

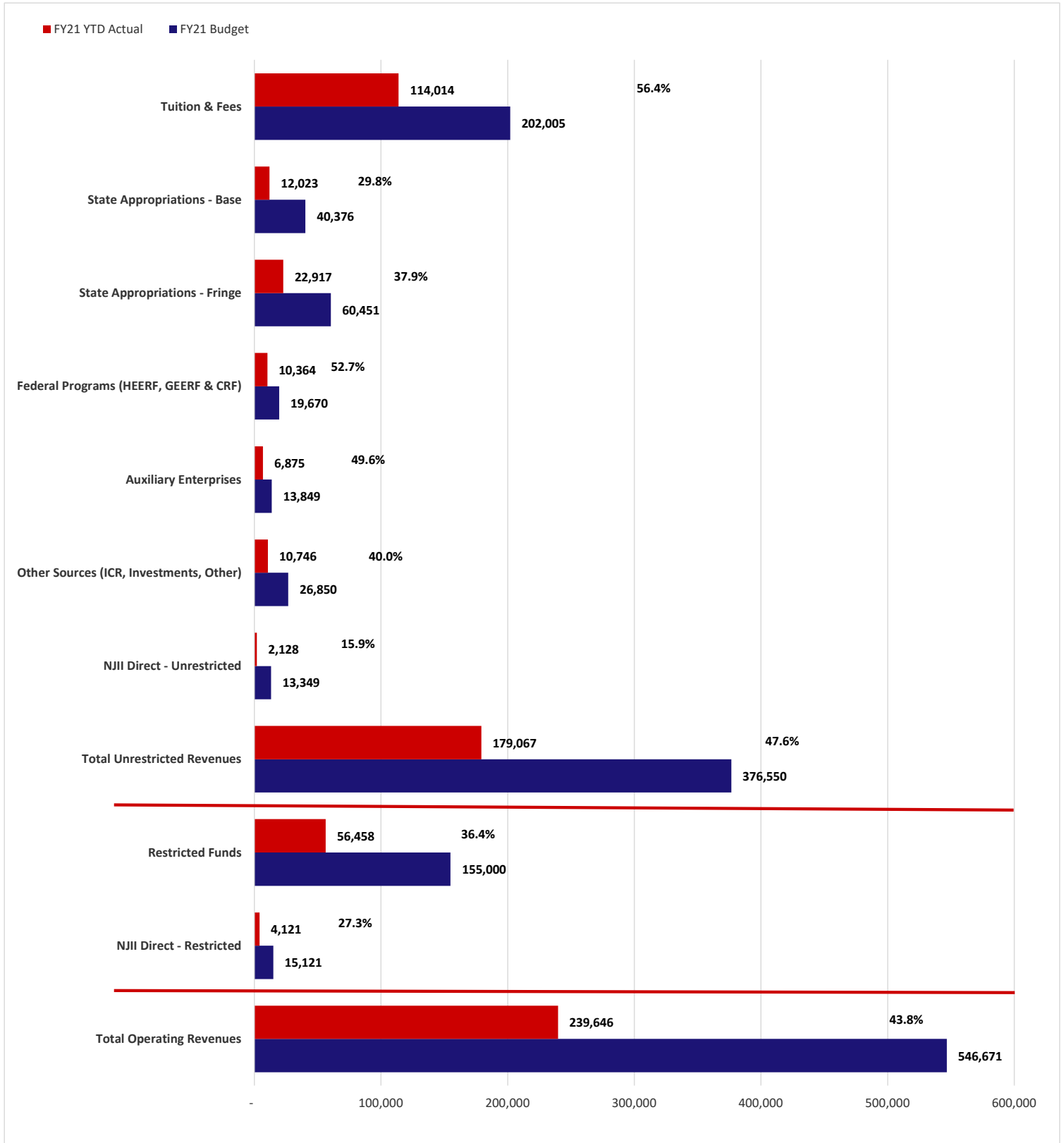
Faculty Senate Leadership Meeting
December 4, 2020
4pm - 5pm
Webex

Discussion Items:

1. FY21 Operating Budget - November Close Status
2. FY21 Mid-year Budget Review Items
3. Summary of FY22 State Budget Priorities
4. FY22 Operating Budget Development Calendar
5. Other Items?



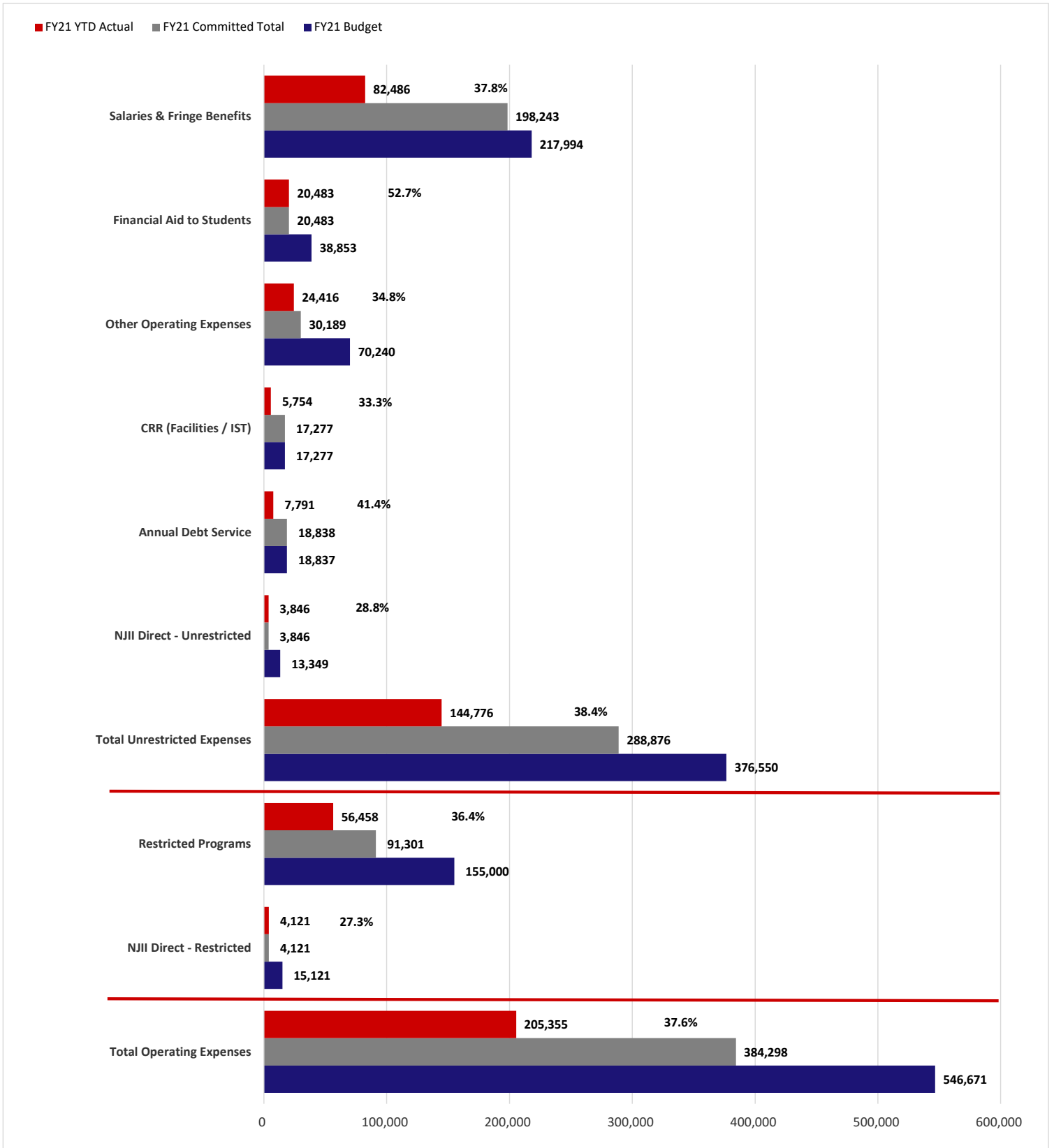
**NEW JERSEY INSTITUTE OF TECHNOLOGY
FY21 ANNUAL OPERATING BUDGET STATUS
REVENUES AS OF NOVEMBER 30, 2020
(\$000's)**



NOTE: NJII Direct Unrestricted & Restricted values provided above are only through October 31, 2020, and will be updated once available.



**NEW JERSEY INSTITUTE OF TECHNOLOGY
FY21 ANNUAL OPERATING BUDGET STATUS
EXPENSES AS OF NOVEMBER 30, 2020
(\$000's)**



(1) FY21 Committed includes YTD actual expenses, balance of FY21 current salary commitments, annual debt service payments and open purchase orders. Note that total committed personnel and annual debt service exceed their respective six-month budget as these represent full year commitments.

**FY21 Annual Budget
Impact of the CRF Allocation Change
As of 11/20/20**

(\$000's)

Revenue

	Budget Impact
CRF 2nd Installment	(5,069) ^(a)
Subtotal Revenue Impact	(5,069)

Adjustments to Rebalance Budget

FM Global Business Interruption Insurance (New \$'s)	1,000
Pandemic Contingency Reserve	1,884 ⁽¹⁾
Staff Recruitment Plan (net)	510 ⁽²⁾
Eliminate FY21 ICR Return Program	475 ⁽³⁾
Endowment Drawdown (in addition to Fall \$2.1M)	1,200 ⁽³⁾
Total Adjustments	5,069

Net Impact

-

(a) The approved FY21 budget anticipated \$7.249M, the same as the first installment received in late October. OSHE announced our final allocation in mid November totaling \$2.180M.

(1) Remaining Reserve of \$1.6M equates to 4-weeks if needed for student housing & parking refunds.

(2) Value of deferring all anticipated hires by 1-month. VP's will need to adjust recruitment plans to stay within their revised recruitment budget.

(3) If a Federal CARES Act 4 program is funded during FY21, the adjustments to the proposed reductions above would occur in the following order:

(A) Restore endowment operating budget contribution totaling \$1.2M, FY21 still uses \$2.1M (B) Restore FY21 - ICR Return Program

New Jersey Institute of Technology
FY21 Mid-Year Budget Review Items
As of 11/30/20

1. Tuition, Fees, and Academic Programs
 - a. Winter Program – Tuition & Fees
 - b. Spring enrollment projections – tuition, fees, and awards
 - c. Student Accounts Receivable and reserves for bad debt
 - d. PHD program – tuition, stipends, and awards
 - e. NJIT @ Jersey City program
 - f. EMBA Program
 - g. LIXEN BS in Financial Technology Program
 - h. NJIT Global Campus – Online programs
 - i. Adjunct Expenses
 - j. Pre-College & EOP Programs
 - k. Per Occurrence Fees
 - l. Student Senate & GSA balances

2. Research
 - a. Indirect Cost Recovery (ICR) Projection
 - b. Grant Match
 - c. Grant Receivables & reserves for bad debt

3. Other Programs
 - a. Residence Halls and Greek Village Occupancy Levels
 - b. Parking Revenues
 - c. NJIT Operations, including non-credit program activities
 - d. Federal CARES Funding – CRF Adjustment and Future potential funding
 - e. GDS Commissions (Meal Plans / Retail Food Sales / Vending)
 - f. Facility & Event Rentals
 - g. State Fringe Benefits – FICA / FTE Over the Cap
 - h. Investment Income
 - i. Vacancy List Balances – Full time personnel
 - j. Student, hourly staff and overtime usage
 - k. General Non-Personnel
 - l. Insurance programs
 - m. Debt Service
 - n. Unrestricted Giving

**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)

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

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

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FY2022 BUDGET PRIORITY REQUESTS**

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 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

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a research technology infrastructure totaling at least \$1.5 million to be on par with our R1 peers.

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

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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**.

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

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

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

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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.

Summary of Need-Based Financial Aid Budget Request

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

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.

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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:

Building	Quantity of labs	Total gross square foot	Cost per square foot	Total cost
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
TOTAL	25	45,723		\$26,565,175

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.

FY2022 Budget Development Timeline

November-December

- Preliminary Fall 2021 & Spring 2022 enrollment provided by Admissions
- Budget Office prepares:
 - Revenue assumptions and preliminary projections
 - Expense assumptions and preliminary projections including: student awards, debt service, bargaining unit contractual increases, faculty recruitment, CRR – facilities & IST funding levels

January

- FY22 Personnel Book is distributed for review by Vice Presidents
- FY22 Initial Budget Scorecard is developed
- 2025 Strategic plan funding priorities and tactics developed with Sr. Staff

February - March

- **FY22 Governor's Budget is introduced**
- Revised fall enrollment and other revenue and expense updates are incorporated into Budget scorecard

April

- FY22 Budget Status presentations are made to the Joint Session of the Strategic Planning Steering Committee & Committee on Academic Strategic Planning & Budget Priorities as well as to the University Senate Committee on Finances
- FY22 Budget Scorecard and Tuition and Fee rate scenarios are prepared
- Budget development status is reviewed with Board of Trustee Executive and Audit and Finance Committees

May-June

- Draft Operating and Capital / Technology Budget presentations are prepared
- Draft Tuition and Fee Rates prepared
- Board of Trustee Retreat on June 10, 2021- Draft materials reviewed

July

- FY22 State Appropriation is finalized
- FY22 Budget Schedules are prepared for:
 - Public Hearing scheduled for early July
 - Board of Trustee action on Thursday, July 22