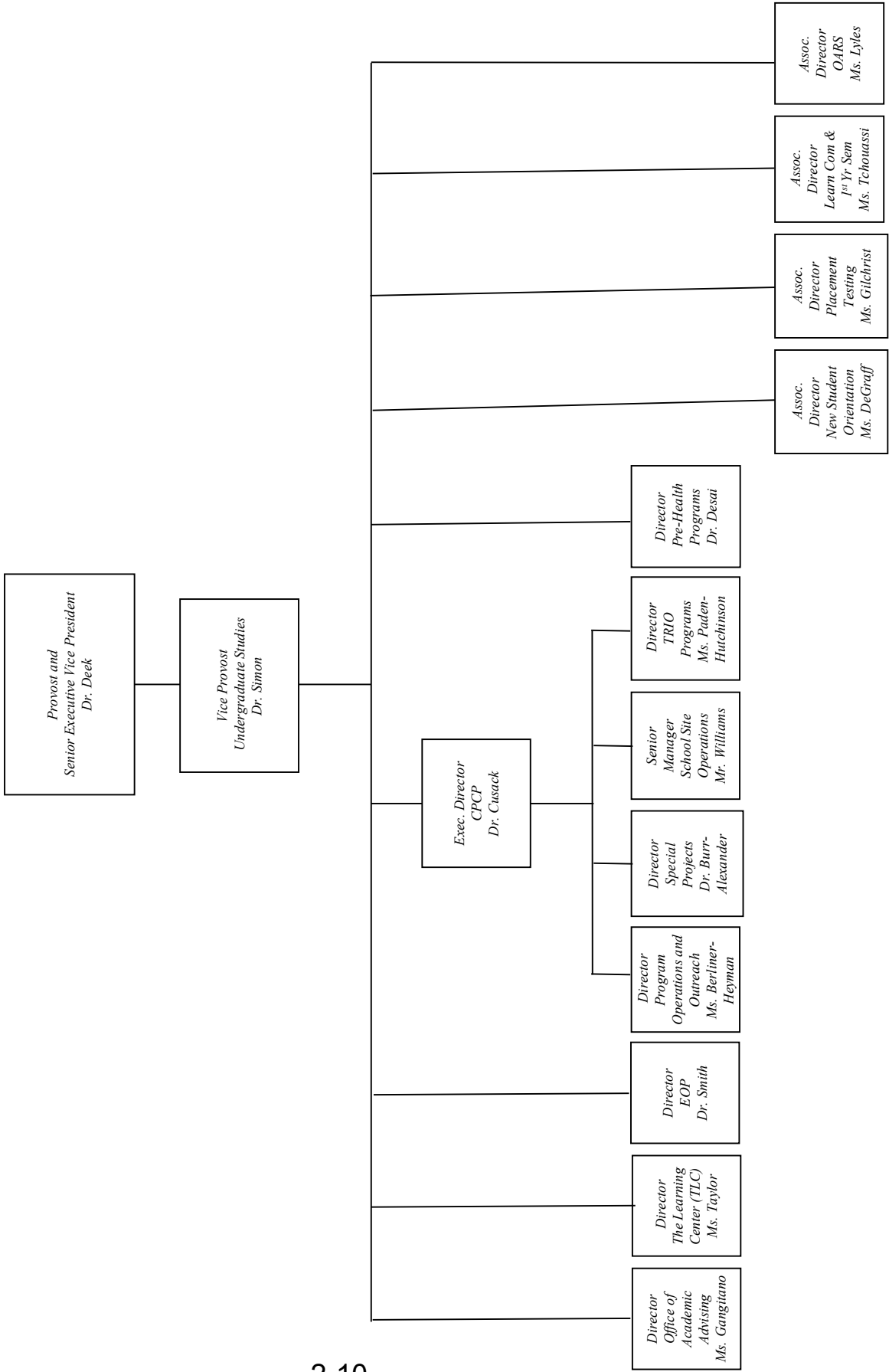


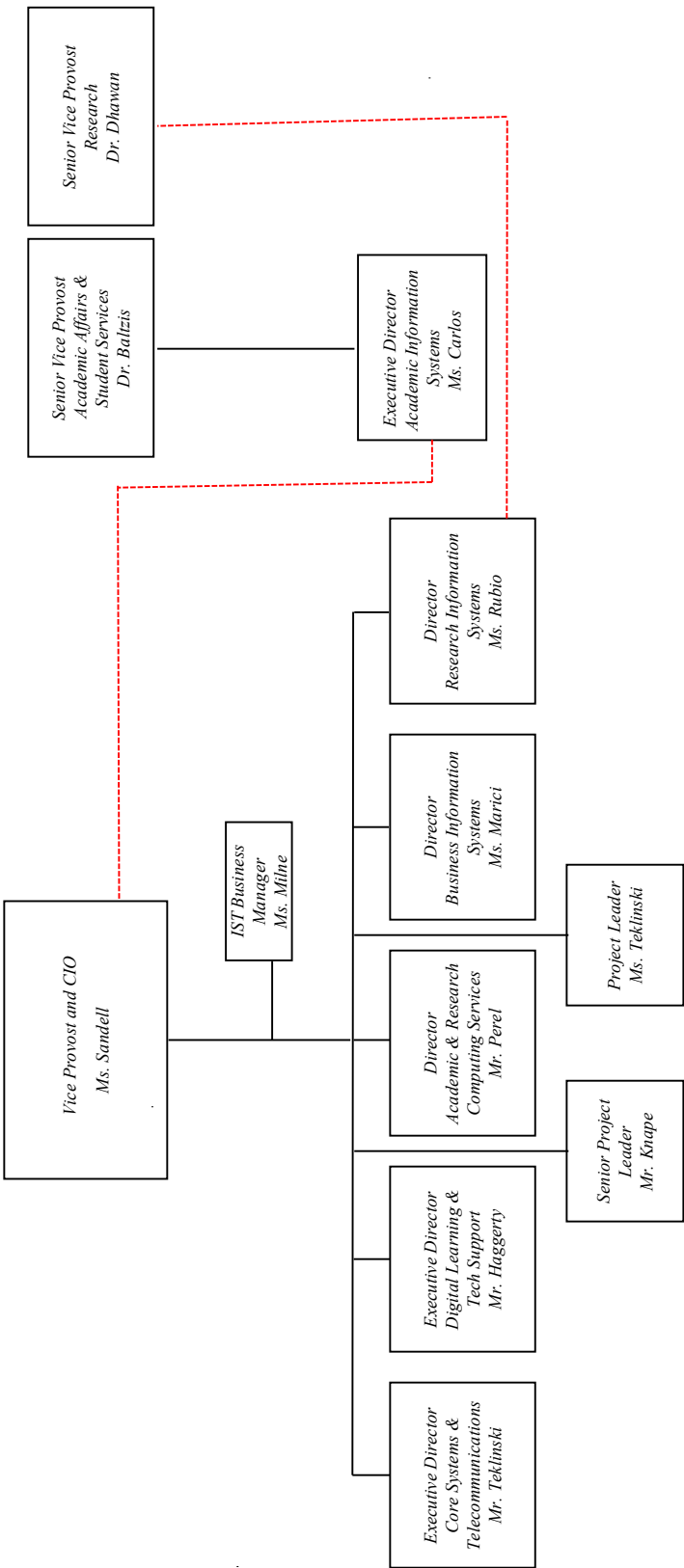


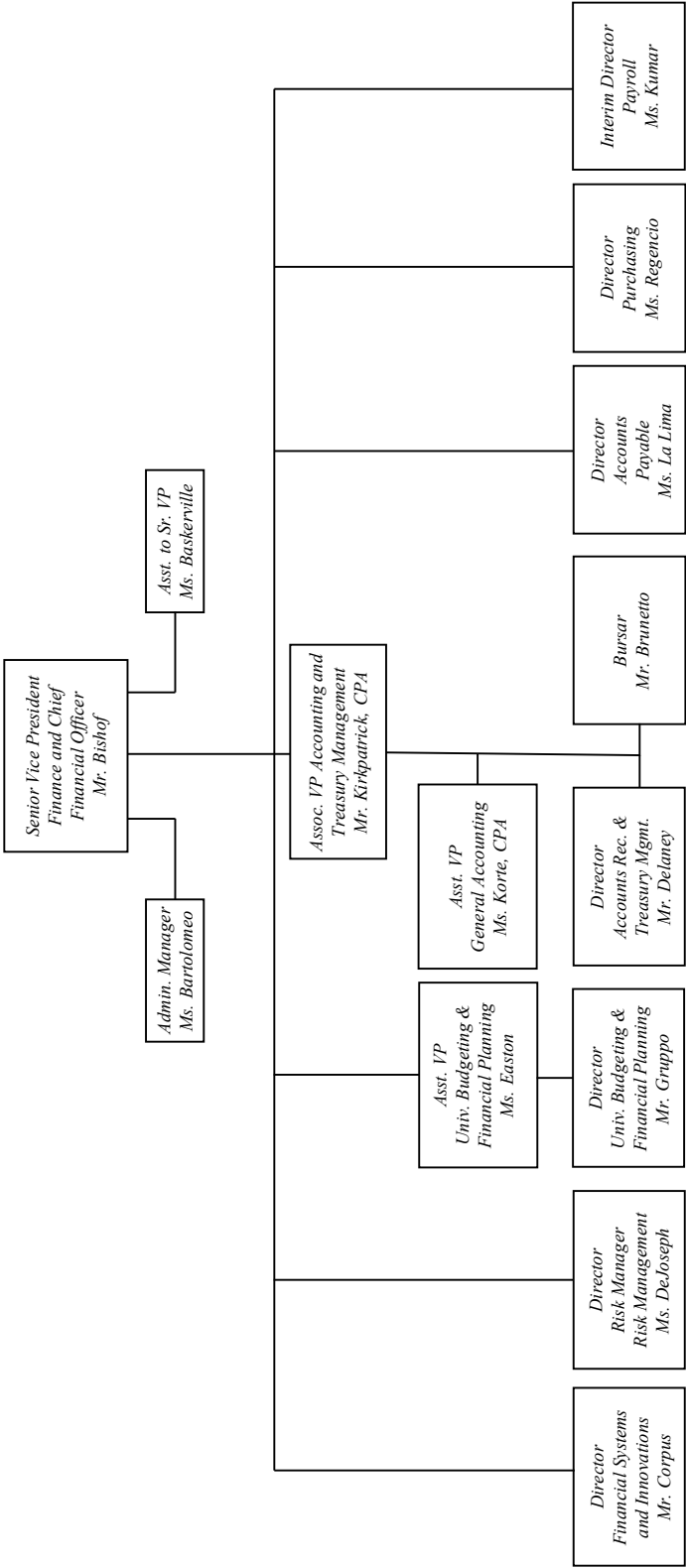


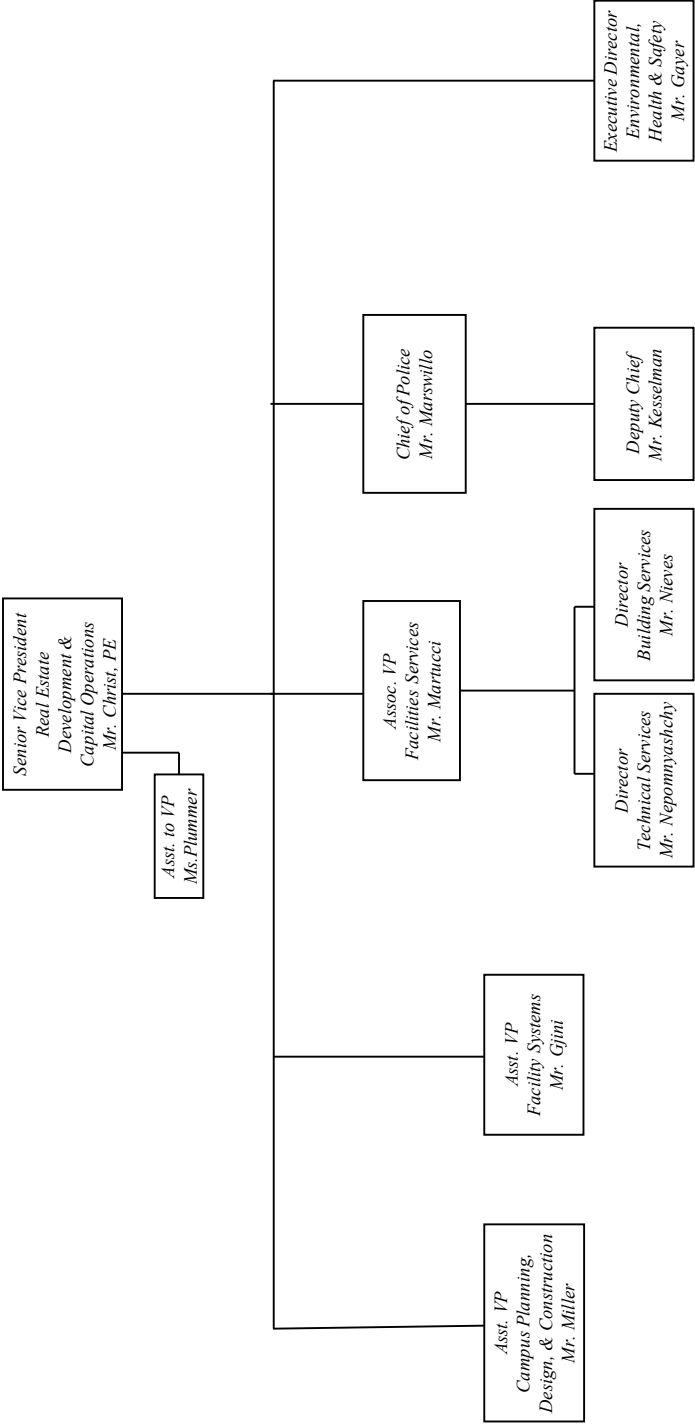




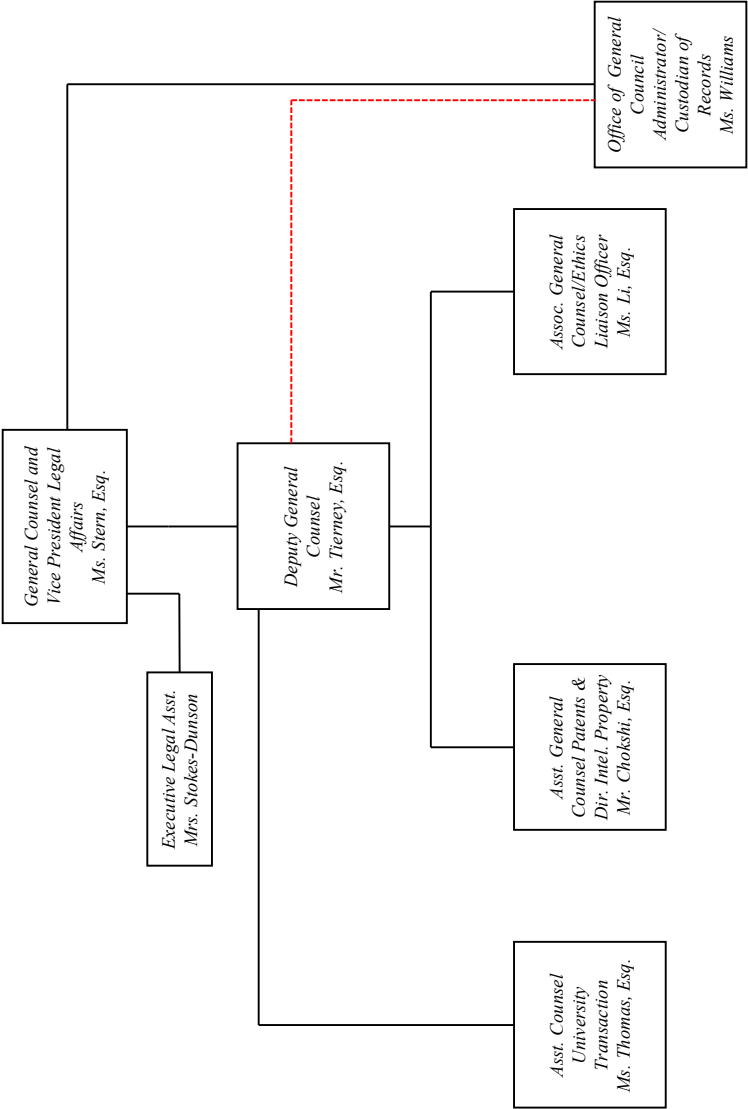


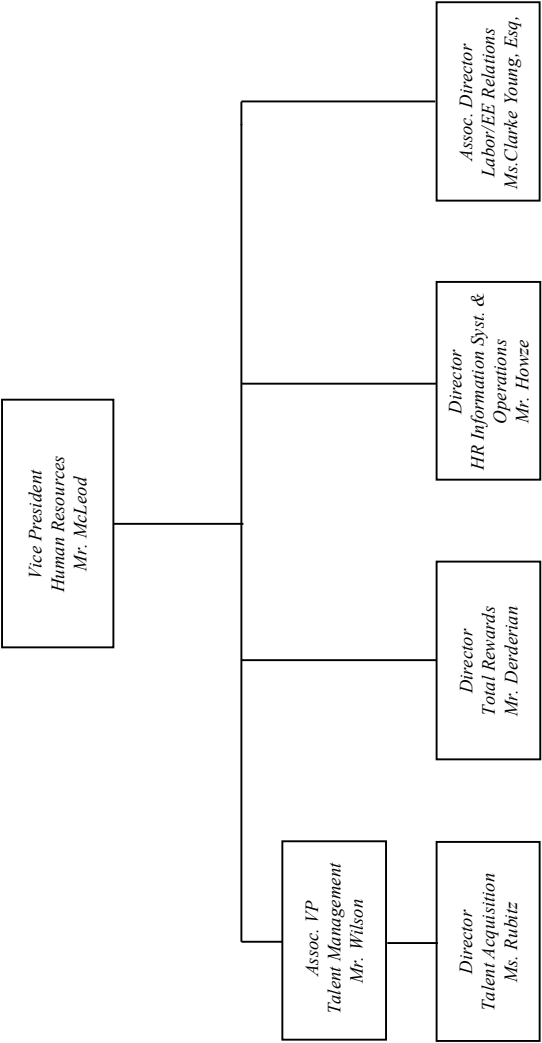


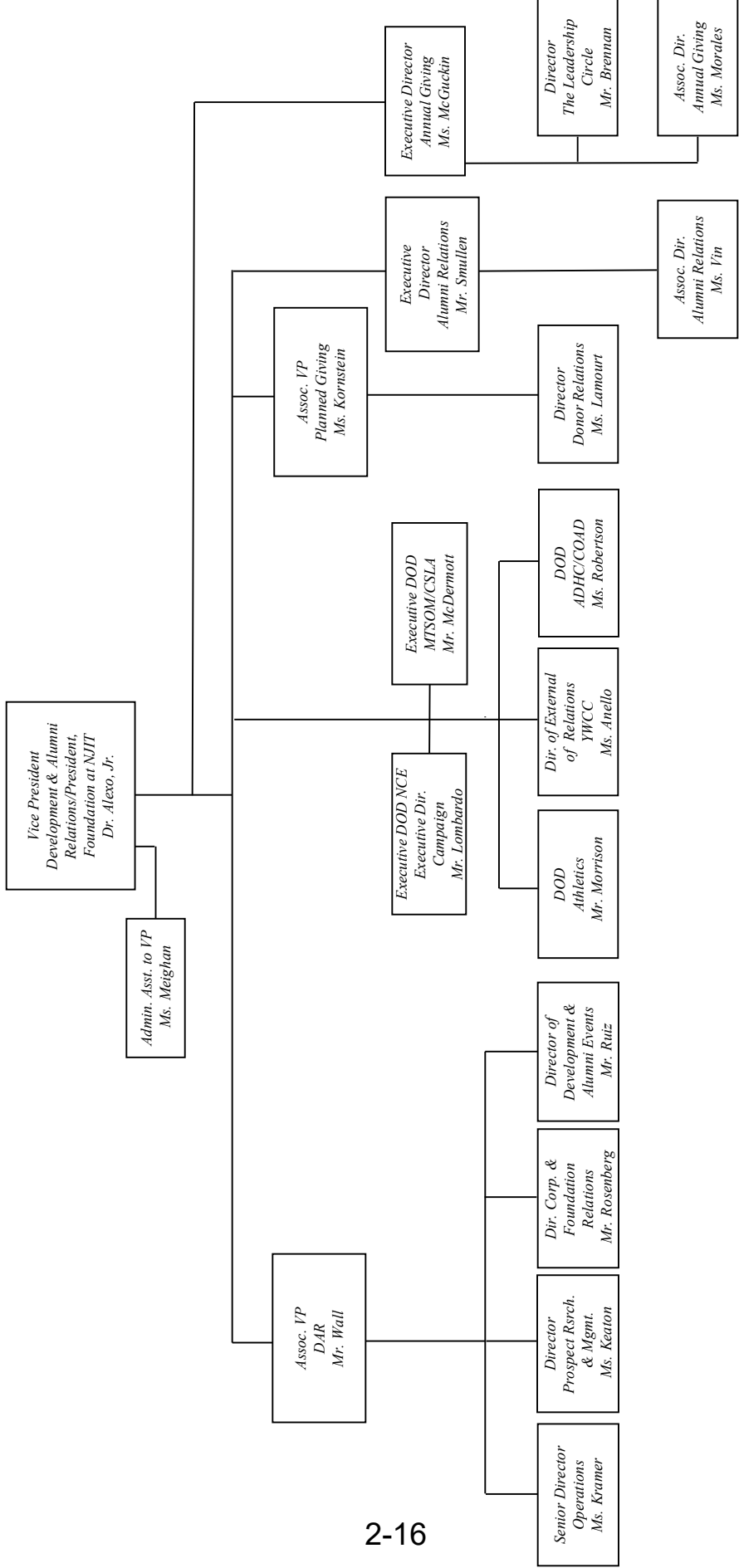


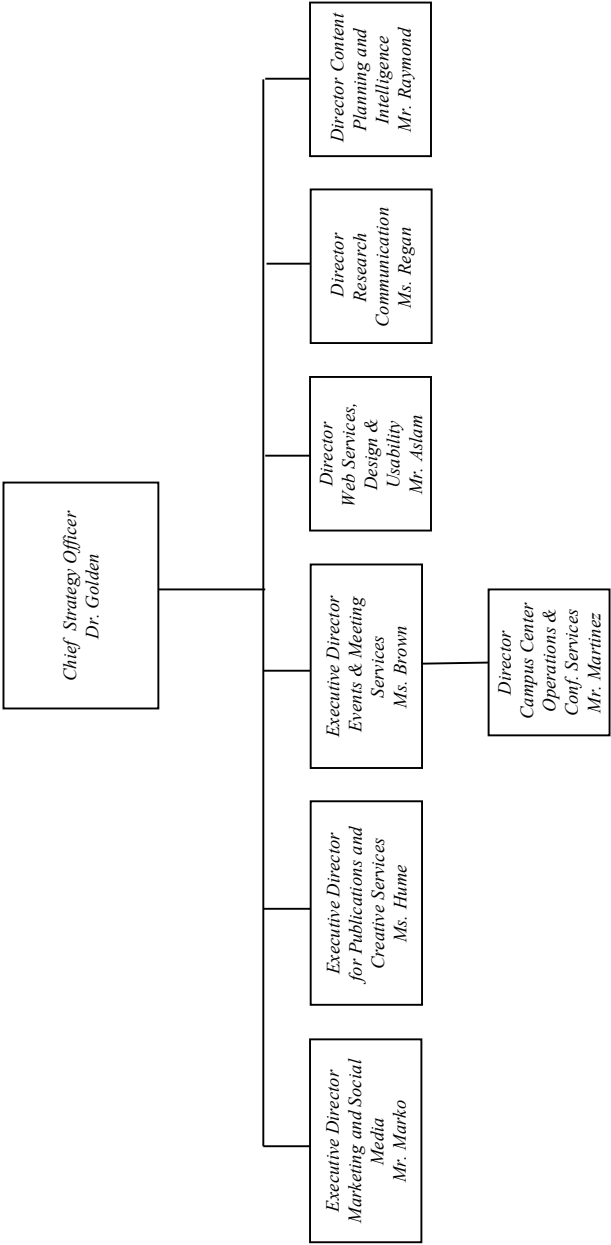


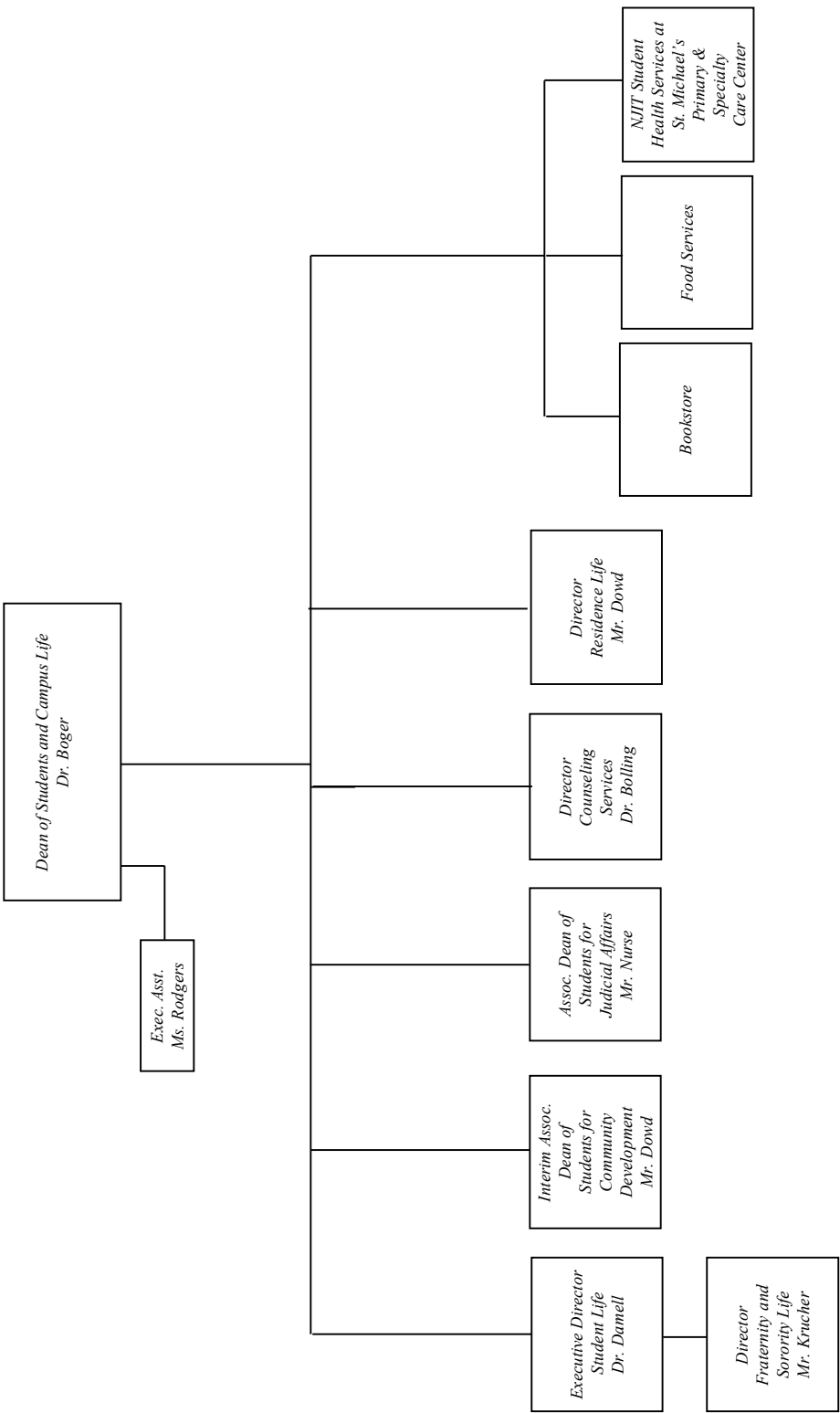












## SECTION 3

### BUDGET INFORMATION

State of New Jersey  
Department of the Treasury  
Office of Management and Budget  
FY2022 Budget Request (BB-102)

Date: \_\_\_\_\_ Department: **New Jersey Institute of Technology**

Citation: \_\_\_\_\_

Approved by: \_\_\_\_\_ Director

To the State Treasurer:  
Appropriations as follows are requested for the above agency for fiscal year 2022. Attached are data covering the present and preceding fiscal years. The statements given are true and correct to the best of my knowledge and belief. I certify that the request submitted is in accordance with instructions contained in the Budget Instruction Manual.

*Joel Bloom*

Department Head/Officer

Joel Bloom  
President

Positions Budgeted by Fund (1,2)	Budgeted FY2021	Agency Request FY 2022
State Funded (per Appropriations Act Language)	1,187	1,565
Non State Funded (per Appropriations Act Language)		
<b>Total Positions</b>	<b>1,187</b>	<b>1,565</b>

Expended 2020					Recapitulation	FY2021	Request
Original and Supplemental	Reappro. and Receipts	Transfers and Emerg.	Total Available	Expended	By Department By Fund Category	Appropriated	Agency Request
467,731	(4,013)	\$ -	463,718	463,718	Institutional Support	475,549	475,549
					<b>Total Grants-In-Aid</b>		
					Less:		
	(3,341)	0	(3,341)	(3,341)	Receipts from Tuition Increases	0	0
(202,745)	(11,084)	0	(213,829)	(213,829)	General Services Income	(210,915)	(210,915)
(22,518)	4,366	0	(18,152)	(18,152)	Auxiliary Funds Income	(13,849)	(13,849)
(170,000)	14,072	0	(155,928)	(155,928)	Special Funds Income	(172,553)	(172,553)
(43,647)	-		(43,647)	(43,647)	Employee Fringe Benefits	(43,647)	(43,647)
<b>(438,910)</b>	<b>4,013</b>	<b>0</b>	<b>(434,897)</b>	<b>(434,897)</b>	<b>Total Income Deductions</b>	<b>(440,964)</b>	<b>(440,964)</b>
					<b>Total State Appropriation</b>	<b>34,585</b>	<b>34,585</b>
<b>28,821</b>	-	<b>0</b>	<b>28,821</b>	<b>28,821</b>	Special Purpose		
467,731	(4,013)	0	463,718	463,718	General Institutional Operations	475,549	475,549
1,863			1,863	1,863	Outcomes Based Allocation	2,091	2,091
3,700			3,700	3,700	Grants in Aid Appropriation	3,700	
					Engineering Cost Factor		4,666
					State Authorized FTEs		
					Need-Based Financial Aid		7,905
					Teaching Laboratories - Rehabilitation		5,313
					<b>LESS: Income Deductions</b>	<b>(440,964)</b>	<b>(440,964)</b>
<b>(438,910)</b>	<b>4,013</b>	<b>0</b>	<b>(434,897)</b>	<b>(434,897)</b>			
<b>34,384</b>	-	<b>0</b>	<b>34,384</b>	<b>34,384</b>	<b>Grand Total State Appropriation</b>	<b>40,376</b>	<b>54,560</b>

<sup>1</sup> Per OMB, fringe amount is fixed. Audited financial statements reflect fringe benefits totaling \$56,048 million for FY 2020.

State of New Jersey  
Department of the Treasury  
Office of Management and Budget

New Jersey Institute of Technology  
FY 2022 Budget Request

Revenue Statement (BB-103)

The following information should be reconciled to the "Statement of Revenues, Expenses, and Change in Net Assets" from the audited financial statements for fiscal years indicated as "actual."

Institution: NEW JERSEY INSTITUTE OF TECHNOLOGY	FY 2020 Ending June 30, 2020 ACTUAL	FY 2021 Ending June 30, 2021 ESTIMATED	FY 2022 Ending June 30, 2022 ESTIMATED
<b>EDUCATION &amp; GENERAL REVENUE</b>			
<b>General Services:</b>			
<b>Tuition and Fees</b>			
Gross Tuition	170,982	169,390	169,390
Receipts from Tuition Increase (BB-102 & BB-105)	3,341	0	0
Required fees	34,525	32,472	32,472
<b>Subtotal Tuition and Fees (Gross)</b>	<b>208,847</b>	<b>201,862</b>	<b>201,862</b>
Less student awards	(69,528)	(71,614)	(71,614)
<b>Subtotal Tuition and Fees (Net)</b>	<b>139,319</b>	<b>130,248</b>	<b>130,248</b>
<b>Operating &amp; Non - Operating Revenue</b>			
Investments	2,080	2,168	2,168
Operating & nonoperating revenues	6,243	6,885	6,885
<b>Subtotal Non - Operating Revenue</b>	<b>8,323</b>	<b>9,053</b>	<b>9,053</b>
<b>excluding rate increase (BB-102 &amp; BB-105)</b>			
<b>excluding rate increase (BB-102 &amp; BB-105)</b>	<b>213,829</b>	<b>210,915</b>	<b>210,915</b>
<b>Subtotal General Services Income; including rate increase</b>	<b>217,170</b>	<b>210,915</b>	<b>210,915</b>
<b>Other Non - Operating Revenue</b>			
Base State Appropriation	28,821	34,585	34,585
Outcomes Based Allocation	1,863	2,091	2,091
Employee Fringe Benefits (Per OMB)	43,647 <sup>(1)</sup>	43,647 <sup>(2)</sup>	43,647
Medical Devices Innovation Cluster	3,700	3,700	
FY Critical Needs Request			17,884
<b>Subtotal, Other Non - Operating Revenue</b>	<b>78,031</b>	<b>84,023</b>	<b>98,207</b>
<b>TOTAL EDUCATION &amp; GENERAL REVENUE</b>	<b>295,201</b>	<b>294,938</b>	<b>309,122</b>
<b>NET EDUCATION &amp; GENERAL REVENUE</b>	<b>225,673</b>	<b>223,324</b>	<b>237,508</b>
<b>Auxiliaries</b>			
Resident Life	14,443	11,953	11,953
Bookstore	137	60	60
Other	3,572	1,836	1,836
<b>Total Auxiliaries (BB-102 &amp; BB-105)</b>	<b>18,152</b>	<b>13,849</b>	<b>13,849</b>
Less student awards	(4,811)	(4,811)	(4,811)
<b>Subtotal Auxiliaries (Net)</b>	<b>13,341</b>	<b>9,038</b>	<b>9,038</b>
<b>Special funds</b>			
Grants & Contracts	139,035	139,035	139,035
Federal / State CARES Act Funds		14,601	
Other operating revenues	2,309	2,425	2,425
Nonoperating revenues	5,974	8,055	8,055
Other revenues	8,609	8,437	8,437
<b>Subtotal Special funds(BB-102 &amp; BB-105)</b>	<b>155,928</b>	<b>172,553</b>	<b>157,952</b>
<b>TOTAL REVENUE</b>	<b>394,942</b>	<b>404,915</b>	<b>404,498</b>

(1) Actual FY 2020 expense for Employee Fringe Benefits per the audited financials is \$56,048

(2) FY 2021 Operating Budget for Employee Fringe Benefits is \$67,948.



**NEW JERSEY INSTITUTE OF TECHNOLOGY**  
Revenue Reconciliation To Annual Financial Statement  
(Dollars in thousands)  
For the year ended June 30, 2020

**Financial Statement Description**

	<b>E &amp; G</b>		<b>Special</b>		<b>Additions/</b>	<b>FY20</b>
	<b>Revenue</b>	<b>Auxiliaries</b>	<b>Funds</b>	<b>Subtotal</b>	<b>Deductions</b>	<b>Financial Statement</b>
<b>Operating revenues:</b>						
Student tuition and fees	208,847	-	-	208,847	(69,528) <sup>(1)</sup>	139,319
Federal grants and contracts	-	-	103,673	103,673	-	103,673
State grants and contracts	-	-	27,416	27,416	-	27,416
Other grants and contracts	-	-	3,798	3,798	-	3,798
Auxiliary enterprises	-	18,152	-	18,152	(4,811) <sup>(2)</sup>	13,341
Other operating revenues	4,233	-	2,309	6,542	-	6,542
<b>Total operating revenues</b>	<b>213,080</b>	<b>18,152</b>	<b>137,196</b>	<b>368,428</b>	<b>(74,339)</b>	<b>294,089</b>
<b>Nonoperating revenues:</b>						
State appropriations	90,432	-	-	90,432	-	90,432
Gifts and bequests	-	-	3,630	3,630	-	3,630
Investment income	2,080	-	4,979	7,059	-	7,059
Other nonoperating revenues, net	2,010	-	5,974	7,984	-	7,984
<b>Net nonoperating revenues</b>	<b>94,522</b>	<b>-</b>	<b>14,583</b>	<b>109,105</b>	<b>-</b>	<b>109,105</b>
<b>Other revenues:</b>						
Capital grants and gifts	-	-	1,247 <sup>#</sup>	1,247	-	1,247
Additions to permanent endowments	-	-	2,901	2,901	-	2,901
Total other revenues	-	-	<b>4,148</b>	<b>4,148</b>	-	<b>4,148</b>
<b>Total revenues</b>	<b>307,602</b>	<b>18,152</b>	<b>155,928</b>	<b>481,682</b>	<b>(74,339)</b>	<b>407,343</b>

(1) Deductions for student awards: -\$69,528 (tuition & fees).

(2) Deductions for scholarship awards: -\$4,811 (Auxiliary)

(3) Employee Fringe Benefits totalled \$56,048 versus \$43,647 as reported by OMB

**New Jersey Institute of Technology  
FY 2022 Budget Request**

**FY 2021 Projected Tuition Revenue  
Based Upon FY 2021 FTE Estimates**

<b>A. In-State</b>						
6,976 FTE Undergraduate (Est.)	X	\$	14,448	(FY 2021 Tuition Rate)	=	\$100,789,248
470 FTE Graduate (Est.)	X	\$	20,624	(FY 2021 Tuition Rate)	=	\$9,693,280
17 FTE Doctoral (Est.)	X	\$	23,740	(FY 2021 Tuition Rate)	=	\$403,580
<b>B. Out-of-State</b>						
579 FTE Undergraduate (Est.)	X	\$	30,160	(FY 2021 Tuition Rate)	=	\$17,462,640
479 FTE Graduate (Est.)	X	\$	30,540	(FY 2021 Tuition Rate)	=	\$14,628,660
146 FTE Doctoral (Est.)	X	\$	33,656	(FY 2021 Tuition Rate)	=	\$4,913,776
<b>SUBTOTAL</b>						<b>\$147,891,184</b>

FTE Undergraduate is equated to 32 student credit hours.  
FTE Graduate is equated to 24 student credit hours.

	Y	N
Is full - time undergraduate tuition a flat rate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If yes, the flat rate applies to students taking at least 12 credits, but not more than 19 credits.		
Is full - time graduate and doctoral tuition a flat rate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If yes, the flat rate applies to students taking at least 12 credits, but not more than 19 credits.		

<b>C.</b>	FTE Executive Management Programs (Est)	4	200,000
<b>D.</b>	FTE Pearson & NJIT Online Programs (Est)	206	5,201,000
<b>E.</b>	YWCC @ Jersey City	40	1,291,444
<b>F.</b>	Summer / Winter Session Tuition	1,244	11,928,000

**SUBTOTAL 166,511,628**

ADJUSTMENTS: (1) 2,878,372

**NET TUITION REVENUE ANTICIPATED FOR FY 2021**

**169,390,000**

(1) Adjustments represent the difference between the block rate tuition for full-time students charged (based on 12 credits, not 16 credits) versus the per credit hourly rate for part-time students as well as fluctuations between resident and non-resident enrollment, cancellations, and withdrawals.

## FY 2021 Projected Fees Schedule (FEES)

**Institution:** NEW JERSEY INSTITUTE OF TECHNOLOGY

	Estimated General Services Revenue*	Estimated Auxiliary Revenue**	Estimated Total Revenue	Estimated Restricted/Agency Revenue
<b>REQUIRED FEES: (Required for all students)</b>				
General Services	\$ 28,856,979	\$ -	\$ 28,856,979	N/A
Student Activity	\$ -	\$ -	\$ -	\$ 989,569
Student Center	\$ -	\$ -	\$ -	N/A
Athletic	\$ -	\$ -	\$ -	N/A
Capital Construction/Facility Renovation	\$ -	\$ -	\$ -	N/A
Computing Access/Computer Technology	\$ -	\$ -	\$ -	N/A
Other (specify): Summer Fee	\$ 687,758	\$ -	\$ 687,758	N/A
Other (specify): Winter Fee	\$ 87,000	\$ -	\$ 87,000	N/A
Other (specify):	\$ -	\$ -	\$ -	N/A
<b>SUBTOTAL</b>	\$ 29,631,737	\$ -	\$ 29,631,737	\$ 989,569
<b>OTHER FEES:</b>				
Application	\$ 630,431	\$ -	\$ 630,431	N/A
Graduation	\$ -	\$ -	\$ -	N/A
Late Payment	\$ 500,000	\$ -	\$ 500,000	N/A
Late Registration	\$ -	\$ -	\$ -	N/A
Returned Check	\$ -	\$ -	\$ -	N/A
Transcript	\$ 103,465	\$ -	\$ 103,465	N/A
Orientation	\$ -	\$ -	\$ -	N/A
Parking	\$ -	\$ 1,129,792	\$ 1,129,792	N/A
Laboratory	\$ -	\$ -	\$ -	N/A
Nursing	\$ -	\$ -	\$ -	N/A
Student Teaching	\$ -	\$ -	\$ -	N/A
Other (specify): First Year Student Fee	\$ 314,687	\$ -	\$ 314,687	N/A
Other (specify): International Student	\$ 267,998	\$ -	\$ 267,998	N/A
Other (specify): Matriculation Fee	\$ 551,024	\$ -	\$ 551,024	N/A
Other (specify): Non Matriculating Fees	\$ 9,197	\$ -	\$ 9,197	N/A
Other (specify): Payment Plan Set-Up	\$ 427,353	\$ -	\$ 427,353	N/A
Other (specify): Transfer Student Fee	\$ 30,932	\$ -	\$ 30,932	N/A
Other (specify): ID Card Replacement	\$ 5,176	\$ -	\$ 5,176	N/A
Other (specify): Resident Life		\$ 11,953,000	\$ 11,953,000	N/A
Other (specify): Bookstore		\$ 60,000	\$ 60,000	N/A
Other (specify): Gourmet Dining Services		\$ 646,208	\$ 646,208	N/A
Other (specify): Vending Commissions		\$ 60,000	\$ 60,000	N/A
<b>SUBTOTAL</b>	\$ 2,840,263	\$ 13,849,000	\$ 16,689,263	\$ -
<b>TOTAL FEE REVENUE:</b>	\$ 32,472,000	\$ 13,849,000	\$ 46,321,000	\$ 989,569

### NOTES

\* Estimated General Services Revenue - Total should match FY 2021 General Services Income amount on the BB-103.

\*\* Estimated Auxiliary Revenue - Total should match FY 2021 Student-Related Fees amount on the BB-103.

NEW JERSEY INSTITUTE OF TECHNOLOGY  
SALARY PROGRAM FY2021 AND FY2022 (State)

**ESTIMATED SALARY PROGRAM BY BARGAINING UNIT:**

<u>Union Totals</u>	<u>FY21 FTE</u>	<u>FY21 Base Salary</u>	<u>FY21 Estimated Salary Program</u>	<u>FY21 Anticipated Cash Need</u>	<u>FY22 Base Salary</u>	<u>FY22 Estimated Salary Program</u>	<u>FY22 Anticipated Cash Need</u>
afscme	103	5,362,222	0	5,362,222	5,362,222	112,607	5,474,829
aft-ucan	5	270,711	0	270,711	270,711	6,767	277,479
fop	23	1,305,573	0	1,305,573	1,305,573	52,223	1,357,796
fop - soa	9	911,185	0	911,185	911,185	18,224	929,409
njslea	3	350,355	0	350,355	350,355	7,007	357,362
non-aligned	171	24,826,102	0	24,826,102	24,826,102	620,653	25,446,755
opeiu	114	5,758,503	0	5,758,503	5,758,503	129,566	5,888,069
psa Faculty	297	44,621,322	0	44,621,322	44,621,322	1,115,533	45,736,855
psa Lecturer	108	8,179,638	0	8,179,638	8,179,638	204,491	8,384,129
psa non tenure Faculty	11	1,031,703	0	1,031,703	1,031,703	25,793	1,057,495
psa Staff	343	27,657,638	0	27,657,638	27,657,638	691,441	28,349,079
<b>Grand Total</b>	<b>1,187</b>	<b>120,274,951</b>	<b>0</b>	<b>120,274,951</b>	<b>120,274,951</b>	<b>2,984,304</b>	<b>123,259,256</b>

**SALARY PROGRAM PARAMETERS:**

	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>
	<u>Deferred Salary Program</u>	<u>Est. Salary Program</u>	<u>Est. Salary Program</u>
afscme	0.00%	0.00%	2.10%
aft-ucan	0.00%	0.00%	2.50% **
fop	0.00%	0.00%	4.00% **
fop - soa	0.00%	0.00%	2.00%
njslea	0.00%	0.00%	2.00%
non-aligned	0.00%	0.00%	2.50%
opeiu	0.00%	0.00%	2.25%
psa Faculty	2.25%	0.00%	2.50% **
psa Lecturer	2.25%	0.00%	2.50% **
psa non tenure Faculty	2.25%	0.00%	2.50% **
psa Staff	2.25%	0.00%	2.50% **

**DISTRIBUTION BY ELEMENT:**

<u>Element</u>	<u>FY2020 Deferred Salary Program</u>	<u>FY2021 Estimated Salary Program</u>	<u>FY2022 Estimated Salary Program</u>
Instruction	1,268,260	0	1,519,673
Research	55,556	0	90,372
Public Service	-	0	10,305
Academic Support	163,869	0	328,549
Student Services	150,799	0	291,348
Institutional Support	124,172	0	558,639
Operation and Maintenance of Plant	30,530	0	185,418
Auxiliary Services	-	0	0
<b>Grand Total</b>	<b>1,793,185</b>	<b>0</b>	<b>2,984,304</b>

\*\* Denotes bargaining units without a signed agreement for FY22.

## SECTION 4

### FY2022 PRIORITY REQUESTS

**NEW JERSEY INSTITUTE OF TECHNOLOGY  
FY2022 BUDGET PRIORITY REQUESTS**

This section identifies budgetary needs above our current appropriation that are defined as initiatives to enable New Jersey's polytechnic university to strategically provide a quality engineering workforce, applied science and technology research, community service, and economic development/industry partnerships to meet New Jersey's economic and societal goals.

Below is a summary of our priority requests for FY2022 which support these objectives.

**Total FY2022 Priority Requests (\$000's)**

<b><u>Priority Request:</u></b>	<b><u>Total \$</u></b>	<b><u>FTE</u></b>
1) Engineering Cost Factor	\$4,666	
2) State Authorized FTE		378
3) Need-Based Financial Aid	\$7,905	
4) Teaching Laboratories - Rehabilitation	\$5,313	
<b><u>Grand Total</u></b>	<b><u>\$17,884</u></b>	<b><u>378</u></b>

NJIT is one of 32 polytechnic universities in the United States and is New Jersey's public university focused on engineering and other STEM disciplines. We enroll more than 11,600 students annually in bachelor's, master's, and doctoral degree programs; expend approximately \$160 million on research activity, and generate an economic impact on the State of New Jersey that is more than \$2.8 billion annually, among the highest of any university in our state. NJIT's academic and research programs are closely aligned with the design, computing, engineering, and life sciences clusters identified in the State Strategic Job Growth Plan that recognizes the need to bring technology and the sciences to bear on in ways that will improve quality of life and spur economic growth.

**1) Engineering Cost Factors**

As New Jersey's public polytechnic university, NJIT educates approximately one-third of our state's engineers and scientists and is a top 20 national university in producing African-American and Hispanic engineers. We are home to colleges of engineering, architecture, and computing that are among the largest in the region, and we recently launched the School of Applied Engineering and Technology.

Fifty-five percent of NJIT undergraduates major in an engineering discipline; 40% of our master's students do so as well; and 64% of our doctoral students are engineers. No other

**NEW JERSEY INSTITUTE OF TECHNOLOGY  
FY2022 BUDGET PRIORITY REQUESTS**

public university in New Jersey has engineering students numbering more than 10% of any of those populations. Much of the diverse workforce desperately needed to serve New Jersey's key industrial sectors is educated at NJIT, and many of the students we enroll come to us from low-income households with great need of support programs in order to navigate our challenging curriculum. Sixty-two percent of all engineering degrees awarded to underrepresented minority students by New Jersey public institutions are earned by NJIT students.

Our students succeed and, once they graduate, assume high-paying positions that have a multiplier effect on job creation and factor heavily into our state's economic prosperity and tax base. NJIT graduates have an average mid-career annual salary between \$8,000 and \$37,000 greater than their peers from New Jersey's other four-year public colleges and universities.

If New Jersey is to succeed in developing the workforce necessary to support a knowledge, innovation, and technology economy, we must provide resources that support students in the engineering disciplines as well as the colleges and universities educating those students. We now are facing major fiscal challenges across the higher education sector. If we do not address those challenges and recognize the importance of investing in the engineering workforce that will be the foundation of our future economic strength, we risk long-term negative consequences and will deprive students from low-income and underrepresented groups of opportunities to pursue careers in high-income and high-demand fields. These are careers that transform the lives of students who often are the first in their family to attend college.

As the state looks toward the future, an engineering funding factor for higher education is necessary in order to produce the workforce and research that will grow the economy and improve quality of life in our state. NJIT, because of the costs associated with serving as New Jersey's largest college of engineering, historically has been funded by the state at a level that trails only Rutgers among state universities, but that has changed of late. Increased funding for engineering disciplines at public research universities has been recommended in multiple reports for decades, including NCHEMs, the OSHE Working Group on Access and Affordability, and "The Report of the Governor's Task Force on Higher Education, (2010)".

Studies by the Center for STEM Education and Innovation as well as the National Bureau of Economic Research (NBER) have documented the higher costs associated with providing engineering programs, as well as those in the other science and technology focused disciplines offered by NJIT. For example, the NBER study found that, in comparison to degree programs such as english, history, psychology, and economics, the costs of offering engineering programs are more than 100% greater. The Center for STEM Education and Innovation determined that engineering programs are 60+% more costly to deliver than the

**NEW JERSEY INSTITUTE OF TECHNOLOGY  
FY2022 BUDGET PRIORITY REQUESTS**

average degree program. Additionally, a Delaware cost study provided “discipline-level comparative analysis of faculty teaching loads, direct instructional costs, and separately budgeted scholarly activity” required to educate students. Nationally, the cost per credit hour associated with a bachelor’s in english is \$261. At NJIT, biomedical engineering has the highest cost per credit hour (\$1,003). These higher costs are driven by multiple cost factors that include: faculty, doctoral student support, academic and research facilities, and an R1 information technology infrastructure.

- Faculty Costs – Engineering professor salaries are, on average, 38% higher than the average professor at doctoral universities. This is due to the limited supply and highly competitive recruitment process for faculty in engineering fields as well as the marketplace for such professionals outside of academia. In a typical year, NJIT recruits 15-20 new faculty. The average first-year new hire for engineering is approximately \$505,000, which includes salary and start-up packages. In addition, start-up packages often require lab renovations specific to the faculty member’s research discipline, which range from \$500 - \$700 per square foot. Also, new funds are needed to support lab technicians and post-doctoral associates.
- Doctoral Student Costs - Support for doctoral students is necessary at an R1 research university for the conduct of the critically needed research and for the future workforce of New Jersey’s knowledge, innovation, and technology businesses and industries. The minimum academic year stipend is \$24,500, plus NJIT-funded health insurance and full tuition and fee remission. This population has seen tremendous growth from 384 in fall 2013 to 509 by fall 2019.
- Academic/Research Facilities Costs - Due to the technical complexity of our research and teaching labs and the underlying infrastructure necessary for a university focused on engineering disciplines, NJIT spends significantly more than a liberal arts institution to maintain its campus. This year, due to COVID-19 financial challenges, NJIT was forced to significantly reduce capital renewal and replacement funding to \$10 million, which is less than half of the \$21.9 million required for FY21.
- Information Technology Infrastructure – R1 impact - To meet the demands placed on our information technology infrastructure, NJIT must invest in systems and research architecture, embrace cloud options, and enable faculty and students to conduct research and learn in cost effective ways. We must do the following, among other identified needs: Provide cloud-based, high performance computing simulation platforms, develop hybrid infrastructure that enables cloud-ready, on-premise computing workloads, upgrade our high-performance cluster, offer software to support data visualization and computation, and we must investment in a research technology infrastructure totaling at least \$1.5 million to be on par with our R1 peers.



NEW JERSEY INSTITUTE OF TECHNOLOGY  
FY2022 BUDGET PRIORITY REQUESTS

Outcomes-Based Allocation - Engineering Cost Factor Appropriation Change

We recommend that the Outcomes-based allocation (OBA) funding formula be modified to take into account the higher cost of providing engineering programs. Applying an engineering average cost factor estimate of 40% to this average funding level would equate to a \$545 increase per FTE above the current state FTE funding level for NJIT. Applying this \$545 increase per FTE support to NJIT's FY19 8562 FTE would increase NJIT's base appropriation by \$4,666K.

The successes NJIT has achieved for its students and for the State of New Jersey have been extraordinary, but they will not continue if sufficient support and funding are not provided by the state. NJIT is particularly hard-pressed because of the cost-factor of providing engineering education, especially to a student population that has a high percentage of low-income and first-generation college students.

**2) State Authorized FTEs**

In FY09, after a detailed review of NJIT authorized positions by NJ OMB, the state increased NJIT's state authorized FTE count to 1,246 (95% of 1,313 requested). During the FY11 State budget process, the authorized FTE count was then reduced to 1,187, a decrease of 59, or 4.7%, which it still totals today.

NJIT continues to display significant growth in enrollment, research, and operations. Total student headcount for the academic year has increased from 8,934 in FY11 to 11,651 in FY21, an increase of 30.4%. Research and associated expenses have increased from \$100.5M in FY11 to nearly \$160M by the conclusion of FY19, an increase of 59.2%. Total operations have grown from \$298 Million in FY11 to \$546.7 Million in FY21, an increase of \$248.7 million, or 83%.

Our FY21 budget request includes **126 additional FTEs**. This is needed to provide the proper faculty and staff to support the ever growing instructional and academic needs of our student body. The ability to provide the best instructors and right support structure for our students will continue to help improve retention and graduation. Additionally, more staff are required to support and enable NJIT to partner with industry to create research and development opportunities.

In October 2008, the State passed a law, N.J.S.A. 18A:66-168, making it a requirement for adjunct faculty at the State's public universities eligible to participate in the Alternate Benefit Plan (ABP) pension program; however, there has been no adjustment to NJIT's State approved FTE cap to recognize that population. This group is not eligible for any other State benefits. The current, active roster of pensionable adjuncts totals 368; at a course load

NEW JERSEY INSTITUTE OF TECHNOLOGY  
FY2022 BUDGET PRIORITY REQUESTS

equivalent to 1/8 of a full-time instructional faculty member, they would equate to an additional **46 FTEs**.

NJIT is also requesting recognition of our UCAN Teaching/Research Graduate Assistants which last year totaled 413; these doctoral students work 20 hours a week would equate to an additional **206 FTEs**. This group would only be eligible to participate in the State Health Benefits program.

Therefore NJIT requests that our state authorized FTE count be increased to 1,565, an increase of 378 above our current 1,187 FTE count.

**Summary of State Authorized FTE Budget Request**

<b><u>Priority Request</u></b>	<b><u>FTE</u></b>
NJIT Faculty & Staff	126
UCAN TA/RA Grad Assistants	206
Pensionable Adjuncts	46
<b>Total State Authorized FTE Increase</b>	<b>378</b>

**3) Need-Based Financial Aid**

There is an unmet obligation at NJIT for need-based aid for undergraduate in-state students and transfer students. These are students that require additional aid to close the gap between unmet tuition and fees after federal, state and institutional aid.

An analysis of the fall 2018 freshman class data revealed that 413 of the 1372 incoming freshmen (30%) had unmet need for tuition and fees on average totaling \$8,500. The first year retention rate for this population was five points below freshmen with remaining need less than \$500. The cost of filling the need gap for freshmen is estimated at **\$3,510K**.

Incoming transfer students face similar challenges. An analysis of the fall 2018 entering transfer class data revealed that 540 of the 905 incoming transfers (60%) had unmet need for tuition and fees on average totaling \$8,139. The one year retention rate for this population was seven points below their peers. The cost of filling the need gap for incoming transfer students is estimated at **\$4,395K**.

The earlier we are able to provide financial assistance to this population, the more impactful those dollars become in improving the likelihood of retention and ultimately graduation from NJIT with reduced student debt. With a total cost of \$7,905,135 to support freshmen and transfer students in their first and second year of studies, this program aims at

**NEW JERSEY INSTITUTE OF TECHNOLOGY  
FY2022 BUDGET PRIORITY REQUESTS**

increasing the retention rates by 5% (freshmen admits) and 7% (transfer students) with similar eventual increases in the four- and six-year graduation rates.

**Summary of Need-Based Financial Aid Budget Request**

<b><u>Priority Requests</u></b>	<b><u>Total (\$000's)</u></b>
Freshmen admitted students	\$3,510
Transfer admitted students	\$4,395
<b>Total</b>	<b>\$7,905</b>

**4) Teaching Laboratories – Rehabilitation**

Since 2011, NJIT has invested significantly in the renewal of our campus including \$87.7M in academic and academic support facilities. However, while the university has made significant progress, we have a need for renovation of teaching laboratories. Engineering and other science and technology focused disciplines offered by NJIT require experiential learning facilities, particularly in the foundational courses. Renewal of facilities to improve teaching and learning is an objective of the NJIT 2025 Strategic Plan: Building on a Strong Foundation and teaching laboratories are the focus of this request.

Teaching laboratories are rooms used for classes that require special purpose equipment to serve the needs of particular disciplines for group instruction, participation, observation, experimentation, or practice. Engineering and other science and technology focused disciplines offered by NJIT require experiential learning facilities, particularly in the foundational courses. These rooms require larger station sizes per student than traditional lecture based classrooms. Furthermore, the scheduled weekly room hour average for teaching laboratories is generally found to be less than a more efficient, lecture based classroom due to the need for preparation and takedown time after class. Conversely, these rooms have a normally higher student station occupancy as the number of enrolled students in laboratory exercise is more closely monitored.

NJIT teaching laboratories are well utilized. Based on current enrollment the quantity of teaching laboratories is sufficient, but will not accommodate any future growth. Many of the current teaching laboratories were constructed for static learning with island benches. However, modern teaching laboratories must support the flexibility of collaborative learning models. Renewal and renovation of these teaching laboratories is paramount to the recruitment and retention of the best and brightest students.

Across all disciplines, NJIT has 35 rooms categorized as teaching laboratories. While some are relatively new, such as those in the recently renovated Central King Building, thanks to the 2013 Building Our Future bond, many remain dated and beyond their useful life.

**NEW JERSEY INSTITUTE OF TECHNOLOGY  
FY2022 BUDGET PRIORITY REQUESTS**

Renovation of these highly complex laboratories can be up to four times the cost of standard classrooms, contributing to the higher cost of delivering an engineering education. Below is a summary of the teaching laboratories to be renovated and associated cost:

<b>Building</b>	<b>Quantity of labs</b>	<b>Total gross square foot</b>	<b>Cost per square foot</b>	<b>Total cost</b>
Colton Hall	5	9,315	\$725	\$6,753,375
Faculty Memorial Hall	9	17,153	\$525	\$9,005,325
Mechanical Engineering Center	3	4,180	\$525	\$2,194,500
Tieman Hall	7	13,952	\$575	\$8,022,400
Weston Hall	1	1,123	\$525	\$589,575
<b>TOTAL</b>	<b>25</b>	<b>45,723</b>		<b>\$26,565,175</b>

The total estimated cost of these renovations totaling \$26,565,175 is anticipated to be scheduled over the next five years totaling **\$5,313K** per year.

In order for NJIT to continue our pursuit of excellence and continue to produce the type of graduates that excel in the engineering fields, the laboratories need to be modernized for the education of today. NJIT proposes to perform these renovations over a 5 year period, concluding in FY2026. While NJIT would certainly prefer to renovate all labs in one phase, we must use these spaces for laboratory teaching, limiting our ability to renovate. Therefore, for year 1 of the teaching laboratory renovation, we request \$5,313K in funding to renew the physics and chemistry laboratories in Tiernan Hall.

Physics and chemistry labs are critical to the foundational courses in the first two years of many degree programs at NJIT. Funding of these critical teaching laboratory facilities will impact a significant number of first and second year students. The initial two years of the student experience in STEM education provides the “strong foundation” they will build upon throughout their career at NJIT.

STATE OF NEW JERSEY  
DEPARTMENT OF THE TREASURY  
OFFICE OF MANAGEMENT AND BUDGET  
FISCAL YEAR 2022  
PLANNING DOCUMENT BUDGET INITIATIVE FORM (BIF)  
For  
DEPARTMENT OF STATE  
NJ INSTITUTE OF TECHNOLOGY

**Title:** Engineering Cost Factors  
**Type:** Growth  
**CIC:** Potential Growth (Discretionary) ☐ Legislation ☐ Capital Request ☐ It Component  
**Space Needs:** No Effect **Rank:** 1

**Initiative Description:**

As the state looks toward the future, an engineering funding factor for higher education is necessary in order to produce the workforce and research that will grow the economy and improve quality of life in our state. Much of the diverse workforce desperately needed to serve New Jersey's key industrial sectors is educated at NJIT, and many of the students we enroll come to us from low-income households with great need of support programs in order to navigate our challenging curriculum. If New Jersey is to succeed in developing the workforce necessary to support a knowledge, innovation, and technology economy, we must provide resources that support students in the engineering disciplines as well as the colleges and universities educating those students.

**Impact**

We recommend that the Outcomes-based allocation (OBA) funding formula be modified to take into account the higher cost of providing engineering programs. Applying an engineering average cost factor estimate of 40% to this average funding level would equate to a \$545 increase per FTE above the current state FTE funding level for NJIT. Applying this \$545 increase per FTE support to NJIT's FY19 8562 FTE would increase NJIT's base appropriation by \$4,666K.

**Out-year Considerations**

We now are facing major fiscal challenges across the higher education sector. If we do not address those challenges and recognize the importance of investing in the engineering workforce that will be the foundation of our future economic strength, we risk long-term negative consequences and will deprive students from low-income and underrepresented groups of opportunities to pursue careers in high-income and high-demand fields. These are careers that transform the lives of students who often are the first in their family to attend college.

**Language**

**FY Funding**

	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>
<b>Total Fiscal Year Funding:</b>	\$0	\$4,666	\$4,666	\$4,666
<b>Change:</b>	\$4,666	\$0	\$0	\$0
<b>Total FY Budget Request:</b>	\$4,666	\$4,666	\$4,666	\$4,666

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**Title:** State Authorized FTEs

**Type:** Growth

**CIC:** Potential Growth (Discretionary) ☐ Legislation ☐ Capital Request ☐ It Component

**Space Needs:** No Effect

**Rank:** 2

**Initiative Description:**

In FY09, after a detailed review of NJIT authorized positions by NJ OMB, the State increased NJIT's State authorized FTE count to 1,246 (95% of 1,313 requested). During the FY11 State budget process, the authorized FTE count was then reduced to 1,187, a decrease of 59, or 4.7%, which it still totals today.

NJIT continues to display significant growth in enrollment, research, and operations. Total student headcount for the academic year has increased from 8,934 in FY11 to 11,651 in FY21, an increase of 30.4%. Research and associated expenses have increased from \$100.5M in FY11 to nearly \$160M by the conclusion of FY19, an increase of 59.2%. Total operations have grown from \$298 Million in FY11 to \$546.7 Million in FY21, an increase of \$248.7 million, or 83%.

**Impact**

NJIT requests that our State Authorized FTE count be increased to 1,565, an increase of 378 above our current 1,187 FTE count.

**Out-year Considerations**

Our FY22 budget request includes 126 additional faculty and staff FTEs. This is needed to provide the proper faculty and staff to support the ever growing instructional and academic needs of our student body.

NJIT is also requesting recognition of our UCAN Teaching/Research Graduate Assistants which last year totaled 413; these doctoral students work 20 hours a week would equate to an additional 206 FTEs. This group would only be eligible to participate in the State Health Benefits program.

In October 2008, the State passed a law, N.J.S.A. 18A:66-168, making it a requirement for adjunct faculty at the State's public universities eligible to participate in the Alternate Benefit Plan (ABP) pension program; however, there has been no adjustment to NJIT's State approved FTE cap to recognize that population. This group is not eligible for any other State benefits. The current, active roster of pensionable adjuncts totals 368; at a course load equivalent to 1/8 of a full-time instructional faculty member, they would equate to an additional 46 FTEs.

**Language**

**FY Funding**

	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>
<b>Total Fiscal Year Funding:</b>		\$0	\$0	\$0
<b>Change:</b>				
<b>Total FY Budget Request:</b>	\$0	\$0	\$0	\$0

**Position:**

**Saving initiative start date:**

<u>Position Type</u>	<u>Positions</u>	<u>Comments</u>
	<b>#</b>	<b>\$</b>
Increase FTE	378	\$0
<b><u>Total Positions</u></b>	378	\$0

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NJ INSTITUTE OF TECHNOLOGY

**Title:** Need-Based Financial Aid  
**Type:** Growth  
**CIC:** Potential Growth (Discretionary) ☐ Legislation ☐ Capital Request ☐ It Component  
**Space Needs:** No Effect **Rank:** 3

**Initiative Description:**

There is an unmet obligation at NJIT for need-based aid for undergraduate in-state students and transfer students. These are students that require additional aid to close the gap between unmet Tuition and Fees after Federal, State and institutional aid.

An analysis of the fall 2018 freshman class data revealed that 413 of the 1372 incoming freshmen (30%) had unmet need for tuition and fees on average totaling \$8,500. The first year retention rate for this population was five points below freshmen with remaining need less than \$500. The cost of filling the need gap for freshmen is estimated at \$3,510K.

Incoming transfer students face similar challenges. An analysis of the fall 2018 entering transfer class data revealed that 540 of the 905 incoming transfers (60%) had unmet need for tuition and fees on average totaling \$8,139. The one year retention rate for this population was seven points below their peers. The cost of filling the need gap for incoming transfer students is estimated at \$4,395K.

**Impact**

The earlier we are able to provide financial assistance to this population, the more impactful those dollars become in improving the likelihood of retention and ultimately graduation from NJIT with reduced student debt. With a total cost of \$7,905K to support freshmen and transfer students in their first and second year of studies, this program aims at increasing the retention rates by 5% (freshmen admits) and 7% (transfer students) with similar eventual increases in the four- and six-year graduation rates.

**Out-year Considerations**

The earlier we are able to provide financial assistance to this population, the more impactful those dollars become in improving the likelihood of retention and ultimately graduation from NJIT with reduced student debt. With a total cost of \$7,905K to support freshmen and transfer students in their first and second year of studies, this program aims at increasing the retention rates by 5% (freshmen admits) and 7% (transfer students) with similar eventual increases in the four- and six-year graduation rates.

**Language**

**FY Funding**

	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>
<b>Total Fiscal Year Funding:</b>	\$0	\$7,905	\$7,905	\$7,905
<b>Change:</b>	\$7,905	\$0	\$0	\$0
<b>Total FY Budget Request:</b>	\$7,905	\$7,905	\$7,905	\$7,905

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**Title:** Teaching Laboratories – Rehabilitation  
**Type:** Growth  
**CIC:** Potential Growth (Discretionary) ☐ Legislation ☐ Capital Request ☐ It Component  
**Space Needs:** No Effect **Rank:** 4

**Initiative Description:**

Teaching laboratories are rooms used for classes that require special purpose equipment to serve the needs of particular disciplines for group instruction, participation, observation, experimentation, or practice. Science, Technology, Engineering, Architecture, and Mathematic educational disciplines require these types of experiential learning, particularly in the foundational courses such as physics, chemistry, and biology.

NJIT teaching laboratories are well utilized. Based on current enrollment the quantity of teaching laboratories is sufficient, but will not accommodate any future growth. Many of the current teaching laboratories were constructed for static learning with island benches. However, modern teaching laboratories must support the flexibility of collaborative learning models. Renewal and renovation of these teaching laboratories is paramount to the recruitment and retention of the best and brightest students.

**Impact**

Across all disciplines, NJIT has 35 rooms categorized as teaching laboratories. While some are relatively new, such as those in the recently renovated Central King Building, thanks to the 2013 Building Our Future bond, many remain dated and beyond their useful life. Renovation of these highly complex laboratories can be up to four times the cost of standard classrooms, contributing to the higher cost of delivering a STEM education.

The total estimated cost of these renovations totaling \$26,565K is anticipated to be scheduled over the next five years totaling \$5,313K per year.

**Out-year Considerations**

In order for NJIT to continue our pursuit of excellence and continue to produce the type of graduates that excel in the STEM fields, the laboratories need to be modernized for the education of today. NJIT proposes to perform these renovations over a 5 year period, concluding in FY2026. While NJIT would certainly prefer to renovate all labs in one phase, we must use these spaces for laboratory teaching, limiting our ability to renovate. Therefore, for year 1 of the teaching laboratory renovation, we request \$5,313K in funding to renew the physics and chemistry laboratories in Tiernan Hall.

**Language**

**FY Funding**

	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>
<b>Total Fiscal Year Funding:</b>	\$0	\$5,313	\$5,313	\$5,313
<b>Change:</b>	\$5,313			
<b>Total FY Budget Request:</b>	\$5,313	\$5,313	\$5,313	\$5,313



## **SECTION 5**

### **CAPITAL BUDGET**

## Department Priority Summary Report- All Fund Sources

Department Priority	Project Title	Organization	Project Number	FY 2022	FY 2023	FY 2024	FY 2025 - 2028	Total
<b>75 C</b>	<b>New Jersey Institute of Technology</b>							
1	CURRENT/DEFERRED MAINTENANCE	NJIT - NEW JERSEY INSTITUTE OF TECHNOLOGY	838	\$25,000	\$25,000	\$25,000	\$25,000	\$100,000
2	THE IDEAS CENTER: INNOVATION, DESIGN, LIBRARY	NJIT - NEW JERSEY INSTITUTE OF TECHNOLOGY	1230	\$0	\$0	\$29,949	\$29,946	\$59,895
3		NJIT - NEW JERSEY INSTITUTE OF TECHNOLOGY	324	\$7,750	\$10,490	\$21,439	\$38,250	\$77,929
4	ACADEMIC BUILDING	NJIT - NEW JERSEY INSTITUTE OF TECHNOLOGY	27	\$0	\$5,000	\$50,510	\$55,511	\$111,021
5	EXPANSION OF THE LIFE SCIENCES AND ENGINEERING FACILITY EXPANSION	NJIT - NEW JERSEY INSTITUTE OF TECHNOLOGY	1253	\$0	\$0	\$5,150	\$56,635	\$61,785
6		NJIT - NEW JERSEY INSTITUTE OF TECHNOLOGY	1254	\$0	\$0	\$0	\$66,870	\$66,870
<b>Department Total</b>				\$32,750	\$40,490	\$132,048	\$272,212	\$477,500

# Capital Project Report by Org & Priority

10/28/2020

**Project Number:** 838

**Project Title:** CURRENT/DEFERRED MAINTENANCE

**Project Type:** A06

**Department:** NEW JERSEY INSTITUTE OF TECHNOLOGY

Preservation-Other

**Organization:** NJIT - NEW JERSEY INSTITUTE OF TECHNOLOGY

**Department Priority:** 1

**Facility Name:** NEW JERSEY INSTITUTE OF TECHNOLOGY

**New Project:** Yes

**Project Location:** NJIT NEWARK

## PROJECT DESCRIPTION AND JUSTIFICATION

The university has continued to extend the standard replacement lifecycle for campus facilities. NJIT has invested resources to begin the mitigation of the deferred maintenance backlog; however, the resources are limited and have been addressing the most emergent issues. Current identified backlog includes, but is not limited to, the following: Tiernan Hall (\$35M), Mechanical Engineering Center (\$9M), Cullimore Hall (\$5M), Campbell Hall (\$5M), Colton Hall (\$4M), Cypress Hall (\$12M), and Laurel Hall (\$12M).

## PROJECT ANNUAL OPERATING IMPACT (000's)

IMPACT	INCREASE	DECREASE
No	\$0	\$0

## EXPLANATION:

Cost avoidance by installing more energy efficient equipment and systems. If funds are not available, tuition rates will be increased to cover required repairs.

PROJECT PHASE		ESTIMATED COST (000's)				
CONSTRUCTION		\$100,000				
<b>Total Estimated Cost:</b>		<b>\$100,000</b>				

PRIOR YEARS' APPROP.	FUND TYPE	(000's)				TOTAL PROJECT COST
		FY-2022	FY- 2023	FY- 2024	FY 2025 - 2028	
	<i>General</i>	\$25,000	\$25,000	\$25,000	\$25,000	\$100,000
	<b>TOTALS</b>	<b>\$25,000</b>	<b>\$25,000</b>	<b>\$25,000</b>	<b>\$25,000</b>	<b>\$100,000</b>

# Capital Project Report by Org & Priority

10/28/2020

**Project Number:** 1230

**Project Title:** THE IDEAS CENTER: INNOVATION, DESIGN,

**Project Type:** E03  
Construction-Renovations and Rehabilitation

**Department:** NEW JERSEY INSTITUTE OF TECHNOLOGY

**Organization:** NJIT - NEW JERSEY INSTITUTE OF TECHNOLOGY

**Department Priority:** 2

**Facility Name:**

**New Project:** Yes

**Project Location:**

## PROJECT DESCRIPTION AND JUSTIFICATION

The project converts Tiernan Hall into an IDEAS Center and transforms the entire building. Currently, Tiernan Hall is an aging building in need of an overhaul of all mechanical and electrical systems. It also requires renovation and modernization of twelve classrooms, including a large lecture hall, and thirteen instructional laboratories (five for chemistry, four for physics, and four for chemical engineering). When complete, the building will provide state of the art homes for three departments: Chemistry and Environmental Science; Physics; Chemical, Biological, and Pharmaceutical Engineering.

## PROJECT ANNUAL OPERATING IMPACT (000's)

IMPACT	INCREASE	DECREASE
No	\$0	\$0

### EXPLANATION:

Cost avoidance due to new, modern equipment

		PROJECT PHASE		ESTIMATED COST (000's)		
		CONSTRUCTION		\$53,550		
		FURNISHING AND FIXTURES		\$6,307		
		FEES		\$6,650		
		<b>Total Estimated Cost:</b>		<b>\$66,507</b>		

PRIOR YEARS' APPROP.	FUND TYPE	(000's)				TOTAL PROJECT COST
		FY-2022	FY- 2023	FY- 2024	FY 2025 - 2028	
	<i>Bond</i>	\$0	\$0	\$29,949	\$29,946	\$59,895
	<b>TOTALS</b>	<b>\$0</b>	<b>\$0</b>	<b>\$29,949</b>	<b>\$29,946</b>	<b>\$59,895</b>

# Capital Project Report by Org & Priority

10/28/2020

**Project Number:** 324

**Project Title:** LIBRARY

**Project Type:** E03  
Construction-Renovations and Rehabilitation

**Department:** NEW JERSEY INSTITUTE OF TECHNOLOGY

**Organization:** NJIT - NEW JERSEY INSTITUTE OF TECHNOLOGY

**Department Priority:** 3

**Facility Name:** NEW JERSEY INSTITUTE OF TECHNOLOGY

**New Project:** Yes

**Project Location:** VAN HOUTEN LIBRARY - NEWARK

## PROJECT DESCRIPTION AND JUSTIFICATION

Planned renovation and expansion of existing library to create a learning commons with additional student support services and on-line/multimedia library material and access. It will provide a new learning environment including provisions for group projects utilizing current technologies. The expansion is necessary based on the increase in student population through year 2025 and is outlined in the NJIT facilities master plan.

## PROJECT ANNUAL OPERATING IMPACT (000's)

IMPACT	INCREASE	DECREASE
No	\$544	\$0

### EXPLANATION:

Additional operating and maintenance cost.

		PROJECT PHASE		ESTIMATED COST (000's)		
		CONSTRUCTION		\$57,989		
		FURNISHING AND FIXTURES		\$10,000		
		OTHER		\$1,700		
		FEES		\$8,240		
		<b>Total Estimated Cost:</b>		<b>\$77,929</b>		

PRIOR YEARS' APPROP.	FUND TYPE	(000's)				TOTAL PROJECT COST
		FY-2022	FY- 2023	FY- 2024	FY 2025 - 2028	
	<i>General</i>	\$7,750	\$10,490	\$21,439	\$38,250	\$77,929
	<b>TOTALS</b>	<b>\$7,750</b>	<b>\$10,490</b>	<b>\$21,439</b>	<b>\$38,250</b>	<b>\$77,929</b>

# Capital Project Report by Org & Priority

10/28/2020

**Project Number:** 27

**Project Title:** ACADEMIC BUILDING

**Project Type:** E04

**Department:** NEW JERSEY INSTITUTE OF TECHNOLOGY

Construction-Other

**Organization:** NJIT - NEW JERSEY INSTITUTE OF TECHNOLOGY

**Department Priority:** 4

**Facility Name:** NEW JERSEY INSTITUTE OF TECHNOLOGY

**New Project:** Yes

**Project Location:** NEWARK

## PROJECT DESCRIPTION AND JUSTIFICATION

A new multi-purpose facility, constructed to meet current and projected demand, providing much needed instructional, academic and academic support space for a growing array of disciplines and multi-disciplinary areas of activity. This facility provides for teaching and learning, including facilities for online and converged classrooms, accommodating NJIT's growth.

## PROJECT ANNUAL OPERATING IMPACT (000's)

IMPACT	INCREASE	DECREASE
Yes	\$1,480	\$0

### EXPLANATION:

Additional operating and maintenance costs.

## PROJECT PHASE

## ESTIMATED COST (000's)

CONSTRUCTION	\$111,000
FURNISHING AND FIXTURES	\$8,000
OTHER	\$2,500
FEES	\$10,250

**Total Estimated Cost: \$131,750**

## PRIOR YEARS' APPROP.

## FUND TYPE

(000's)

FY-2022

FY- 2023

FY- 2024

FY 2025 - 2028

## TOTAL PROJECT COST

**General**

\$0

\$5,000

\$50,510

\$55,511

\$111,021

**TOTALS**

**\$0**

**\$5,000**

**\$50,510**

**\$55,511**

**\$111,021**

# Capital Project Report by Org & Priority

10/28/2020

**Project Number:** 1253

**Project Title:** EXPANSION OF THE LIFE SCIENCES AND

**Project Type:** E03  
Construction-Renovations and Rehabilitation

**Department:** NEW JERSEY INSTITUTE OF TECHNOLOGY

**Organization:** NJIT - NEW JERSEY INSTITUTE OF TECHNOLOGY

**Department Priority:** 5

**Facility Name:**

**New Project:** Yes

**Project Location:**

## PROJECT DESCRIPTION AND JUSTIFICATION

The Life Sciences and Engineering Center, constructed in 2016, supports multi-discipline, collaborative research between the life sciences and engineering disciplines. The NJIT Facilities Master Plan outlines the need for space to accommodate further growth in these critical areas through 2025. The existing facility, planned for future expansion, provides for 50,000 GSF in additional space on the current site to support the critical integration of these fields.

## PROJECT ANNUAL OPERATING IMPACT (000's)

IMPACT	INCREASE	DECREASE
Yes	\$400	\$0

### EXPLANATION:

Additional operating and maintenance costs.

## PROJECT PHASE

## ESTIMATED COST (000's)

CONSTRUCTION	\$51,500
FURNISHING AND FIXTURES	\$4,635
OTHER	\$500
FEES	\$5,150
<b>Total Estimated Cost:</b>	<b>\$61,785</b>

## PRIOR YEARS' APPROP.

## FUND TYPE

(000's)

FY-2022

FY- 2023

FY- 2024

FY 2025 - 2028

## TOTAL PROJECT COST

**Bond**

\$0

\$0

\$5,150

\$56,635

\$61,785

**TOTALS**

**\$0**

**\$0**

**\$5,150**

**\$56,635**

**\$61,785**

# Capital Project Report by Org & Priority

10/28/2020

**Project Number:** 1254

**Project Title:** ENGINEERING FACILITY EXPANSION

**Project Type:** E03  
Construction-Renovations and Rehabilitation

**Department:** NEW JERSEY INSTITUTE OF TECHNOLOGY

**Organization:** NJIT - NEW JERSEY INSTITUTE OF TECHNOLOGY

**Department Priority:** 6

**Facility Name:**

**New Project:** Yes

**Project Location:**

## PROJECT DESCRIPTION AND JUSTIFICATION

The Newark College of Engineering remains NJIT's largest college providing education to half of our students in the various engineering disciplines. The Facilities Master Plan outlines a need for additional space to accommodate teaching laboratories and support spaces to serve our students. The 65,000 GSF facility will be constructed on land currently owned by NJIT and will add to the engineering complex created by Faculty Memorial Hall, Tiernan Hall, and the Electrical and Computer Engineering Center.

## PROJECT ANNUAL OPERATING IMPACT (000's)

IMPACT	INCREASE	DECREASE
Yes	\$520	\$0

### EXPLANATION:

Additional operating and maintenance costs.

## PROJECT PHASE

## ESTIMATED COST (000's)

CONSTRUCTION	\$51,500
FURNISHING AND FIXTURES	\$6,025
OTHER	\$2,650
FEES	\$6,695

**Total Estimated Cost: \$66,870**

## PRIOR YEARS' APPROP.

## FUND TYPE

(000's)

FY-2022

FY- 2023

FY- 2024

FY 2025 - 2028

## TOTAL PROJECT COST

**Bond**

\$0

\$0

\$0

\$66,870

\$66,870

**TOTALS**

**\$0**

**\$0**

**\$0**

**\$66,870**

**\$66,870**