NJIT
New Jersey Institute of Technology

Fiscal Year 2019

Budget Submission to the Office of Management and Budget November 2017

njit.edu

NEW JERSEY INSTITUTE OF TECHNOLOGY
FY 2019 BUDGET REQUEST

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PRESIDENT'S STATEMENT

PRESIDENT'S STATEMENT

New Jersey Institute of Technology (NJIT) respectfully submits this annual budget request in support of our efforts to provide STEM educational programs that produce the necessary workforce to serve as a catalyst for the growth of our state's knowledge economy. Aware of New Jersey's financial demands, we limit our FY 2019 budget requests to priorities that will increase STEM enrollments, support innovation and job creation, and drive economic expansion. The requested funding is summarized below:

- NJIT is requesting $7 million in equipment for the **Institute for Applied Materials Science and Engineering (IAMSE)**. The goal of the IAMSE is to accelerate the research to market pathways from academic basic and applied research to entrepreneurial technology development and to commercialization of the technology in order to meet the industry and market needs. The proposed institute will provide critical research facilities for the development of advanced materials, smart nano-engineered concrete, cement and composite materials, polymers, and nanotechnologies with fabrication of sensors, devices, and systems for applications in healthcare, biomedical, pharmaceutical, environmental, infrastructure construction, renewable/solar energy, and manufacturing areas. IAMSE will act as research engine for the technology translation and validation with pre-commercial prototypes of advanced materials, sensors, and devices for faster growth in NJ economy and STEM jobs. The new equipment will enable us to re-establish and expand NJIT's Microelectronics Fabrication Center for developing and testing micro/nano-electronic and micro-fluidic sensors, devices, and systems in the three areas of applications: healthcare, civil infrastructure, and nano-technology. IAMSE will partner with New Jersey companies in these three areas leading to job creation.

- NJIT is requesting $5 million to develop 20,000 feet of office space for the **Institute for Healthcare Delivery (IHD).** To address the continuous rise of healthcare costs extraordinary measures have been taken to curb the growth in costs by creating a nationwide infrastructure for digital medical records and health information exchange as the underpinning for new reimbursement models based on patient outcomes. NJIT has been at the forefront of these programs, leading all national centers in the number of physicians achieving meaningful use certification for electronic medical record systems, pioneering the seamless connection of public and private health information exchanges and now running a nationally recognized program helping physicians attain accountable care standards. These successes contribute to stabilizing healthcare costs, but much work remains to be done to cut costs in half in order to match the expenditures of the other industrialized nations of the world. The IHD will advance healthcare delivery systems innovation in three stages: ideation, testing and evaluation, and commercialization. This innovation ecosystem of for healthcare delivery systems, i.e., physicians, hospitals, pharmacies, medical laboratories and clinics will be without parallel.

The Institute for Applied Materials Science & Engineering and the Institute for Healthcare Delivery will form an innovation complex. This complex will serve as a beacon for

economic growth for the greater Newark area and the State of New Jersey.

- NJIT is requesting $1.5 million for IT Infrastructure and Cybersecurity Support, to provide the resources for lifecycle replacement for key components of the university's IT infrastructure, to strengthen the university's information security defenses, raise awareness of cyber security threats, and to strengthen the university's overall business continuity efforts for ensuring that IT business and technical services can be resumed within required and agreed business timescales.

- NJIT is requesting an increase of our State Authorized FTE to 1,508 and increase of 321 from our current authorized FTE of 1,187. Our FY19 budget request includes 126 additional professional staff FTEs to support and also enable NJIT to partner with industry in order to create research and development opportunities for technological solutions to our society's most pressing challenges. NJIT is also requesting recognition of our UCAN Teaching/Research Graduate Assistants which currently total 340, these doctorial students work 20 hours a week would equate to an additional 195 FTEs.

NJIT is one of 32 polytechnic universities in the United States and is New Jersey's public STEM university. We enroll more than 11,500 students annually in bachelor's, master's, and doctoral degree programs; expend approximately $140 million on research activity; and generate an economic impact of more than $1.74 billion on the State of New Jersey each year. Our academic and research programs are closely aligned with the design, computing, engineering, and life sciences clusters identified in the *State Strategic Job Growth Plan*, which clearly recognizes the need to bring technology and the sciences to bear on in ways that will improve quality of life and spur economic growth. The *Wall Street Journal* noted that the United States has 1.3 million vacant jobs in STEM fields annually and only 600,000 new graduates within those disciplines. NJIT excels in meeting this growing demand, and our *2020 Vision* strategic plan calls for both enrollment growth and the expansion of economic development opportunities.

Restoration of State authorized FTE positions as well as the targeted addition of new positions, in addition to the Innovation Institute for Healthcare Delivery, Material Science, Engineering and Technology Complex, and IT infrastructure and cybersecurity support will enable NJIT to effectively serve a growing student population, provide New Jersey industries with the STEM-trained employees they need now and in the years to come, and partner with industry in order to create research and development opportunities for technological solutions to our society's most pressing challenges. Below are recent examples of NJIT's success in accomplishing these goals, which we seek to expand with adequate state support:

- Workforce Development
    - NJIT students are in demand, graduating with nearly three job offers in hand and starting salaries that exceed national averages by almost 20 percent.
    - NJIT is attracting talented students who will be the future backbone of our state's economy; those enrolled in Fall 2017 have a combined SAT verbal/math average of 1285 out of 1600, and those enrolled in the Albert Dorman Honors College scored 1460 out of 1600.

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- **NJIT and IBM** recently announced a first-of-kind collaboration to deliver digital technologies and education through the university's Martin Tuchman School of Management (MTSM) and its Business Analytics Lab. The initial phase of this agreement will center around the integration of IBM technologies into current MTSM offerings focusing on the following areas: 1) Data Science: Business Intelligence Analyst and Predictive Analytics Modeler; and 2) Business Process: Business Process Analyst. Students participating in these courses, boot camps, and workshops will have the opportunity to earn industry-recognized digital badges and IBM technology certifications in addition to normal class credit. This certification and micro-credentialing will be a significant differentiator and competitive advantage to the students during their job search process and throughout their careers.
- NJIT is the lead institution for the NJ DoLWD **Advanced Manufacturing Talent Network** as well as the NJ DoLWD **Technology & Entrepreneurship Talent Network.**
- NJIT was awarded a **$5 million grant by the US Labor Department H1-B Technical Skills Training Program** to create a technical skills training program for the City of Newark and Bergen, Essex, Passaic, Morris and Hudson counties.
- NJIT has provided **corporate training** and professional development programs for more than 76,500 employees and residents at 665 New Jersey companies since 1990.
- **Makerspace** at NJIT, scheduled to open in 2018, will enable hands-on, project-based learning complemented by training on industrial equipment, development of prototyping skills and experience with modern manufacturing technology. Students learn real world, tangible skills that prepare them to enter the workplace and take leading roles in manufacturing and product development. The Makerspace will also be available to NJIT's industry partners and incubator companies.
- NJIT's Educational Opportunity Program educates and graduates more than a hundred minority engineers each year, creating opportunities for New Jersey businesses to diversify their workforce. NJIT's graduation rate of EOP students for the STEM majors exceeds the national average and **ranks NJIT among the top universities graduating minority engineers in the nation.**
- Our Center for Pre-College Programs build New Jersey's STEM pipeline by annually working with **4,000 pre-college students** who are predominantly underrepresented females and minorities from the greater Newark area and northern New Jersey. The vast majority of these students would not be inclined toward STEM disciplines if not for the "fun" STEM experiences they have during the summer on our campus or the help that they receive from NJIT after school during the academic year.

- Research, Innovation, and Economic Development
  - **New Jersey Innovation Institute (NJII)** was incorporated to serve as the focal point for NJIT's technology and economic development initiatives. NJII serves the state's key industrial sectors through product and process innovation, technology

development and business partnership formation. It is organized around i-Labs that overlay the State's target industrial clusters: Healthcare Systems, Biotechnology and Pharmaceutical Production, Defense & Homeland Security, Civil Infrastructure and Financial Services. Since its inception, NJII has secured multi-million dollar contracts with the Department of Defense, JP Morgan Chase, Osler Health IPA, and has funded corporate support from Panasonic, AECOM, Berger International, Cisco, and Torcon.

- NJIT is **home to the largest technology and life science incubator in the State**. The Enterprise Development Center (EDC) helps start-up and expansion companies commercialize and grow their innovative ideas by providing office and lab space, access to scientific and technological equipment, financial guidance and extensive technical/coaching advisory services, ultimately creating businesses that generate jobs and bolster the state's economy. The EDC has been launching and growing businesses since 1988 and today averages approximately 95 companies per month in the Center. EDC portfolio companies typically create as many as 800 jobs, employing as many as 335 students in a given year. These companies have attracted more than $80 million in third-party funding and had revenues surpassing $67 million.
- NJIT's faculty-led research and its business incubation have produced significant results. This past year, NJIT's **research was approximately $140 million** and, thus far, NJIT has been issued more than 200 patents, a significant portion of which have been licensed to 3rd parties. This level of research expenditure ranks **NJIT in the top 10 nationally among universities whose research is principally in engineering.**
- During Summer 2017, NJIT and Hackensack Meridian Health cut the ribbon at the official opening of the New Jersey Innovation Institute's Agile Strategies Lab as part of its Ideation Program for Healthcare. The lab will host a cutting-edge innovation and incubation program designed to help create and launch the next wave of innovative problem-solving in healthcare technology, products and services.
- In Spring 2017, NJIT launched the Institute for Brain and Neuroscience Research (IBNR), co-directed by Professors Namas Chandra and Farzan Nadim. This initiative brings together NJIT researchers to increase basic understanding of the brain that will lead to new healing therapies for injuries and diseases. The IBNR will serve as an organizing framework for collaborative research and training in areas ranging from brain injury, neural engineering, neurobiology to computational neuroscience.
- In recent years NJIT has placed in the **top 20 nationally for industrial contract dollars** per federal research dollar and fourth in the country for disclosures per dollar of federally sponsored research, the only New Jersey University in the top 20 for either designation.
- A recent **$49.6 million federal grant** awarded to New Jersey Innovation Institute (NJII), an NJIT Corporation, to help transform primary care delivery through technology

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- A $2.9 million grant from the Office of the National Coordinator for Health Information Technology will help the Department of Health ensure the sharing of quality data through its New Jersey Health Information Network (NJHIN).
- NJII is leading the deployment of the Highlander Health Data Network. One of four regional health information exchanges coordinated by NJDHSS, the system provides live **patient data exchange across 7 area hospitals and is connecting over 3,000 physicians**, all area clinical labs and pharmacies to achieve new efficiencies in coordinated patient care. Newark alone has reported avoidable hospitalization costs in excess of $250M per year.
- The North Jersey Transportation Planning Authority (NJTPA) is the federally authorized Metropolitan Planning Organization for the 13-county northern New Jersey region. NJTPA is hosted and staffed by NJIT. The NJTPA serves a region of approximately 6.5 million people, making it the fifth most populous MPO region in the nation. Each year, NJTPA oversees over $2 billion in transportation improvement projects and provides a forum for interagency cooperation and public input.
- NJIT serves as the New Jersey Homeland Security Technology Systems Center. NJIT is working with US Army ARDEC and the New Jersey Business Force to implement a private sector emergency management crisis center that will connect the state response unit to resources in the private sector.
- A joint team from **Kessler Foundation and New Jersey Institute of Technology** is developing new applications for **wearable robotic exoskeleton** devices with a $5 million federal grant from the National Institute on Disability, Independent Living and Rehabilitation Research. The two institutions are working together on the next generation of robotic exoskeletons to improve mobility and enable safer, more independent functioning for people with spinal cord injuries, Duchenne Muscular Dystrophy and stroke. The team, which includes NJIT professors Richard Foulds and Sergei Adamovich, also will evaluate the efficacy of existing robots for restoring and expanding mobility to upper and lower extremities.
- Professor Michel Boufadel carries out assessment and remediation studies of pollution in natural settings and evaluates natural resources for potential production of energy, especially the production of renewable energy.
- **MarketShift** is a $6 million program funded by the U.S. Department of Defense's Office of Economic Adjustment to create a series of cross-cutting functions that serve to strengthen and grow the ecosystem of existing and future **defense suppliers** into new markets with new strategies and new products.
- The NJIT Highlanders Angel Network, Inc., an independent non-profit corporation, provides investment capital, mentoring, and access to a network of resources for EDC companies and NJIT student/faculty start-ups and spin outs.
- NJIT's Procurement Technical Assistance Center provides small, minority and women-owned businesses with assistance in procuring government contracts. Since its inception in 1986, New Jersey businesses have received more than $2.62 billion in government prime and subcontract awards as a direct result of the assistance provided by the Center. This translates into 78,594 jobs created or saved.

- NJIT hosts the Polymer Processing Institute, Inc. (PPI) as an affiliate of NJII. PPI works with its industrial partners to develop high performance materials and products that, among other successes, have led to new production technologies that helped to secure Picatinny Arsenal's place against closure in the recent round of Defense Department cutbacks. That same technology base is now being extended to assist the state's pharmaceutical industry.
- NJIT-created New Jersey Manufacturing Extension Program (NJMEP) helps New Jersey's small and medium-sized manufacturers become more productive. NJMEP services have resulted in nearly $200 million in cost savings, new or retained sales and 3,000 jobs created or retained.
- NJIT's Center for Manufacturing Systems helps small and mid-sized companies solve manufacturing and design projects with a range of services that includes computer-assisted design, prototype development and better manufacturing processing techniques.
- With funding from the China South Rail ZhuZhou Electric Locomotive Research Institute, NJIT launched a new initiative, the Laboratory for Rail System Network and Information Technologies. Working with the corporate lead responsible for deploying a China-wide system of ultra-high speed bullet trains, the Laboratory's researchers will examine technology platforms that serve every need for passenger amenities to train and rail system controls using modern high-speed wireless networks and advanced sensor technology. The outcomes will apply to **modernizing U.S. rail systems.**
- NJIT biomedical researchers have perfected breakthrough technology for **brain shunts** used to relieve the excessive cerebrospinal fluid pressure resulting from injury, aging and congenital conditions like spina-bifida.
- NJIT researchers are developing novel pharmaceutical manufacturing technologies in collaboration with the state's leading firms. The National Science Foundation funded Engineering Research Center for Structure Organic Particulate System (C-SOPS) brings together a cross-disciplinary team of engineers and scientists as well as industry leaders to improve the way pharmaceuticals, foods and agriculture products are manufactured.
- Louis Lanzerotti, a distinguished research professor of physics best known for shedding light on the space environment around Earth and its impact on hardware in space and critical infrastructure on the ground, received the 2017 Arthur M. Bueche Award from the National Academy of Engineering (NAE) for his "extraordinary impact on the engineering profession."

- Infrastructure and Human Resources
  - With support from the State of New Jersey, NJIT will launch a Makerspace in 2018. Makerspaces are a significant educational, research and economic development tool, and the **NJIT Makerspace will be the largest one serving the State of New Jersey.** Makerspaces enable hands-on, project-based learning complemented by training on industrial equipment, development of prototyping skills and experience with modern manufacturing technology. Students learn real world, tangible skills that prepare them to enter the workplace and take leading roles in

manufacturing and product development. The Makerspace will also be available to NJIT's industry partners and incubator companies.

- NJIT opened the magnificently renovated Central King Building (CKB), which is home to the writing center, the math emporium, and student interaction areas. The building's former gymnasium was converted into a new home for New Jersey Innovation Institute (NJII) i-Labs that serve NJIT's partnership with business and industry.
- NJIT's new Life Sciences and Engineering Center, a $21 million state-of-the-art research facility focused on the future of healthcare, opened this Fall. The four-story facility, which houses more than 20,000 square feet of shared laboratories and meeting spaces, IT infrastructure and cutting-edge scientific instrumentation, is designed to promote collaboration in fields ranging from biomedical engineering and the biological sciences to electrical engineering and healthcare technologies.
- NJIT has established a Strategic Hiring Plan for faculty with expertise in three emerging thematic education and research areas of sustainability, information everywhere and the convergence of engineering, technology and the life sciences. These hires reflect critically important interdisciplinary growth areas.

External Validation of NJIT's Efforts

- NJIT received an exceptionally positive response to its Periodic Review Report for Middle States accreditation. The reviewers stated, "It is clear that the New Jersey Institute of Technology is an ambitious and results-oriented community....it has tight processes that ensure enviable success in key areas of endeavor, including student learning, scholarly research, and community impact."
- *The New York Times* reported on a study of "America's Great Working-Class Colleges" by the Equality of Opportunity Project, which ranked NJIT #1 in the nation for the upward economic mobility realized by its graduates. The study determined that NJIT ranks #1 nationally for the upward economic mobility of its students whose family income falls within the lowest quintile.
- NJIT was recognized by *Money* magazine as one of the "Best Colleges for Your Money" and for having the top upward economic mobility rate for students in New Jersey.
- U.S News & World Report's 2018 Best Colleges rankings tabbed NJIT #32 in the nation for "Best Value."
- NJIT's Albert Dorman Honors College was ranked among the top 10 honors colleges and programs in the United States in the new book, *INSIDE HONORS: Ratings and Reviews of Sixty Public University Honors Programs*, published by Public University Press. Inclusion was based on curricular requirements, co-curricular requirements, class size, SAT scores, GPA, merit scholarships, prestigious fellowships, honors housing and more. The Dorman Honors College received the highest possible ranking of 5.0.
- The 2016-2017 PayScale College Salary Report rated NJIT first in New Jersey and tied for 16th among public universities for salary potential with a bachelor's degree.
- Money.com released "11 Public Colleges Where Grads Make Six Figures" within 15 years of graduation without having to attend graduate school, which included NJIT.

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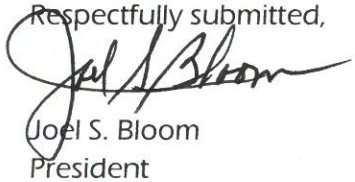
- NJIT was named by Payscale.com as one of 15 colleges that pay for themselves if you want to work in business and by the *Princeton Review* as among America's "Best Colleges" for 2018.

Building Upon Success

NJIT serves a critically important role as New Jersey's public STEM university and has established a record of uncommon success in responding to our state's economic and workforce development needs throughout the years. We seek to build upon our university's past and present accomplishments and, provided the necessary support from the State, we are poised to substantially expand our impact on both New Jersey's economy and the quality of life enjoyed by its citizenry. Accomplishing those goals, though, will require financial support. A recent study of the University of Florida system examined the cost of education for a broad array of academic majors and, to no one's surprise, determined that educating engineers is far and away the most expensive endeavor for colleges and universities. Students in the physical sciences and health sciences followed, in terms of cost of education. The same study demonstrated that the return on investment for students as measured by earnings is greatest in engineering, computer science, business, and health sciences. These are precisely the students whom NJIT is educating, and they are the future leaders of New Jersey's most critical industries. NJIT has repeatedly demonstrated its expertise in preparing students in the fields of science, technology, engineering, mathematics, architecture, design, and management, among other disciplines. Maintaining affordability while producing graduates who fill vital state and regional needs is our university's primary goal. NJIT is committed to leading in economic development and job creation through hands-on education, applied research, innovation, entrepreneurship and business incubation. Therefore, I encourage you to invest in NJIT's budget requests for
FY 2019.

Respectfully submitted,



Joel S. Bloom
President

SECTION 2

EVALUATION DATA/ENROLLMENT/ ORGANIZATION CHART

NEW JERSEY INSTITUTE OF TECHNOLOGY
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EVALUATION DATA

PROGRAM DATA	Actual FY2016	Actual FY2017	Orginal FY 2018	Revised FY 2018	Budget Request FY 2019
Institutional Support					
Enrollment total (headcount)	14,488	14,517	14,870	14,764	14,803
Enrollment total FTE's (a)	9,691	9,779	9,881	9,812	9,937
Undergraduate total (headcount)	8,008	8,293	8,377	8,550	8,748
Undergraduate total FTE's (a)	6,539	6,868	6,913	7,064	7,234
Full-time (headcount)	6,178	6,591	6,617	6,766	6,923
Full-time FTE's (a)	5,886	6,282	6,307	6,450	6,598
Part-time (headcount)	1,830	1,702	1,760	1,784	1,825
Part-time FTE's (a)	653	586	606	614	636
Graduate total (headcount)	3,317	3,153	3,258	3,001	2,855
Graduate total FTE's (a)	2,132	1,924	1,983	1,814	1,772
Full-time (headcount)	2,055	1,873	1,922	1,830	1,741
Full-time FTE's (a)	1,652	1,436	1,474	1,377	1,350
Part-time (headcount)	1,262	1,280	1,336	1,171	1,114
Part-time FTE's (a)	480	488	509	437	422
Extension and Public Service					
Enrollment (headcount) (a)	3,163	3,071	3,235	3,213	3,200
Enrollment total FTE's (a)	1,020	987	985	934	931
Undergraduate (headcount)	2,439	2,293	2,500	2,510	2,500
Undergraduate FTE's (a)	758	720	727	702	700
Graduate (headcount)	724	778	735	703	700
Graduate FTE's (a)	262	267	258	232	231
Degree programs offered - All	129	130	130	130	130
Courses Offered - Academic Year	3,736	3,871	3,920	3,929	3,939
Student credit hours produced	267,958	269,263	275,864	272,212	272,931
Degrees and Certificates					
Granted - Total	2,682	2,852	2,763	2,896	2,900
Ratio: Student/faculty (b)	17/1	17/1	17/1	17/1	17/1
Full-time, First-Time, Degree-Seeking Freshmen who are Regular Admission Students	1,000	1,097	1,110	1,132	1,150
Average SAT Score - Math	637	640	641	659	659
Average SAT Score - Reading	576	578	579	626	626
Average SAT Score - Math & Reading '(e)	1,213	1,218	1,220	1,285	1,285
Average SAT Score - Writing	567	567	567		
Outcomes Data (c)					
Third Semester Retention Rates	88.0	88.0	89.0	89.0	89.0
Seven Year Graduation Rates	62.0	64.0	64.0	65.0	65.0
Student Tuition and Fees					
Total Cost of Attendance (d)	34,708	35,130	35,130	35,498	35,498
Full-Time Undergraduate Tuition State Residents	13,434	13,602	13,602	13,906	13,906
Full-Time Undergraduate Tuition Non - State Residents	27,652	28,206	28,206	28,926	28,926
Full-Time Undergraduate Fees	2,674	2,828	2,828	2,992	2,992
Operating Data					
Institutional Support					
Institutional Expenditures					
Instruction	114,446,000	118,745,000		126,014,000	
Sponsored programs and research	71,428,000	80,326,000		85,243,000	
Extension and public service	2,077,000	2,022,000		2,146,000	
Academic support	30,438,000	31,328,000		33,246,000	
Student services	24,866,000	25,837,000		27,419,000	
Institutional support	52,346,000	56,990,000		60,479,000	
Physical plant and support services	20,367,000	25,155,000		26,695,000	
Personnel Data					
Position Data					
State-funded positions	1,187	1,187		1,187	

(a) Equated on the basis of 32 equivalant credit hours per undergraduate student and 24 equivalant 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 FY18 and FY19 reflect the new format, FY16 and FY17 show the old format.

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ENROLLMENT NARRATIVE

In order for the economy in New Jersey to flourish and create jobs, a vibrant, highly qualified workforce is necessary to meet the needs of business and industry. Despite a national and regional decline in those intending to major in science and technology fields, NJIT is providing the state with a steadily increasing number of highly skilled graduates in engineering, computer science, information technology, mathematics, chemistry, physics, biology, architecture and management.

Robust undergraduate enrollment trends indicate that initiatives designed to enlarge the applicant pool have been successful in attracting a greater number of highly qualified students seeking to enroll at NJIT. The increased enrollment is attributable to new program offerings and our solid reputation for academics. Total enrollment for Fall 2017, including undergraduate and graduate students reached 11,551, which is an all-time high for NJIT. Our efforts with student success have resulted in higher graduation numbers over the past six years (from 54% to 64%).Our rigorous curriculum, in conjunction with internships, co-operative programs and a student culture that places a high value on academic achievement, has had remarkable results.

Annually, Career Development Services produces an employment and graduate school report for the entire graduating class. For the Class of 2017, data collection began as early as fall 2016 as employment offers were submitted and is still ongoing. Currently, Career Development Services has knowledge of the plans of over 1,500 of our 2017 graduates, representing an increase of nearly 35% from last year. In line with our results from last year, 75% of our baccalaureate degree recipients and 55% of our master's graduates have secured employment or full-time continuing education within 3 months of graduation.

The class of 2017 continued to fill the pipeline that has earned NJIT top spots in the U.S. for students' return on their tuition investment. The combined average starting salary for all NJIT BS/BA graduates of $60,440 continues to exceed those of all 2017 U.S. graduates by 20%. NJIT graduates on average earn starting salaries that are $10,000 more than the BS graduates nationwide.

Among the highest paid majors this year are chemical, electrical, and industrial engineering; computer technology; and mathematical sciences. Each reported starting salaries that exceeded $67,000. Our Computer Science ($63,314) and Business Management ($62,428) starting salaries were also well above the national averages. NJIT master's degree recipients also fared extremely well with the average starting salaries for 10 different majors exceeding $70,000, including 34 MSCS graduates averaging over $90,000 per year.

May 2017 graduates who reported that they had obtained full time employment were asked to indicate the source of how they found their positions. Fifty percent (50.5%) of the 533 undergraduate respondents and 35.9% of the 289 graduate student respondents reported that they found full time employment through their participation in one or more NJIT Career Development Services administered programs. It is for results such as these that NJIT was named by MONEY Magazine this year as one of the top 10 colleges in the nation with great career services. NJIT ranked fourth among public institutions, with a

ENROLLMENT NARRATIVE

strong combination of a well-staffed career center and young alumni who go on to earn higher-than-average early salaries.

Career Development Services arranged for 513 organizations to conduct on-campus recruitment through our career fairs and on-campus interview programs. The fall and spring career fairs filled to capacity with 200 employers each and over 5,100 students. Our on-campus interview programs increased this year as well. Over 170 employers held over 2,400 interviews for more than 1,000 students. Eight-seven (87%) of the employers rated NJIT students' interview preparation as excellent or good. More than 29,000 technology full time, co-op, and internship job listings were posted to the CDS electronic database, an increase of 3,500 from last year. Moreover, nearly 58,000 student and alumni resumes were referred to employers.

Cooperative education and internship learning experiences provided credit-bearing hands-on real world opportunities and exposure to industry for 873 undergraduate and graduate students. Moreover, our student co-ops' and interns' earnings exceeded $6.8 million this year. The companies involved in these NJIT programs employ approximately 60% of these students after they graduate.

Top New Jersey based employers of our students and graduates this year include AT&T, Johnson & Johnson, L'Oréal, Optum, ADP, Prudential, PSEG, TATA, Turner Construction, Mott MacDonald, Cognizant, NJ Transit and UPS.

While increasing the number of graduates entering our workforce is paramount to meet business and industry demands, we must not only enroll but also graduate as many students as possible. Increasing the number of students who graduate is therefore as critical to workforce demand as is recruitment. In order to achieve our goal of graduating each and every student we enroll, we must provide the infrastructure and support necessary to do so. If we continue to grow our enrollment at the present rate, we will soon reach capacity to deliver quality instruction and essential services, both in facilities and personnel. Indeed, we have already reached capacity in a number of science and engineering fields. Our laboratories, technology and learning facilities must provide 21st century experiences for our students for them to be competitive, nay superior, to those of other states.

We will, of course, continue our efforts to recruit highly qualified students on all levels, but will especially seek to recruit additional graduate students and set more modest, manageable goals for the recruitment of first year students by selecting those who are better prepared for the rigors of the challenging curriculum. We will focus our efforts on growing our undergraduate enrollment through retention and persistence, leading more to graduate. As such, we are engaging in vigorous and intentional efforts to graduate as many continuing students as possible.

Highlights of retention efforts that have been initiated or expanded in the current year:

- The Learning Communities initiative involves twenty-one (21) discipline-focused student cohorts, each of which include linked courses, organized to foster and encourage collaboration. While the program initially aims to address students'

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transitional needs, the over-arching goal is much greater. By way of active and collaborative learning students will harness a greater understanding of their major and recognize the daily functions associated with their career aspirations.

- Through the instrumental support of upper classmen, better known as Peer Mentors, students gain the necessary confidence to express themselves actively in the campus community and throughout various professional networks. Peer Mentors are dynamic members on campus who are readily available to provide resourceful insight, based on their personal experience. They connect first year students with a variety of services, while highly encouraging them to network throughout NJIT.

- Revising institutional procedures, practices and policies to make our procedures more student friendly, enhancing student satisfaction.

- Focusing more support to students who need academic support through tutoring centers in departments, with The Learning Center offering supplemental instruction in certain math classrooms and assistance with improving learning strategies.
- Engaging students by increasing the number of clubs and organizations.

- Continuing to expand the number of activities and events on campus, including adding Signature Events to this year's mix of activities to build community.
- Enriching the new student orientation programs to encourage incoming students to participate in high-impact educational activities, such as undergraduate research, internships and co-ops, and study abroad opportunities. The program is further enhanced by including sessions tailored to supporting specific populations, including first-generation college students, women in STEM, and military veterans.

- Creating a Highlander Handbook to serve as a convenient reference for all students to know their campus resources, summarize policies and procedures, and familiarize themselves with NJIT and the surrounding community.

- Implementing the Student Success Collaborative web platform to maximize retention and increase tracking of student touchpoints and academic risk through student demographic profiles, advisement, tutoring, and faculty feedback.

Highlights of the recruitment efforts that have been initiated or expanded in the current year:

- Enhanced and expanded on-campus and online Open House events for prospective undergraduate students and their parents as well as prospective graduate students.
- Attended recruiting events at over 500 high schools throughout New Jersey and the region.
- Refined our competitive scholarship program to attract highly qualified students and added funds to expand scholarship programs to transfer students as well as added assistance to those students approaching graduation but are in need of financial help to complete their studies.

NEW JERSEY INSTITUTE OF TECHNOLOGY
FY 2019 BUDGET REQUEST

ENROLLMENT NARRATIVE

- Increased enrollment opportunities in the Albert Dorman Honors College.
- Expanded on-line degree programs and offerings.
- Added the PhD in Business Data Science and MS in Data Science to the graduate program inventory.
- Our total anticipated Pre-College enrollment for FY18 is 3,233 students including Academy, Options, Early College Preparatory Programs, ExxonMobil Bernard Harris Summer Science Camp, Talent Search, Upward Bound I, Upward Bound II, Upward Bound for English Language Learners, NJ GEAR UP, Panasonic Creative Design Challenge, NJIT Regional NJ Science Olympiad, TSA/TEAMS Competition and REAP.
- Continuing collaboration with NJ community colleges to increase transfer enrollment.
- Expanded the BS/MS programs with four-year institutions.
- Increased the number of applicants and enrollment of women in our undergraduate and graduate programs.
- Continued partnerships with the National Action Council for Minorities in Engineering, corporate and other science association programs to boost minority enrollments, NSF CUNY MAGNET Alliance, New Jersey Minority action Careers Program, Project 1000 and the GEM Program.

All of these efforts have contributed significantly to NJIT's appreciating national reputation for providing a quality education to those seeking careers in science, technology, engineering and mathematics. NJIT will continue to provide an increasing number of highly qualified graduates to serve New Jersey businesses and industry in the years to come.

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Senior Asst. to President Ms. Mary Jane Pohero

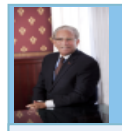
University Senate

Student Senate

Graduate Student Association

Provost and Senior Executive Vice President
Dr. Fadi Deek

Faculty Senate



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Provost and Senior Executive Vice President

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Dr. Moshe Kam

Dean, College of Architecture & Design (Interim)

Prof. Anthony Schuman

Dean, College of Science & Liberal Arts

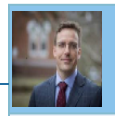
Dr. Kevin Belfield

Dean, Ying Wu College of Computing

Dr. Craig Gotsman

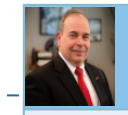
Dean, Martin Tuchman School of Management

Dr. Reggie Caudill



Dean, Albert Dorman Honor's College

Dr. Louis I. Hamilton



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Ms. Holly Stern, Esq.

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Dr. Kam

Dean, College of Architecture & Design (Interim)

Prof. Schuman

Dean, College of Science & Liberal Arts

Dr. Belfield

Dean, Ying Wu College of Computing

Dr. Gotsman

Dean, Martin Tuchman School of Management

Dr. Caudill

Dean, Albert Dorman Honors College

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Senior Vice Provost, Academic Affairs & Student Services

Dr. Baltzis

Senior Vice Provost, Research

Dr. Dhawan

Vice Provost, Graduate Studies

Dr. Ziavras

Vice Provost, Undergraduate Studies

Dr. Simon

Assoc. Provost, Info. Services & Tech/CIO

Mr. Ullman

Assoc. Vice President, Continuing Prof Education

Dr. Spak

University Librarian

Ms. Hoang

Executive Director, Office of Institutional Effectiveness

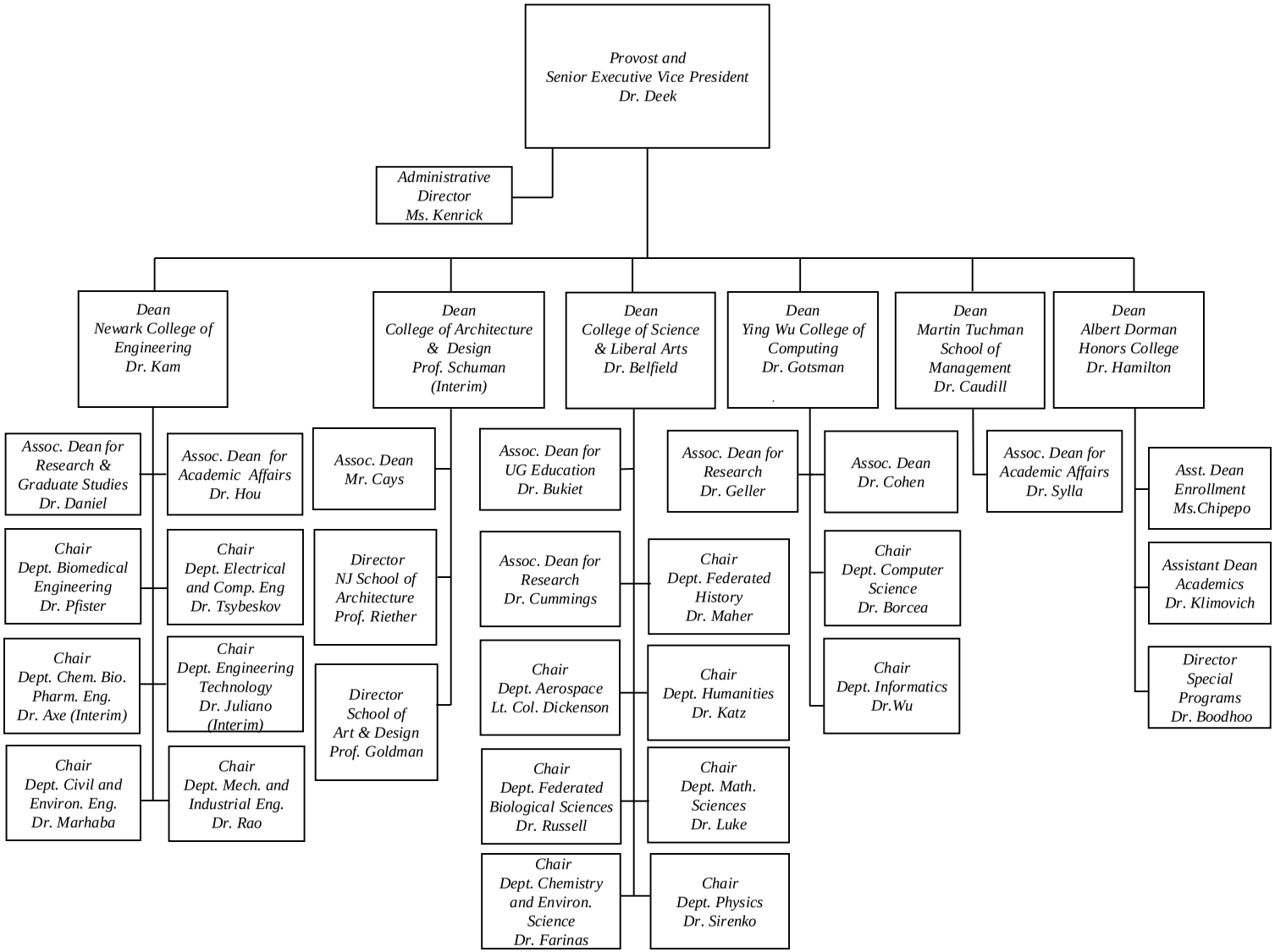
Dr. Brooks

Director, Planning & Accreditation

Dr. Deess

Director, Murray Center & Univ Fac. Diversity Liaison

Dr. Steffen


Provost and
Senior Executive Vice President
Dr. Deek
Administrative
Director
Ms. Kenrick
Dean
Newark College of
Engineering
Dr. Kam
Dean
College of Architecture
& Design
Prof. Schuman
(Interim)
Dean
College of Science
& Liberal Arts
Dr. Belfield
Dean
Ying Wu College of
Computing
Dr. Gotsman
Dean
Martin Tuchman
School of
Management
Dr. Caudill
Dean
Albert Dorman
Honors College
Dr. Hamilton
Assoc. Dean for
Research &
Graduate Studies
Dr. Daniel
Assoc. Dean for
Academic Affairs
Dr. Hou
Assoc. Dean
Mr. Cays
Assoc. Dean for
UG Education
Dr. Bukiet
Assoc. Dean for
Research
Dr. Geller
Assoc. Dean
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Engineering
Dr. Pfister
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Dept. Electrical
and Comp. Eng
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Pharm. Eng.
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Technology
Dr. Juliano
(Interim)
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Art & Design
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Environ. Eng.
Dr. Marhaba
Chair
Dept. Mech. and
Industrial Eng.
Dr. Rao
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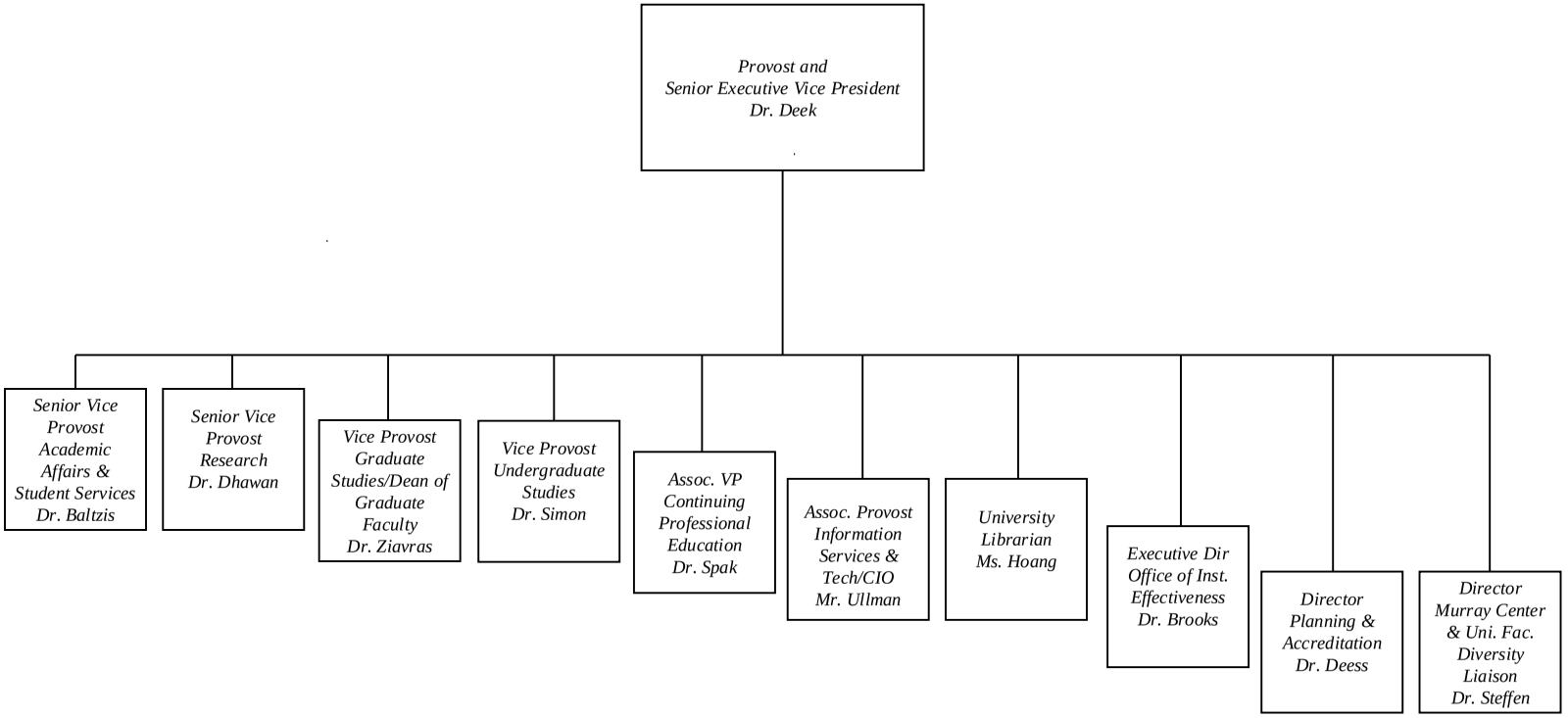
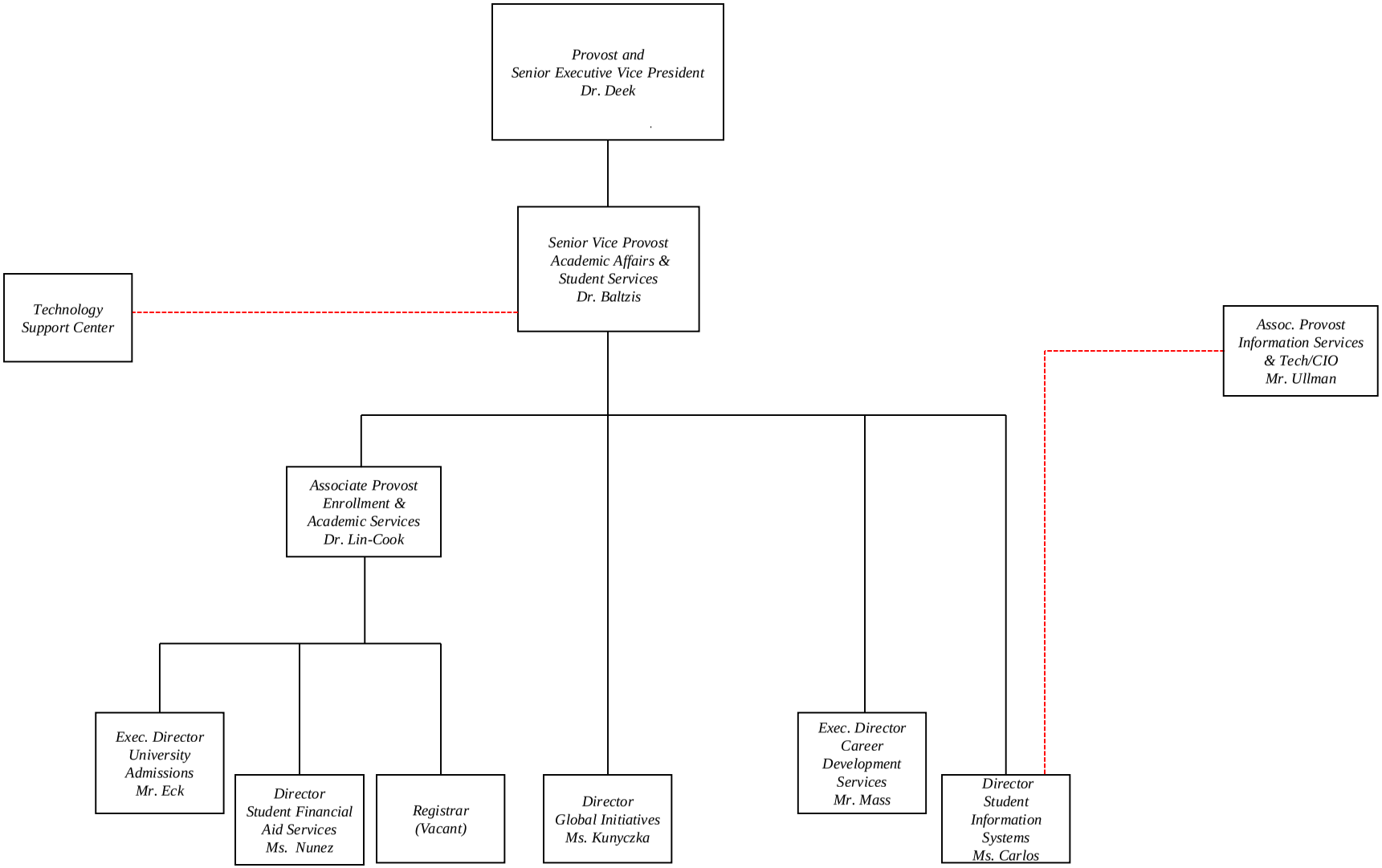
Dept. Federated
Biological Sciences
Dr. Russell
Chair
Dept. Math.
Sciences
Dr. Luke
Chair
Dept. Chemistry
and Environ.
Science
Dr. Farinas
Chair
Dept. Physics
Dr. Sirenko

PROVOST & SENIOR EXECUTIVE VP-Administrative

Fall 2017

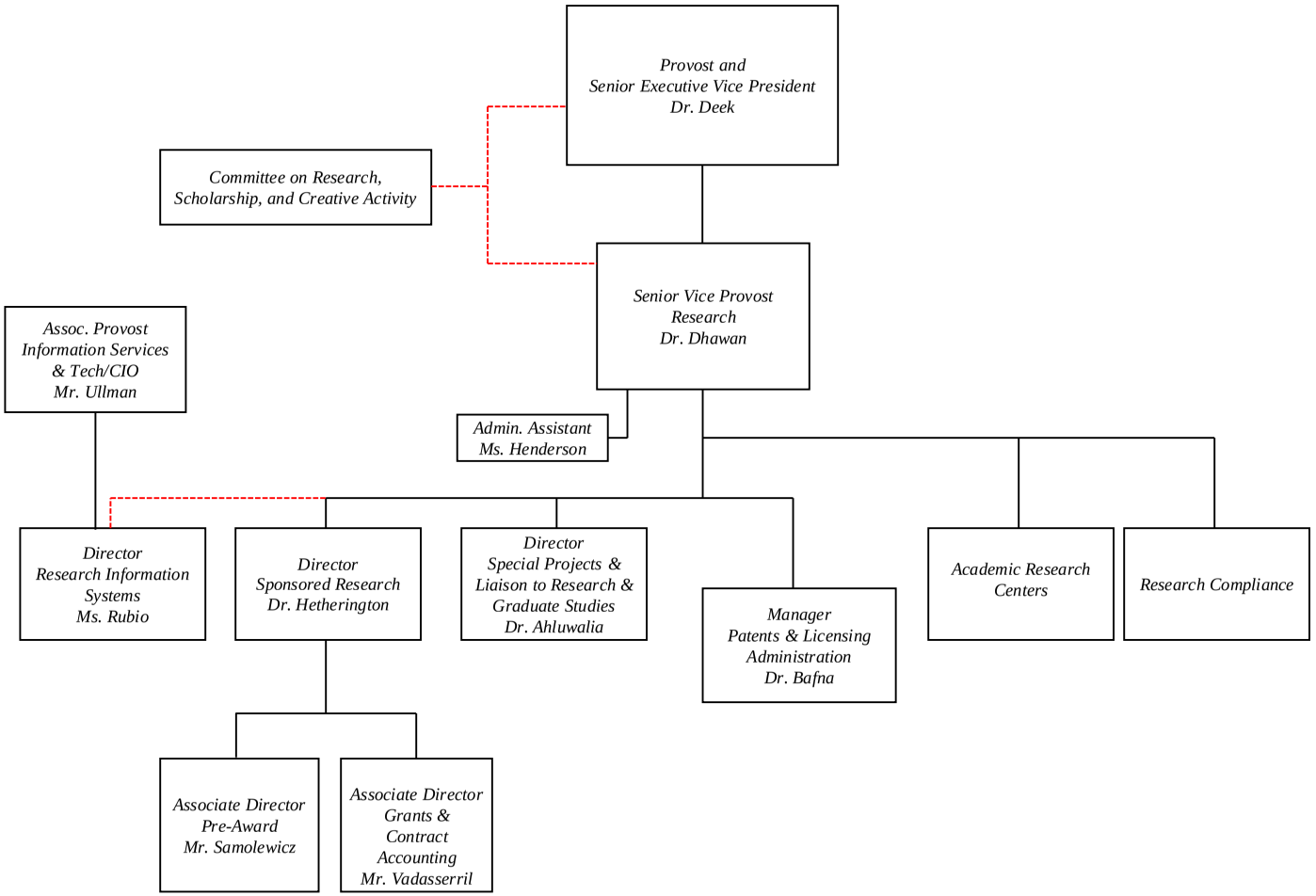


PROVOST & SENIOR EXECUTIVE VP-Academic Affairs & Student Services *Fall 2017*



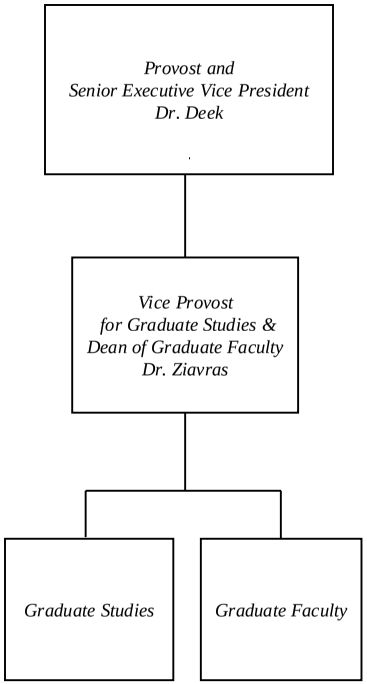
PROVOST & SENIOR EXECUTIVE VP-Research

Fall 2017



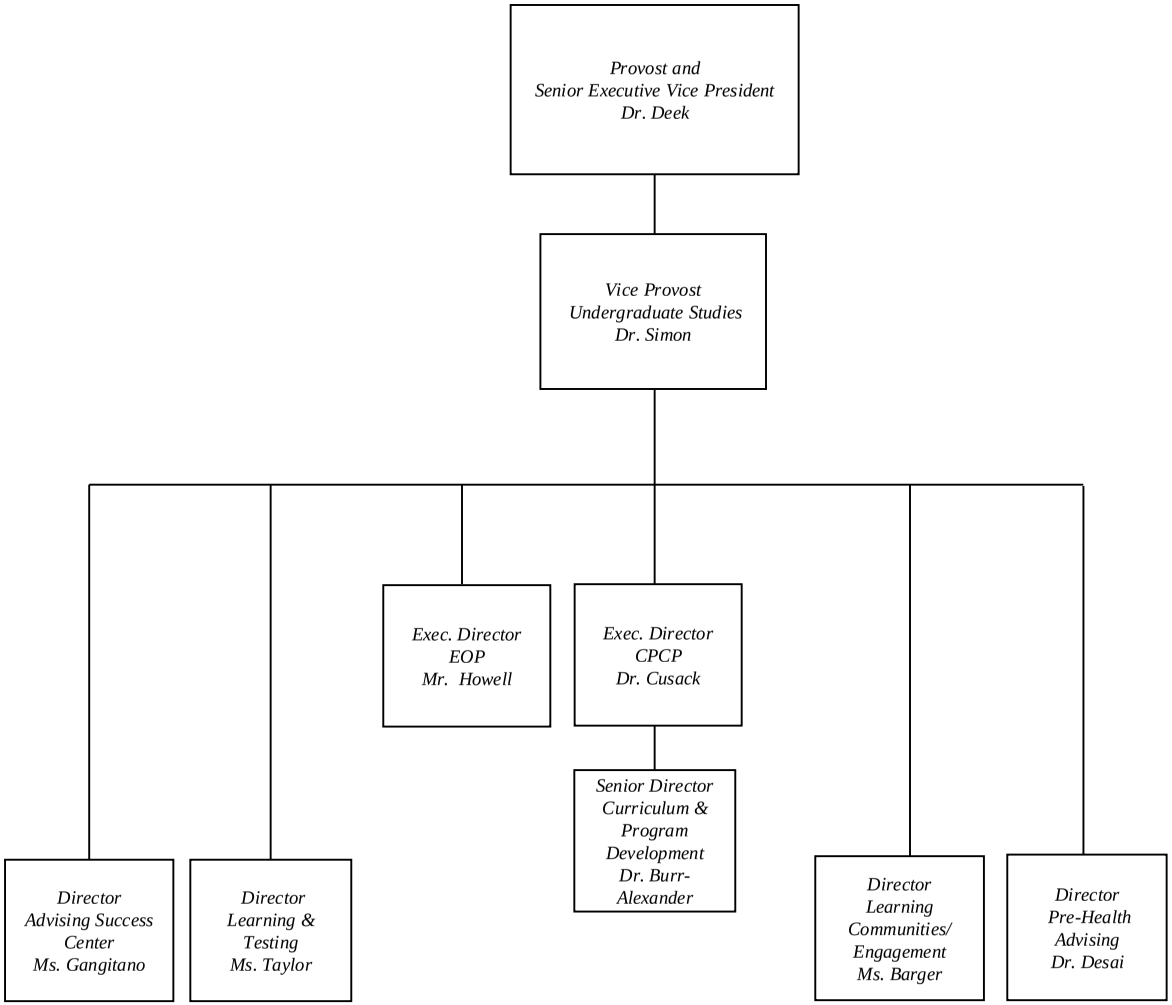
PROVOST & SENIOR EXECUTIVE VP-Graduate Studies

Fall 2017



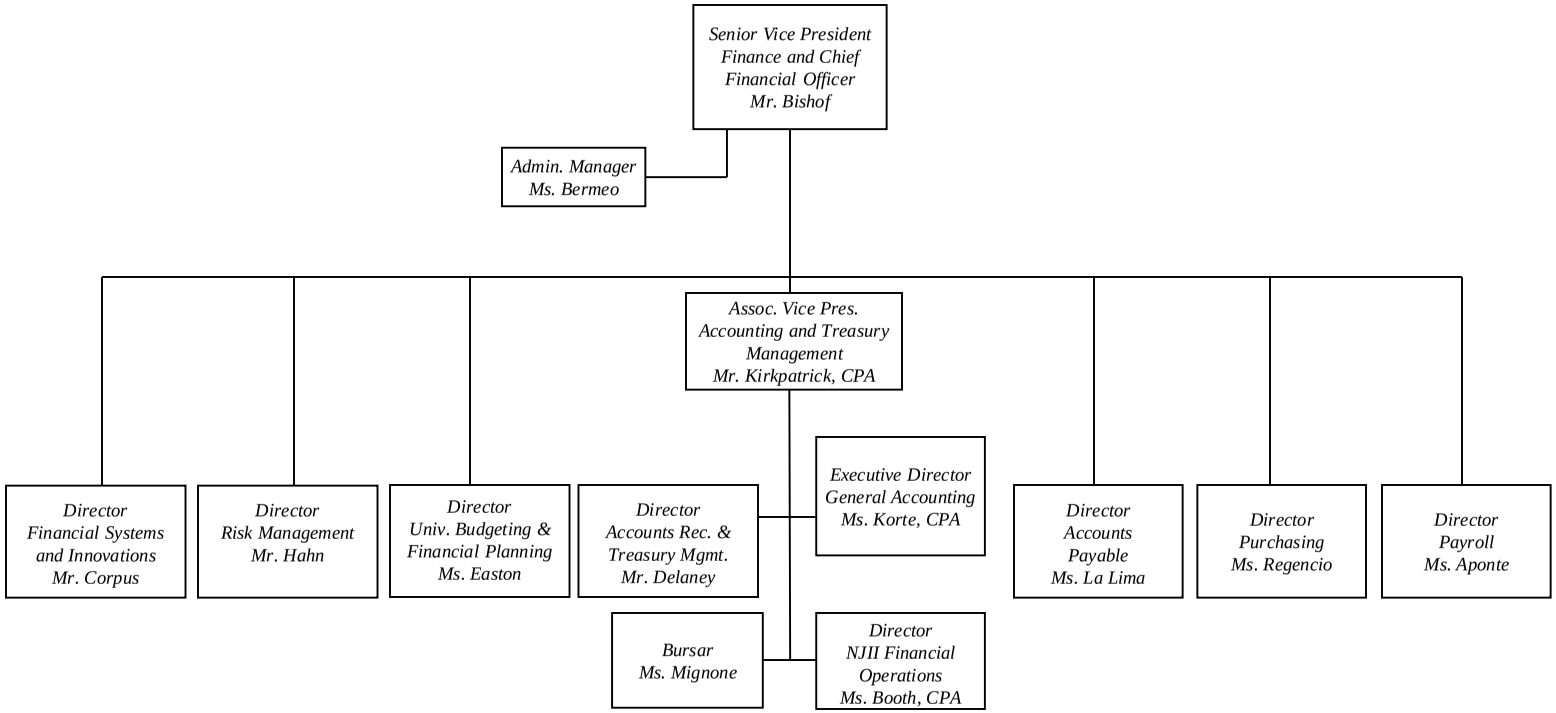
PROVOST & SENIOR EXECUTIVE VP-Undergraduate Studies

Fall 2017



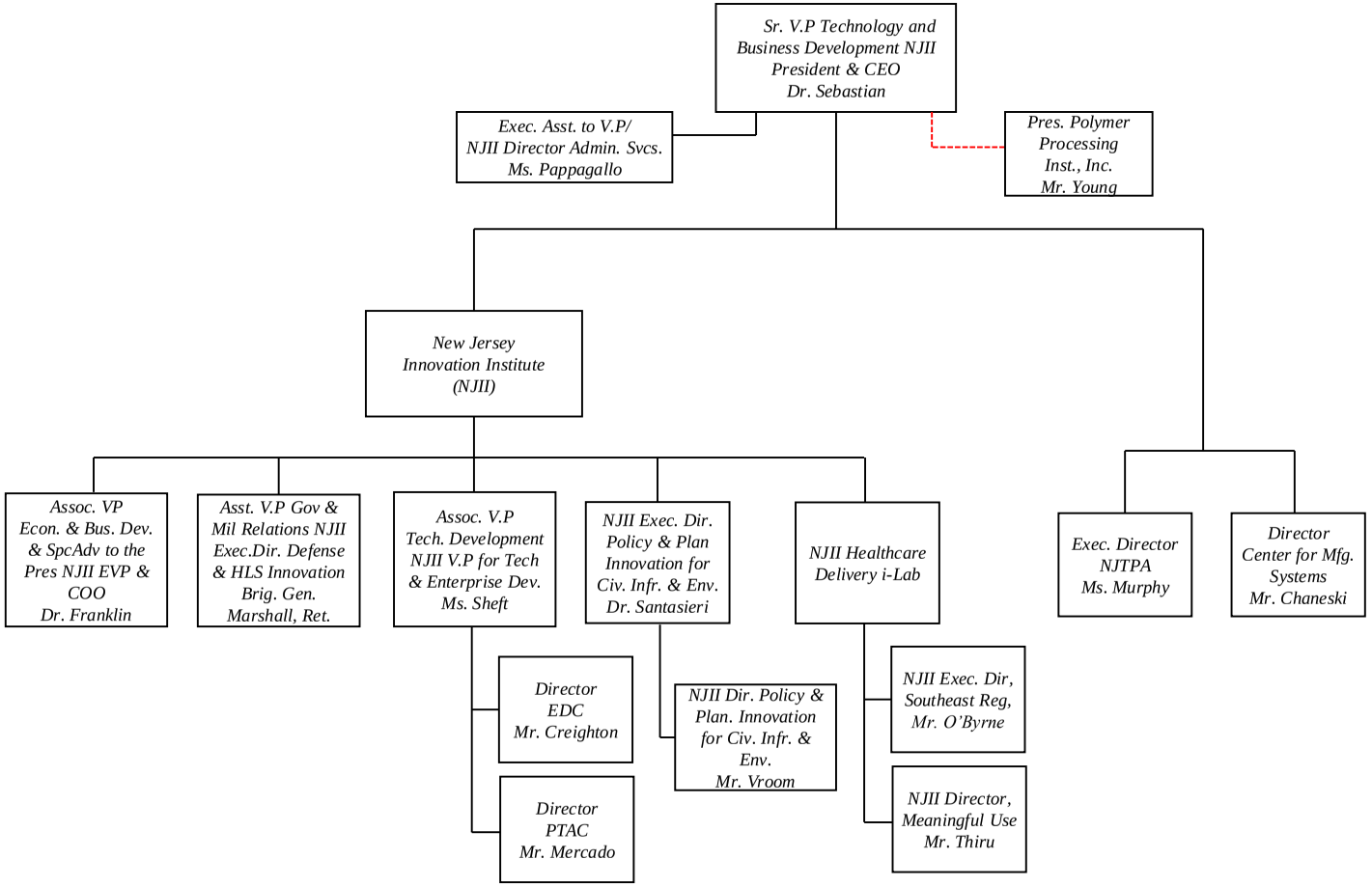
SENIOR VICE PRESIDENT FINANCE & CFO

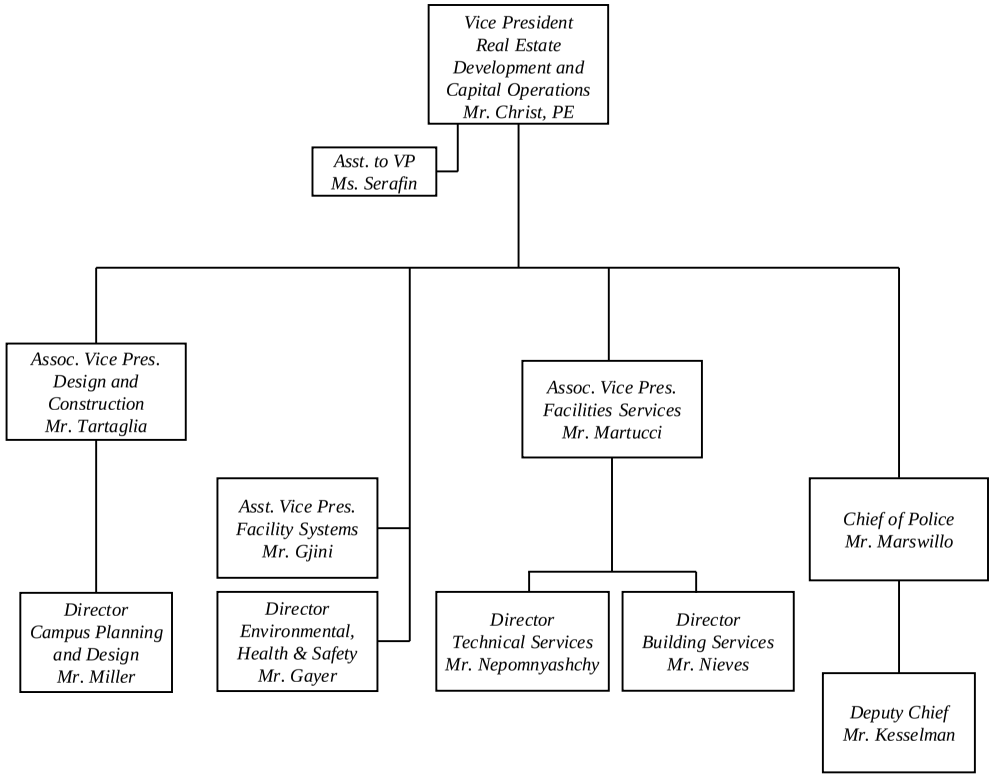
Fall 2017



OFFICE OF TECHNOLOGY & BUSINESS DEVELOPMENT

Fall 2017

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Real Estate
Development and
Capital Operations
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Asst. to VP
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and Design
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Director
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Health & Safety
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Assoc. Vice Pres.
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Mr. Martucci
Director
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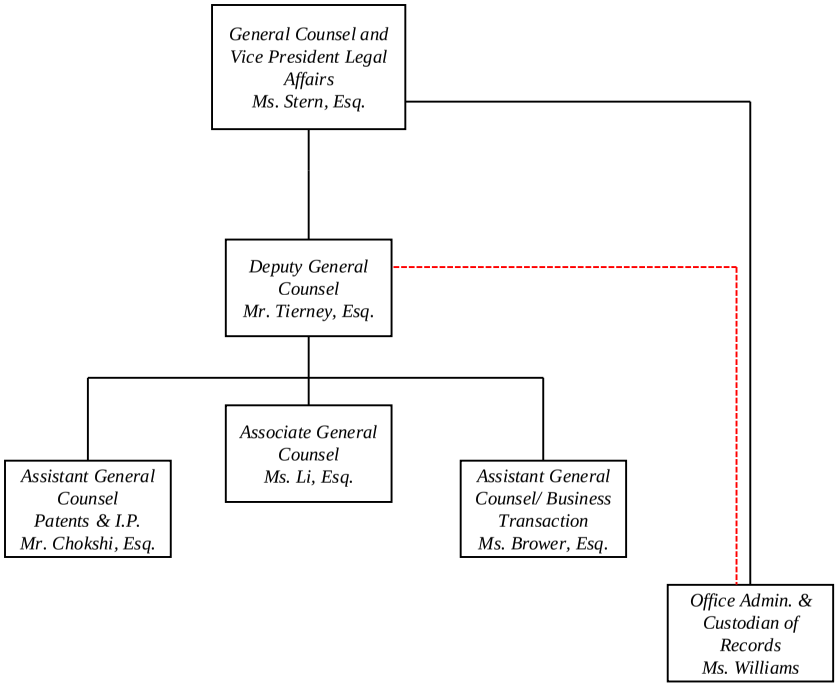
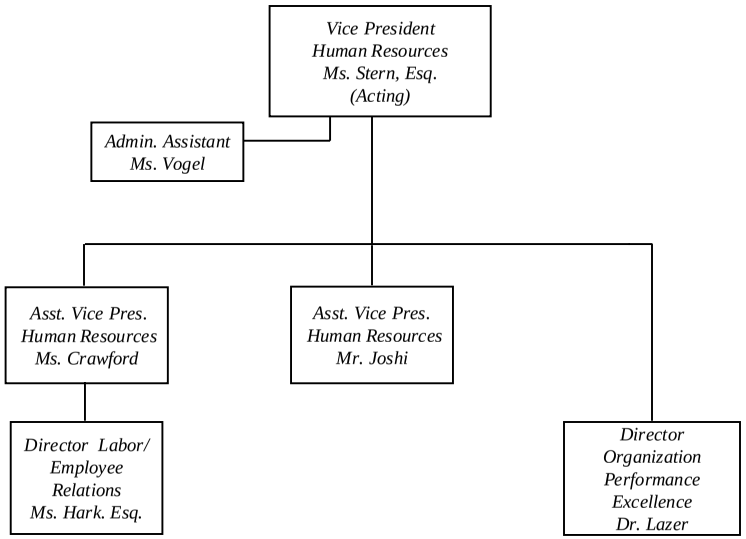
Mr. Nepomnyashchy
Director
Building Services
Mr. Nieves
Chief of Police
Mr. Marswillo
Deputy Chief
Mr. Kesselman

OFFICE OF GENERAL COUNSEL

Fall 2017




Vice President
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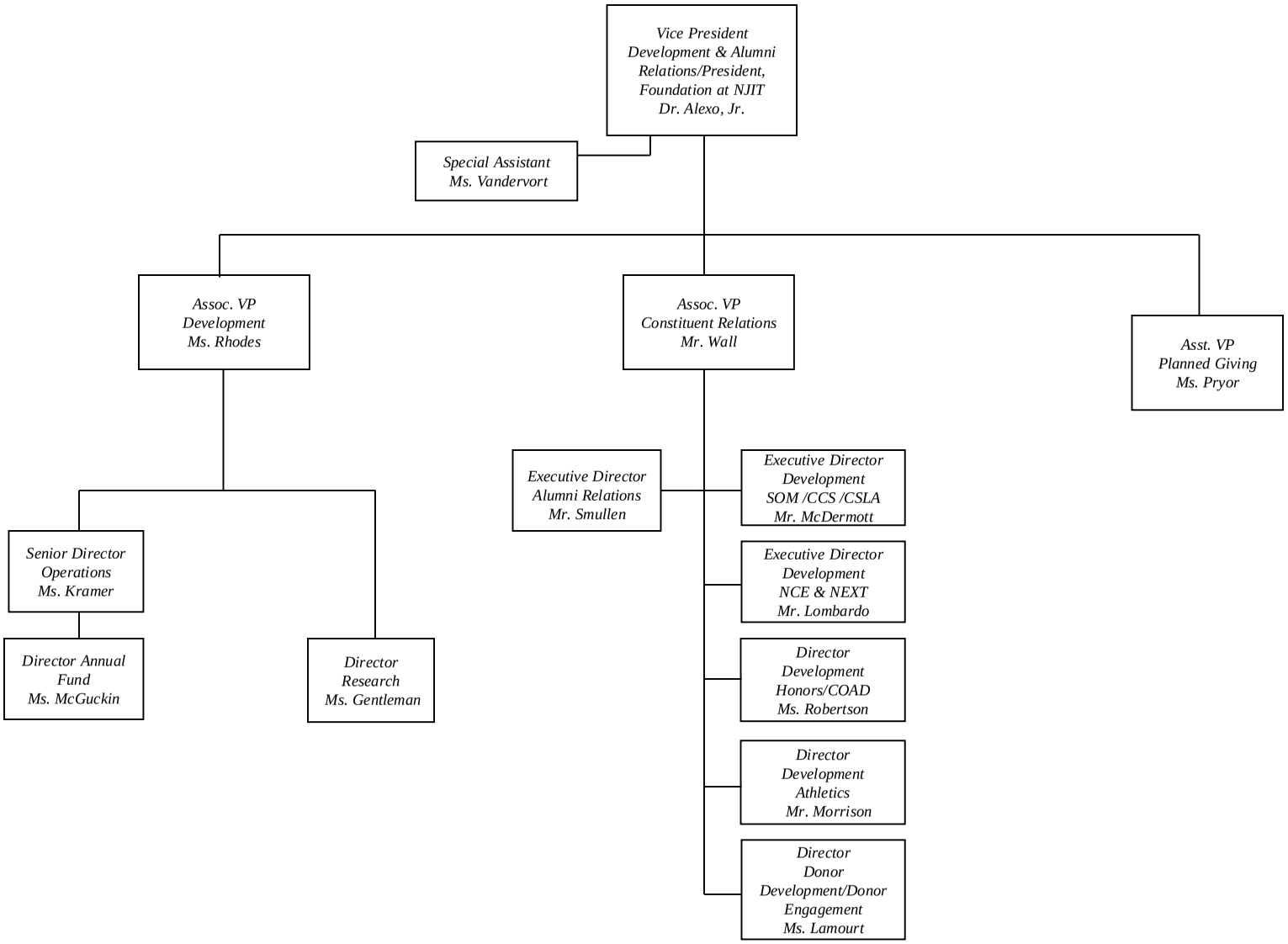
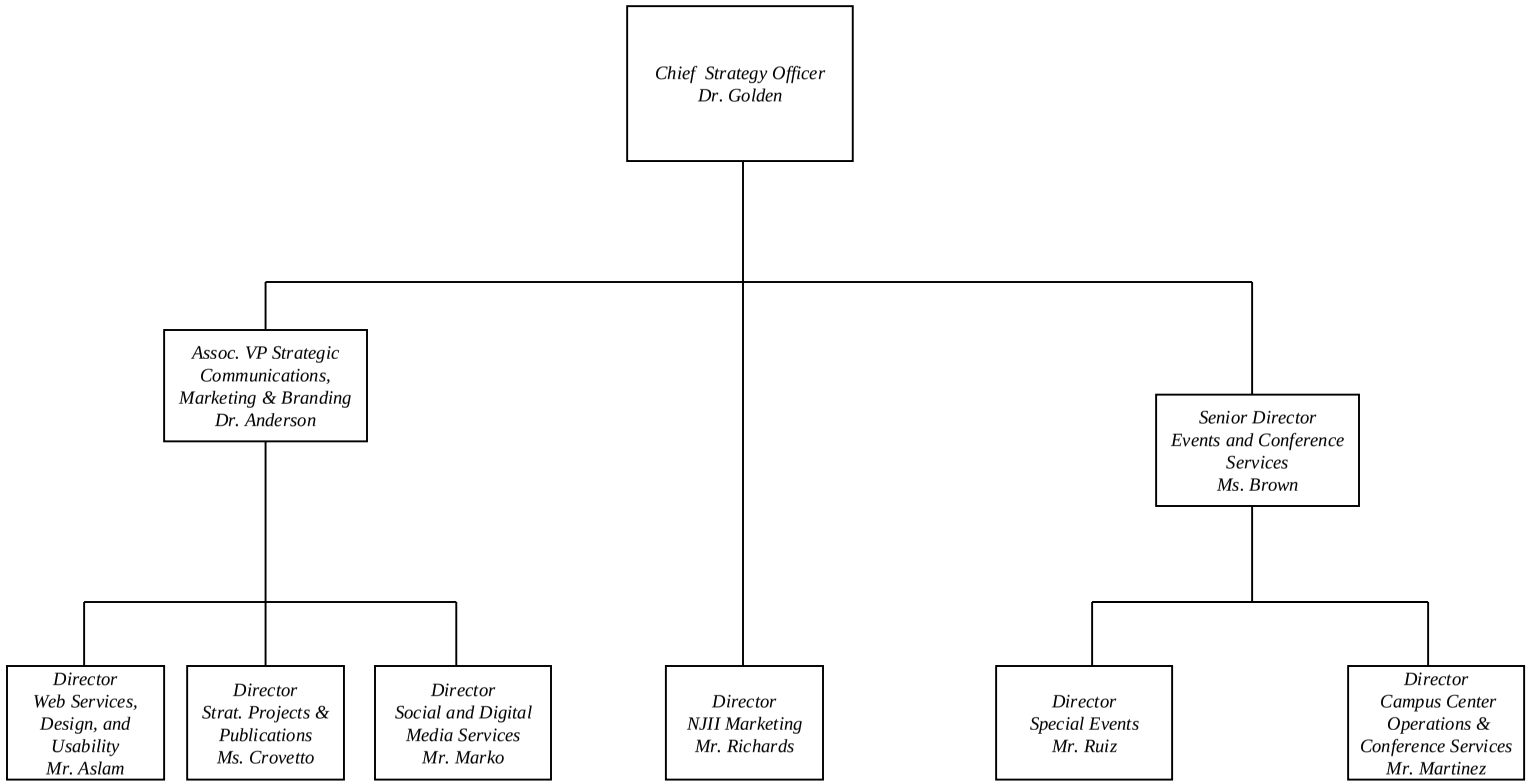
Ms. Stern, Esq.
(Acting)
Admin. Assistant
Ms. Vogel
Asst. Vice Pres.
Human Resources
Ms. Crawford
Asst. Vice Pres.
Human Resources
Mr. Joshi
Director Labor/
Employee
Relations
Ms. Hark. Esq.
Director
Organization
Performance
Excellence
Dr. Lazer

DEVELOPMENT & ALUMNI RELATIONS

Fall 2017

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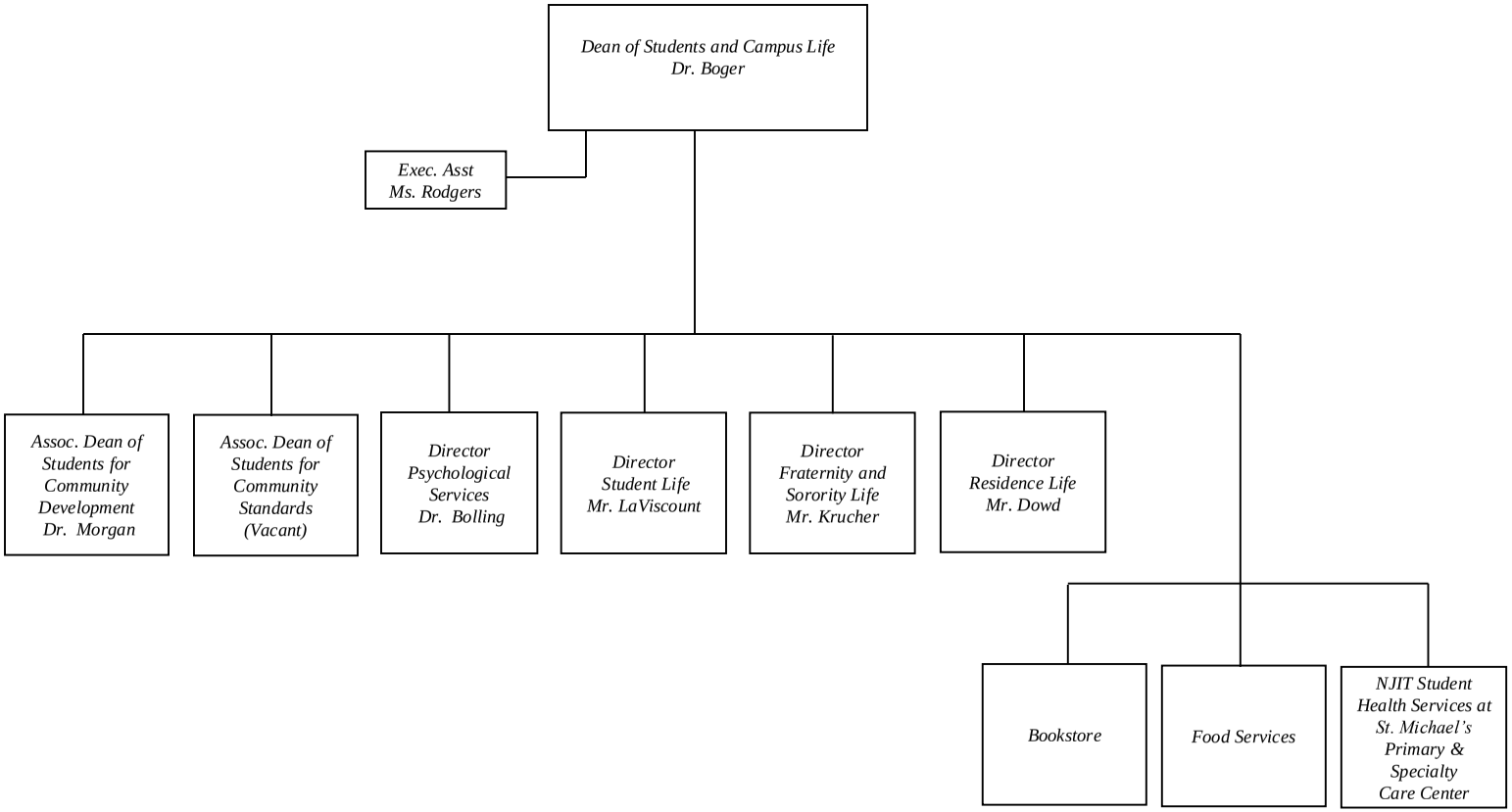
Senior Director Events and Conference Services
Ms. Brown
Director Web Services, Design, and Usability
Mr. Aslam
Director Strat. Projects & Publications
Ms. Crovetto
Director Social and Digital Media Services
Mr. Marko
Director NJII Marketing
Mr. Richards
Director Special Events
Mr. Ruiz
Director Campus Center Operations & Conference Services
Mr. Martinez

DEAN OF STUDENTS & CAMPUS LIFE

Fall 2017



SECTION 3

BUDGET INFORMATION

State of New Jersey
Department of the Treasury
Office of Management and Budget
FY2019 Budget Request (BB-102)

Date:

Department: New Jersey Institute of Technology

Citation:

Approved by: Joel S. Bloom
Director

To the State Treasurer:
Appropriations as follows are requested for the above agency for fiscal year 2019. 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.

Department Head/Officer
Joel Bloom
President

Positions Budgeted by fund (1,2)	Budgeted FY2018	Agency Request FY 2019
State Funded (per Appropriations Act Language)	1,187	1,508
Non State Funded (per Appropriations Act Language)		
Total Positions	1,187	1,508

Expended 2017					Recapitulation	FY2018	Request
Original and Supplemental	Reappro. and Receipts	Transfers and Emerg.	Total Available	Expended	By Department By Fund Category	Appropriated	Agency Request
430,006	20,447	$ -	450,453	450,453	Institutional Support	490,726	480,726
					Total Grants-In-Aid		
					Less:		
	(2,614)	0	(2,614)	(2,614)	Receipts from Tuition Increases	(4,195)	
(183,758)	(4,481)	0	(188,239)	(188,239)	General Services Income	(190,190)	(194,385)
(19,176)	(1,461)	0	(20,637)	(20,637)	Auxiliary Funds Income	(21,431)	(21,431)
(149,600)	(11,891)	0	(161,491)	(161,491)	Special Funds Income	(187,438)	(187,438)
(42,032)	-		(42,032)	(42,032) [1]	Employee Fringe Benefits	(42,032)	(42,032)
(394,566)	**(20,447)**	**0**	**(415,013)**	**(415,013)**	**Total Income Deductions**	**(445,286)**	**(445,286)**
35,440	-	**0**	**35,440**	**35,440**	**Total State Appropriation**	**45,440**	**35,440**
					Special Purpose		
430,006	20,447	0	450,453	450,453	General Institutional Operations	490,726	480,726
					Institute for Applied Materials Science and Engineering,		7,000
					Innovation Institute for Healthcare Delivery		5,000
					State Authorized FTEs		
					IT Infrastructure and Cybersecurity Support		1,500
(394,566)	(20,447)	0	(415,013)	(415,013)	LESS: Income Deductions	(445,286)	(445,286)
35,440	-	**0**	**35,440**	**35,440**	**Grand Total State Appropriation**	**45,440**	**48,940**

[1] Per OMB, fringe amount is fixed. Audited financial statements reflect fringe benefits totaling $61,089 million for FY17.

New Jersey Institute of Technology
FY 2019 Budget Request

Spending Agency: New Jersey Institute of Technology

Appropriations Data

($000)

—Year Ending June 30, 2017—					GRANTS - IN - AID Distribution by Fund & Program	FY 2018 Adjust. Approp.	FY 2019 Request	FY 2019 Recom-mended
Original	Reapprop. & Receipts	Transfers & Emerg.	Total Available	Expended				
430,006	20,447	0	450,453	450,453	Institutional Support	490,726	480,726	
					Total Grants - in - Aid			
					LESS:			
	(2,614)	0	(2,614)	(2,614)	Receipts from Tuition Increase	(4,195)		
(183,758)	(4,481)	0	(188,239)	(188,239)	General Services Income	(190,190)	(194,385)	
(19,176)	(1,461)	0	(20,637)	(20,637)	Auxiliary Funds Income	(21,431)	(21,431)	
(149,600)	(11,891)	0	(161,491)	(161,491)	Special Funds Income	(187,438)	(187,438)	
(42,032)	0	0	(42,032)	(42,032)	Employee Fringe Benefits	(42,032)	(42,032)	
(394,566)	(20,447)	0	(415,013)	(415,013)	***Total Income Deductions***	(445,286)	(445,286)	
35,440	0	0	35,440	35,440	*Total State Appropriations*	45,440	35,440	
					Distribution by Fund and Object			
					Special Purpose			
430,006	20,447	0	450,453	450,453	General Institutional Operations	490,726	480,726	
					Institute for Applied Materials Science and Engineering,		7,000	
					Innovation Institute for Healthcare Delivery, State Authorized FTEs		5,000	
					IT Infrastructure and Cybersecurity Support		1,500	
					LESS:			
(394,566)	(20,447)	0	(415,013)	(415,013)	**Income Deductions**	(445,286)	(445,286)	
					Grand Total State Appropriation	45,440	48,940	
35,440	0	0	35,440	35,440	**TOTAL ALL FUNDS**	45,440	48,940	

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

New Jersey Institute of Technology
FY 2019 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 2017 Ending June 30, 2017 ACTUAL	FY 2018 Ending June 30, 2018 ESTIMATED	FY 2019 Ending June 30, 2019 ESTIMATED
EDUCATION & GENERAL REVENUE			
General Services:			
Tuition and Fees			
Gross Tuition	155,850	157,426	161,621
Receipts from Tuition Increase (BB-102 & BB-105)	2,614	4,195	
Required fees	28,756	30,180	30,180
Subtotal Tuition and Fees (Gross)	**187,220**	**191,801**	**191,801**
Less student awards	(54,560)	(55,924)	(55,924)
Subtotal Tuition and Fees (Net)	**132,660**	**135,877**	**135,877**
	187,220		
Non - Operating Revenue			
Investments	2,588	1,468	1,468
Miscellaneous nonoperating revenues	1,045	1,116	1,116
Subtotal Non - Operating Revenue	**3,633**	**2,584**	**2,584**
Subtotal General Services Income; excluding rate increase (BB-102 & BB-105)	**188,239**	**190,190**	**194,385**
Subtotal General Services Income; including rate increase	**190,853**	**194,385**	**194,385**
Other Non - Operating Revenue			
Base State Appropriation	35,440	45,440	35,440
Employee Fringe Benefits (Per OMB)	42,032 (1)	42,032 (2)	42,032
FY 2019 Critical Needs Request			13,500
Subtotal, Other Non - Operating Revenue	77,472	87,472	90,972
TOTAL EDUCATION & GENERAL REVENUE	**268,325**	**281,857**	**285,357**
NET EDUCATION & GENERAL REVENUE	**213,765**	**225,933**	**229,433**
Auxiliaries			
Resident Life	14,928	16,987	16,987
Bookstore	252	189	189
Other	5,457	4,255	4,255
Total Auxiliaries (BB-102 & BB-105)	**20,637**	**21,431**	**21,431**
Less student awards	(4,710)	(4,804)	(4,804)
Subtotal Auxiliaries (Net)	**15,927**	**16,627**	**16,627**
Special funds			
Grants & Contracts	121,104	141,000	141,000
Other operating revenues	5,823	6,695	6,695
Nonoperating revenues	17,191	19,767	19,767
Other revenues	17,373 (1)	19,976	19,976
Subtotal Special funds(BB-102 & BB-105)	**161,491**	**187,438**	**187,438**
TOTAL REVENUE	**391,183**	**429,998**	**433,498**

(1) Actual FY2017 expense for Employee Fringe Benefits per the audited financials is $61,089
(2) FY2018 Operating Budget for Employee Fringe Benefits is $63,514.

NEW JERSEY INSTITUTE OF TECHNOLOGY

Revenue Reconciliation To Annual Financial Statement

(Dollars in thousands)

For the year ended June 30, 2017

Financial Statement Description	E & G Revenue	Auxiliaries	Special Funds	Subtotal	Additions/ Deductions		FY17 Financial Statement
Operating revenues:							
Student tuition and fees	187,220	-	-	187,220	(54,560)	(1)	132,660
Federal grants and contracts	-	-	92,582	92,582	-		92,582
State grants and contracts	-	-	23,545	23,545	-		23,545
Other grants and contracts	-	-	4,977	4,977	-		4,977
Auxiliary enterprises	-	20,637	-	20,637	(4,710)	(2)	15,927
Other operating revenues	-	-	5,823	5,823	-		5,823
Total operating revenues	**187,220**	**20,637**	**126,927**	**334,784**	**(59,270)**		**275,514**
Nonoperating revenues:							
State appropriations	96,529	-	-	96,529	-		96,529
Gifts and bequests	-	-	3,511	3,511	-		3,511
Investment income	2,588	-	12,573	15,161	-		15,161
Other nonoperating revenues, net	1,045		1,107	2,152	-		2,152
Net nonoperating revenues	**100,162**	**-**	**17,191**	**117,353**	**-**		**117,353**
Other revenues:							
Capital grants and gifts	-	-	13,964	# 13,964	-		13,964
Additions to permanent endowments	-	-	3,409	3,409	-		3,409
Total other revenues	**-**	**-**	**17,373**	**17,373**	**-**		**17,373**
Total revenues	**287,382**	**20,637**	**161,491**	**469,510**	**(59,270)**		**410,240**

(1) Deductions for student awards: -$54,560 (tuition & fees).

(2) Deductions for scholarship awards: -$4,710 (Auxiliary)

(3) Employee Fringe Benefits totalled $61,089 versus $42,032 as reported by OMB

New Jersey Institute of Technology
FY 2019 Budget Request

FY 2018 Projected Tuition Revenue
Based Upon FY 2018 FTE Estimates

A. In-State							
6,683	FTE Undergraduate (Est.)	X	$	13,906	(FY 2018 Tuition Rate)	=	$92,933,798
772	FTE Graduate (Est.)	X	$	19,720	(FY 2018 Tuition Rate)	=	$15,223,840
B. Out-of-State							
381	FTE Undergraduate (Est.)	X	$	28,926	(FY 2018 Tuition Rate)	=	$11,020,806
901	FTE Graduate (Est.)	X	$	29,166	(FY 2018 Tuition Rate)	=	$26,278,566
					SUBTOTAL		$145,457,010

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?	X	
If yes, the flat rate applies to students taking at least 12 credits, but not more than 19 credits.		
Is full - time graduate tuition a flat rate?	X	
If yes, the flat rate applies to students taking at least 12 credits, but not more than 19 credits.		

C.	FTE Executive Management Programs (Est)	5	661,000
D.	FTE E-Tuition Rate (Est)	9	315,000
E.	FTE Pearson Programs	127	3,771,000
F.	Continuing Professional Education - Non-Credit		602,000
G.	Summer / Winter Session Tuition	934	8,248,000
		SUBTOTAL	159,054,010
		ADJUSTMENTS: (1)	2,566,990
	NET TUITION REVENUE ANTICIPATED FOR FY 2018		161,621,000

(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 withdrawls.

New Jersey Institute of Technology
FY 2019 Budget Request

FY 2018 Tuition & Fee Schedule

	Charge Per Credit Hour	Annual Rate For Full-Time Student	Charge Per Occurrence (If Applicable)
Tuition			
Resident			
Undergraduate	529	13,906	N/A
Graduate	1073	19,720	N/A
Non-Resident			
Undergraduate	1237	28,926	N/A
Graduate	1541	29,166	N/A
Fees Required Of All Students			
University Fee [1]	170	2,882	N/A
Student Activity - UG	6	110	N/A
Student Activity - G	5	88	N/A

Other Fees	Undergraduate	Graduate
Application	75	75
Commencement [2]	120	120
Matriculation [2]	120	120
Payment Plan Set-up	100	100
Payment Plan Late Fee	100	100
Re-instatement	N/A	N/A
Late Registration	100	100
Late Payment Penalty	500	500
First Year Student Fee	230	N/A
F/T Commuter Parking	325	325
P/T Commuter Parking	182	182
Parking- On Campus Resident	490	490
Thesis	N/A	75
Dissertation Binding	N/A	100
Maintaining Registration	25	50
Transfer Student Orientation	30	N/A
International Student	125	125
Optional Practical Training Application Fee	200	200
Health Insurance - if needed:	1670	1670
Room And Board - Academic Year		
Typical Student Housing	8,832	8,832
Typical Meal Plan Charge	3,708	3,708
	12,540	**12,540**

[1] The 'University Fee' is charged to students enrolled in college-credit courses at NJIT. The purpose of this fee is to continue to help support a portion of the costs associated with an array of varied, but integral services and projects that directly affect our students. Some of these important areas include: Student Health Services Office, Campus Center, computer Labs and technology infrastructure, campus facilities, Admissions, Student services, and Career Services offices, and an array of academic, student, and athletics programs.

[2] A one-time matriculation fee will be assessed to all new matriculating students (full or part-time) beginning with their first registration (fall 2014 semester). Students assessed this fee would not be assessed the commencement fee once they apply for graduation. The commencement fee will continue being assessed to all students who had been previously registered prior to fall 2014 semester.

FY 2018 Projected Tuition and Fee Schedule (FEES)

Institution: New Jersey Institute of Technology

Use appropriate column for each fee

	Charge per credit hour		Annual rate for full-time student	Undergraduate Charge per occurrence (if applicable)	Graduate Charge per occurrence (if applicable)	Estimated Gen Services Revenue for FY 2018	Estimated Auxiliary Revenue for FY 2018	NJIT Estimated Total Revenue for FY 2018	Estimated Restricted/ Agency Revenue for FY 2018
TUITION:									
Resident									
Undergraduate	529		13,906	N/A	N/A	N/A	N/A	N/A	N/A
Graduate	1,073		19,720	N/A	N/A	N/A	N/A	N/A	N/A
Non-Resident									
Undergraduate	1,237		28,926	N/A	N/A	N/A	N/A	N/A	N/A
Graduate	1,541		29,166	N/A	N/A	N/A	N/A	N/A	N/A
REQUIRED FEES: (Required for all students)									
University Fee - Academic Year Fall & Spring	170	(a)	2,882	N/A	N/A	26,606,000	-	26,606,000	-
Summer Fee						390,000		390,000	
Winter Fee						71,000		71,000	
Student Activity - UG	6		110	N/A	N/A	-	-	-	790,000
Student Activity - GR	5		88	N/A	N/A	-	-	-	180,000
OTHER FEES:									
						260,000		260,000	
						512,000		512,000	
						11,000		11,000	
						15,000		15,000	
Application/Re-admission/Non-Matriculation	N/A		N/A	75	75	798,000	-	798,000	-
Commencement	N/A		N/A	120	120	100,000	-	100,000	-
Matriculation Fee	N/A		N/A	120	120	365,000			
Payment Plan Set-Up	N/A		N/A	100	100	340,000		340,000	
Late Registration	N/A		N/A	100	100	85,000	-	85,000	-
Late Payment Penalty	N/A		N/A	500	500	410,000			
First Year Student Fee	N/A		N/A	230	N/A	282,000	-	282,000	-
Thesis	N/A		N/A	N/A	75	5,000	-	5,000	-
Dissertation	N/A		N/A	N/A	100	11,000	-	11,000	-
Transfer Student Orientation	N/A		N/A	30	N/A	33,000	-	33,000	-
Health Insurance (Resident, Non-Resident, International)	N/A		N/A	1,670	1,670	-	-	-	-
International Student	N/A		N/A	125	125	416,000	-	416,000	-
ID Card Replacement	N/A		N/A	25	25	28,000	-	28,000	-
Optional Practical Training				200	200	240,000			
Commuter Parking - FT	-		-	325	325	-	1,910,000	1,910,000	-
Commuter Parking - PT	-		-	182	182	-	441,000	441,000	-
On-Campus Resident Parking	-		-	490	490	-	356,000	356,000	-
	-		-	-	-	-	-	-	-
TOTAL FEE REVENUE:						**30,180,000**	**2,707,000**	**31,872,000**	**970,000**
ROOM AND BOARD:									
Typical Student Housing	N/A		8,832	N/A	N/A		16,987,000	N/A	
Typical Meal Plan Charge	N/A		3,708	N/A	N/A		1,500,000	N/A	

NOTES:

(a) Per semester charge for part time students.

NEW JERSEY INSTITUTE OF TECHNOLOGY
SALARY PROGRAM FY2018 AND FY2019

ESTIMATED SALARY PROGRAM BY BARGAINING UNIT:

Union Totals	FY18 FTE	FY18 Base Salary	FY18 Estimated Salary Program	FY18 Anticipated Cash Need	FY19 Base Salary	FY19 Estimated Salary Program	FY19 Anticipated Cash Need
afscme	103.00	5,116,280	102,326	5,218,606	5,218,606	78,279	5,296,885
aft-ucan	10.00	496,952	8,697	505,649	505,649	8,849	514,498
fop	17.00	1,029,935	0	1,029,935	1,029,935	41,197	1,071,132
fop - soa	9.00	803,712	16,074	819,786	819,786	16,396	836,182
njsolea	3.00	334,966	6,699	341,665	341,665	6,833	348,499
non-aligned	171.93	23,977,271	419,602	24,396,873	24,396,873	426,945	24,819,754
opeiu	135.00	6,681,499	133,630	6,815,129	6,815,129	136,303	6,951,432
psa Faculty	277.50	41,663,574	729,113	42,392,686	40,750,011	713,125	41,463,137
psa Lecturer	102.00	7,178,295	125,620	7,303,915	7,303,915	127,819	7,428,625
psa non tenure Faculty	9.00	680,103	11,902	692,005	692,005	12,110	704,115
psa Staff	325.00	26,048,165	455,843	26,504,008	26,504,008	463,820	26,966,124
Grand Total	**1162.43**	**114,010,752**	**2,009,505**	**116,020,257**	**114,377,582**	**2,031,675**	**116,400,382**

SALARY PROGRAM PARAMETERS:

	FY17	FY18	FY19
	FY17 Deferred Salary Program	Est. Salary Program	Est. Salary Program
afscme		2.00%	1.50%
aft-ucan		1.75%	1.75%
fop		0.00%	4.00%
fop - soa		2.00%	2.00%
njsolea		2.00%	2.00%
non-aligned		1.75%	1.75%
opeiu		2.00%	2.00%
psa Faculty		1.75%	1.75%
psa Lecturer		1.75%	1.75%
psa non tenure Faculty		0.00%	0.00%
psa Staff		1.75%	1.75%

DISTRIBUTION BY ELEMENT:

Element	FY2018 Estimated Salary Program	FY2019 Estimated Salary Program
Instruction	993,630	981,850
Research	78,753	80,143
Public Service	5,960	6,066
Academic Support	245,057	247,126
Student Services	187,522	190,341
Institutional Support	363,311	409,564
Operation and Maintenance of Plant	135,273	116,587
Grand Total	**2,009,505**	**2,031,675**

SECTION 4

FY2019 PRIORITY REQUESTS

NEW JERSEY INSTITUTE OF TECHNOLOGY
FY2019 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 STEM workforce, applied science and technology research, community service, and economic development-industry partnerships to meet New Jersey economic and societal goals. Below is a summary of our priority requests for FY2019 which support these objectives.

Total FY2019 Priority Requests ($000's)

Priority Request:	Total $	FTE
1) Institute for Applied Materials Science and Engineering	$7,000	0
2) Institute for Healthcare Delivery	$5,000	0
3) IT Infrastructure and Cybersecurity Support	$1,500	0
4) State Authorized FTE	$0	321
Grand Total	**$13,500**	**321**

NJIT is one of 32 polytechnic universities in the United States and is New Jersey's public comprehensive STEM University. It enrolls more than 11,500 students annually in bachelor's, master's, and doctoral degree programs; expends approximately $140 million on research activity, and generates an economic impact of more than $1.74 billion on the State of New Jersey each year. The university'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. The Institute for Applied Materials Science & Engineering and the Institute for Healthcare Delivery will form an innovation complex. This complex will serve as a beacon for economic growth for the greater Newark area and the State of New Jersey.

1) Institute for Applied Materials Science and Engineering (IAMSE)

Over the decades, innovations in materials science and engineering have produced revolutionary technologies in almost every area impacting our lives and society that address critical challenges in biomedical, environmental, energy, communication, civil infrastructure, and industrial applications. Materials science and engineering research continues to improve our understanding of the fundamentals of biomaterials, nanomaterials, ceramics, metals, polymers, electronic materials and composites leading to better devices, sensors, energy efficient and environmentally friendly construction. The significance of materials science and engineering research is well recognized in the majority of the fourteen grand challenges in engineering issued by the National Academy of Engineering—including accessible clean water, economical solar energy, capturing CO_2, and restoring and improving urban infrastructure. The Office of Basic Energy Sciences at the Department of Energy strategically set high priorities for advanced materials research as a critical enabler to develop roadmaps for future energy fusion, transportation, and micro-and nano-semiconductor technologies. It is well recognized that advances in materials research with translation to engineering and societal applications has a direct impact on industry and the economy.

The goal of the IAMSE is to facilitate and accelerate the research to market pathways from academic basic and applied research to entrepreneurial technology development to demonstrate commercialization feasibility for meeting the industry and market needs. The proposed resource infrastructure will provide critical research facilities for the development of advanced materials, smart nano-engineered concrete, cement and composite materials, polymers, and nanotechnologies with fabrication of sensors, devices, and systems for applications in healthcare, biomedical, pharmaceutical, environmental, infrastructure construction, renewable/solar energy, and manufacturing areas. Along with externally funded academic research, IAMSE will be used in education and training programs for STEM students to prepare them to meet the growing workforce needs in NJ materials science, engineering and technology industry. Working with industry and NJII, IAMSE will act as research engine for the technology translation and validation with pre-commercial prototypes of advanced materials, sensors, and devices for faster growth in NJ economy and STEM jobs.

Healthcare

Quality healthcare for the aging population of the United States, and specifically in New Jersey, is a critical issue with high social and economic impact. According to the NJ Department of Labor and Workforce Development's recent study (http://lwd.dol.state.nj.us/labor/lpa/content/njsdc/2013WU%20PopLFProj2030.pdf), the elderly population (65 & over) is projected to grow by 62% between 2010 and 2030, accounting for 19.9% of the State's total population in 2030, up from 13.5% in 2010. The "Blueprint for Healthy Aging in New Jersey" emphasized that expanding disease prevention and promoting health opportunities for older adults can reduce the impact of chronic disease and disabling injuries while lowering long-term health care costs. Also, a recent study on healthcare costs published by the Journal of the American Medical Association finds that healthcare spending in the United States rose nearly $1 trillion between 1996 and 2013. The leading factor in the increase of healthcare spending was the continuously growing elderly population. In 2009, the Social

Security Advisory Board noted that "the cost of healthcare in the United States is growing more rapidly than the incomes of those who pay for it. In 2015, the total healthcare costs in the United States exceeded $4.6 trillion. Brain injury and neurological diseases including strokes, epilepsy, Parkinson's, Alzheimer, and chronic depression accounted for $1.6 trillion of the total. If these costs continue to rise as rapidly in the future, the standard of living and the economic security of retirees and workers will be in jeopardy as employers increasingly shift healthcare costs to their employees. Government budgets will also be dominated by the need to finance the cost of Medicare and Medicaid benefits".

To reduce healthcare costs for hospitalization and treatment of critical diseases in the aging population, it is important to develop distributed point-of-care healthcare approaches for preventive, personalized and precision medicine. The innovation and translation cycle of healthcare and point-of-care technologies must focus on novel ideas, prototype development, clinical validation, commercialization, implementation, and regulatory user-compliance to be used in clinical (hospital, emergency, acute, chronic and primary care), non-traditional (consumer home), and remote under-resourced locations.

New Jersey is among the states with the largest and fastest growing elderly population in the nation. With its leading healthcare and pharma industry, New Jersey can, and must, make strategic decisions to further enhance innovation, translation of point-of-care technologies for quality personalized, preventive and precision healthcare for the elderly population. Such point-of-care technologies, integrated with medical information systems, for health monitoring will help early diagnosis and improve patient care, with lower costs for repeated hospitalization and management of critical diseases, including brain and neurological disorders, cancer, and heart diseases. The innovation translation, acceleration, and commercialization will spur the creation of new start-up companies and improve job growth for higher economic impact in New Jersey.

Civil Infrastructure

The market for advanced materials and nanotechnologies based products in United States was estimated to be more than $1.5 trillion by the National Science Foundation in 2015. The application of nanotechnology is evident in the development of revolutionizing technology-based markets as diverse as civil infrastructure, pharmaceuticals and medical devices, sensors, power generation, sustainable systems, and information technology and data storage. Global competition among regions for research, talent and high technology industry in materials science and engineering has already had a significant impact on the economic growth in New Jersey. This is due to the combined effect of large corporations working with or acquiring entrepreneurial start-ups to develop, manufacture, and commercialize technologies at a larger scale for greater impact in economic growth. Construction and civil infrastructure industry ranks among the top six industries driving New Jersey's economy. The construction industry employs 3.4% of New Jersey's workforce and is among the fastest growth categories forecast by the Department of Labor that projects $1.7 trillion in construction industry output in 2024, up from $1.1 trillion in 2014 (https://www.bls.gov/opub/mlr/2015/article/industry-employment-and-output-projections-to-2024-2.htm). Innovative composite, synthetic and fiber concrete materials can be used in environmentally friendly infrastructure buildings with long durability and greater strength. As noted in the report published by National Academies, "Nanotechnology in

Concrete Material," nanotechnology can be effective to engineer concrete with superior properties to significantly improve mechanical performance, durability, and sustainability. NJIT has recently developed new research laboratories to study novel re-engineering concrete and cement materials for sustainable structures for different adverse environments with reduced energy consumption and enhancing safety.

Nanotechnology

The "Nanotechnology: Assets and Opportunities for New Jersey" report of the New Jersey Commission of Science and Technology emphasizes the importance and major impact of materials science and nanotechnology in the industrial and economic growth in New Jersey. The report recognizes that New Jersey possesses a strong position in key industries including pharmaceuticals, materials, electronics, telecommunications, and energy. Advanced materials and nanotechnologies form the critical common platform among these industry sectors with direct implications for the state's overall economic competitiveness.

According to the most recent report from National Center for Science and Engineering Statistics (NSF 17-320), U.S. companies that performed or funded R&D reported domestic net sales of $9 trillion in 2015. For all industries, the R&D intensity was 3.9%; for manufacturers, 4.4%; and for non-manufacturers, 3.2%. Manufacturing industries with high levels of R&D intensity in 2015 were pharmaceuticals and medicines (NAICS 3254) (12.9%), computer and electronic products (NAICS 334) (9.8%), and aerospace products and parts (NAICS 3364) (8.5%). Most of these industries utilize technology research and innovations in advanced materials science and engineering. An analysis of federal R&D awards in nanotechnology by Battelle found that New Jersey has a robust base of 50 large and medium-size companies along with several hundred start-ups in pharma, bio, electronics, information technology and energy sectors actively engaged in nanotechnology and advanced materials based research, development, and commercialization. NJ industry in the area of advanced materials, nanotechnologies, and manufacturing was tied with New York at 6th state in the nation in business R&D in 2015.

Transitioning Technology Innovation to Market

The technology innovation, acceleration, and translation process includes: identifying and understanding the unmet market needs of stakeholder groups, developing an innovative idea, brainstorming feasibility with expert stakeholders, building prototypes, and developing resources to facilitate and accelerate translation towards technology validation. For identifying market needs, stakeholders groups include domain experts and users (for example, healthcare providers, clinicians, and patients for healthcare applications), researchers, industry leaders, innovators, and entrepreneurs. In the later stages of the innovation and translation cycle, other stakeholders, such as policymakers, regulatory agency providers, and environment and infrastructure experts will be added.

To help investigators navigate the translation process customized Key Performance Indicators will be used will be used in collaboration with assigned stakeholder groups to the project in the following areas:

- **Market/Business Need Assessment:** This area determines if there is a significant unmet need with enough buyers willing to acquire the innovation at a sustainable price. Market needs will be defined with respective stakeholder groups for healthcare, smart materials, and environmental sustainability applications.

- **Innovation**: This area determines whether an innovation will be accepted and adopted in healthcare, environmental, or other applications for improvements in outcomes for respective market need, and/or will lower costs.

- **Technology Development and Integration:** This area determines if the technology is feasible, and will work better and at lower cost than the alternatives.

- **Regulatory Compliance:** This area determines standards and regulations to be followed and proven, the best pathway to gain regulatory approval, and how long it will take/how much it will cost.

Each of the above areas will have review panels of stakeholder groups for the respective application area (clinical/environmental/industry/business) to assess and mentor technology translation from research to commercialization with the development of necessary resources for the following stages of the translation pathway:

1. **Need and Market Assessment:** Insights into unmet clinical or market needs and available solutions.

2. **Ideation:** Potential solution described to meet the need.

3. **Proof of Concept:** Key component concepts validated in models and value proposition articulated.

4. **Proof of Feasibility:** Feasibility of whole solution demonstrated in models and feedback from stakeholders.

5. **Proof of Value:** The potential of the solution to work and create value for all stakeholders is demonstrated.

6. **Initial Clinical/market Assessment**: Development of prototypes and collection of clinical and impact data.

7. **Validation of Solution**: The solution is shown to be effective, and its value to all stakeholders is validated.

8. **Approval and Launch**: Institutional and regulatory approval for pre-commercial entity.

9. **Commercialization and Use:** The technology is produced and used in practice.

With targeted research and technology development programs in materials science and engineering with industry-university partnerships, the translation of research to commercial products can be accelerated to significantly impact the economic growth and meet the needs of

the society. The proposed investment in technology research, development, and translational programs in materials science and engineering at NJIT, in collaboration with Enterprise Development Center's 90+ start-up companies, and the New Jersey Innovation Institute, well aligned with industry will enhance STEM education to prepare the workforce to contribute to economic growth in New Jersey.

NJIT Already a Hub for Materials Science and Engineering

With a significant impact of over $1.74 billion in the NJ economy, NJIT has developed critical multidisciplinary and interdisciplinary strengths in education and research in advanced materials for basic sciences as well as engineering applications in biomaterials, sensors, the environment, energy, polymers, and nanotechnology. NJIT with its growing research enterprise of approximately $140 million in total expenditures and has hired more than 110 new faculty in the past five years. The research projects in materials science and engineering for biomedical, environmental and other critical engineering applications are funded by external federal and state agencies including NSF, NIH, DoD, DoE, EPA, EPRI, and NJ Commissions (e.g., Brain Injury, Spinal Cord Injury) and industries. The external research funding in this area has seen an impressive growth of over 70% in past three years.

More than 50 faculty and researchers from at least ten NJIT departments are engaged in ongoing research projects in the following areas:

- Biomaterials, Scaffolds and Tissue Engineering
- Biosensors and Labs on a Chip
- Biosensors, Wearable Biosensors, and Point-of-Care Technologies for Monitoring and Therapeutic Intervention
- Environmental Sciences and Engineering
- Polymers and Membrane Technologies
- Smart Concrete, Cement and Composite Materials
- Particle Engineering and Particulate Composites
- Advanced Materials and Nanotechnologies: Semiconductor, Microfluidic, Metal and Metal-Based Reactive Materials
- Renewable Energy, Solar Cells, Fuel-Cells, and Battery
- Computational Materials

NJIT has recently built a new Life Sciences and Engineering Center and updated its York Center of Environmental Sciences research resource facility with new state-of-the-art materials characterization equipment including Scanning Electron Microscopy (SEM), Tunnel Electron Microscope (TEM) and X-ray Diffraction (XRD) Spectroscopy. These resources are used in research as well as interdisciplinary educational programs including the graduate program in Materials Science and Engineering.

The former NJIT Microfabrication Research Center has been decommissioned due to outdated equipment and infrastructure facility. However, NJIT critically needs micro- and nano-fabrication, imaging and analysis, and computational resource facilities for the development of

semiconductor and microfluidic sensors and devices for education and research programs that would impact more than 50 faculty and researchers and involve more than several hundred graduate and undergraduate students.

As NJIT faculty are already engaged in materials research and technology development, the establishment of the IAMSE will proceed in two phases. First, the purchase of additional equipment, using requested funds, will take place in parallel to the planning and building phases of a new innovation complex. The new equipment will allow us to recommission and expand NJIT's Microelectronics Fabrication Center for developing and testing micro/nano-electronic and micro-fluidic sensors, devices, and systems in the three areas of applications: healthcare, civil infrastructure, and nano-technology. The completion of the innovation complex will afford new space for specialized laboratories for imaging-based testing, characterization, and validation of fabricated devices and smart synthetic materials toward market translation and commercialization.

The Graduate Program in Materials Science and Engineering (MTSE) is an interdisciplinary program offered collaboratively through the College of Science and Liberal Arts (CSLA) and the Newark College of Engineering (NCE). The program had been historically managed by the Council of Materials Science and Engineering with representatives from NCE and CSLA. The MTSE program offers multi-disciplinary advanced graduate education by providing students with the skills that are necessary for careers in basic and applied research, as well as the intellectual foundation to provide leadership in academia, industry and the national labs. From 2012-2017, 30 students received the Ph.D., and 73 students received the MS in Materials Science & Engineering at NJIT for an average of 5 Ph.D., and 12 MS students graduated per year.

The MTSE program emphasizes the integration of courses and research across various academic fields to address complex problems in disciplines such as biology, biomedical engineering, chemical engineering, chemistry, computation, electrical engineering, energy, mathematical modeling, and physics. Students are offered courses and research opportunities that relate to biomaterials, ceramics and structural materials, electronic, photonic and magnetic materials, experimental and theoretical condensed matter physics, materials for energy conversion, microelectronics, optics, polymers including biopolymers, semiconductors, solar cells, solid state physics, and spectroscopy.

Proposed Building Site for Innovation Complex Housing the Institute for Healthcare Delivery and the Institute for Applied Materials Science, and Engineering – A Public-Private Partnership (P3)

The proposed site for the Innovation Complex is the former Warren Street School located at 200-214 Warren Street, Newark, New Jersey (Block 403, Lot 23, approximately 1.5 acres. This former Newark Public School transitioned to the Newark Housing Authority (NHA) and was sold to a developer. NJIT intends to form a public-private partnership (P3) with the developer who purchased this property. NJIT will pay $4.5 Million to the developer to purchase the land and complete demolition and remediation of the remaining building site. Once the site is ready, NJIT will form a P3 to develop the site. The developer will "build to suit" during the agreed upon lease term. At the end of the agreed-upon lease term, NJIT will acquire ownership of the property.

NEW JERSEY INSTITUTE OF TECHNOLOGY
FY2019 BUDGET PRIORITY REQUESTS

Summary of Budget Needs Institute for Applied Materials Science and Engineering

Priority Requests ($000's)	Total $
Institute for Applied Materials Science and Engineering	$7,000
Total	$7,000

2) Institute for Healthcare Delivery (IHD)

NJIT delivers its economic development mission through its 5.01c3 corporation, the New Jersey Innovation Institute (NJII). NJII is pioneering new models of business cluster formation through its i-Labs that were created to serve the needs of specific industry verticals that are challenged by changing market dyanmics and disruptive technologies. These verticals include Biotechnology & Pharmaceutical Production, Civil Infrastructure, Defense & Homeland Security, Financial Services and Healthcare Delivery Systems. Each uses a common framework for engaging creative, emerging businesses, university faculty and student entrepreneurs and established large companies to work through a stuctured innovation process. This proposal seeks assistance to create the needed infrastructure for a consolidated approach to bringing innovation to the delivery of high quality, affordable and accessible healthcare to the citizens of New Jersey and gowing the cluster of companies that wil contribuite to that vision.

In 2009, the Social Security Advisory Board wrote, "The cost of healthcare in the United States is growing more rapidly than the incomes of those who pay for it. If these costs continue to rise as rapidly into the future, the standards of living and economic security of retirees and workers alike will be put in jeopardy. Employers will increasingly shift health care costs to their employees. Government budgets will be dominated by the need to finance the cost of Medicare and Medicaid benefits". Extraordinary measures have been taken since then to curb this growth by creating a nationwide infrastructure for digital medical records and health information exchange as the underpinning for new reimbursement models based on patient outcomes. NJIT has been at the forefront of these programs, leading all national centers in the number of physicians achieving meaningful use certification for electronic medical record systems, pioneering the seamless connection of public and private health information exchanges and now running a nationally recognized program helping physicians attain accountable care standards. These successes contribute to stabilizing healthcare costs, but much work remains to be done to cut costs in half in order to match the expenditures of the other industrialized nations of the world.

NJII has successfully developed an applied "Innovation as a Service" model as a technique for bridging the gap between commercial sector problems and the innovative capacity of the university and small business communities. It is a three-step sequence beginning with the formation of ideas (ideation), moves prospective solutions to scaled test and evaluation, and finishes with commercialization. In each stage, NJII has piloted unique tools and services that facilitate collaboration from open innovation to supply chain based production. The physical facilities that this funding would support would provide for the co-location of incubated/accelerated companies, specialized facilities decicated to idea generation, test and evaluation, and the ongoing technology development and deployment of new healthcare technology that the NJII staff and NJIT faculty conduct. In toto, it comprises an innovation ecosystem for healthcare delivery that would be without parallel.

Ideation: Design and Collaboration

The IHD will enable brainstorming, problem-solving, process re-engineering and design, workflow automation, and collaboration activities. It will have a balance of physical and virtual

capabilities to bring multi-disciplines together to address key challenges. This aspect of the program will use techniques like the Strategic Doing process that NJII has already used with the Hackensack Meridian to nurture innovation from within their employee base and is now being developed with other partner systems like Atlantic Health, Atlantic Care, Barnabas as well as indepdendent hospitals.

The program will leverage access to resident incubator companies, students, faculty and programs and provide early visibility to emerging technologies and innovation. It will access and focus existing programs to help address challenges in areas such as:

- Healthcare delivery process re-engineering
- Home health care delivery
- Virtual organizations
- Healthcare informatics
- Biomedical technology and other research
- Provider education and training

The Design and Collaboration Stage generates concepts and solutions for imaginative healthcare delivery workflows, processes, predictive outcomes and technologies that are developed and matured in the and honed in the Health Care Integration Center.

Test & Evaluation: Healthcare Integration

This stage is a "simulation" environment reproducing activities and interactions in the healthcare delivery continuum that includes mock medical reception desks, emergency rooms, operstiong rooms, patient rooms, and home care environments. The intent is to create a "living lab" environment where ideas, scenarios, and technologies are prototyped, enacted and role played allowing stakeholders to see and experience various ideas and solution sets in a relevant way. This capability allows the work groups to "fail early" to get to solutions that work. In this process, practitioners and design groups create a learning environment where ideas are valued, and innovation can thrive.

Commercialization: Incubation, Acceleration, and Translation

In 1988, NJIT created the Enterprise Development Center (EDC) that now stands as the state's oldest technology business incubator and one of the largest university-run establishments in the country. It has developed a portfolio of services that accelerate the growth of new companies into mature revenue generating enterprises. EDC now hosts over 90 companies that have created over 700 jobs and attracted nearly $140M in private investment, and show a post-incubation survival rate of nearly 85%. This new facility will leverage that expertise to focus on the needs of one high-growth business sector and create a high concentration or related firms whose growth is driven by the needs of the State's healthcare providers, rate payers and supporting industries.

The NJII Healthcare i-Lab has already pioneered programs for healthcare cluster growth with a JP Morgan Chase $3M Small Business Forward grant that focuses on small companies with at least $250K/yr of revenue. The NJII Health IT Connections program guided over 100 companies in the last three years to achieve 46% annual revenue growth and over 40% annual employee growth through its acceleration program. These services molded around the Design & Collaboration and Healthcare Integration Centers serve as the magnet to attract high-performing companies in the healthcare delivery sector.

To EDC is already operating at full capacity so new space is needed to accommodate growth of the healthcare-related startup community. The space needs to be highly flexible and reconfigurable so that it can provide open co-working space for classic start-ups but also retain small, growing enterprises that are beyond start-up mode but still benefit from access to the ideation and technology demonstration resources of the NJII centers.

Proposed Building Site for Institute for Healthcare Delivery– Public-Private Partnership (P3)

The proposed location for the integrated healthcare delivery technology and business development program is the site of the former Warren Street School that is to be redeveloped as a public-private partnership (P3) with the developer who purchased this property that will ultimately be owned by NJIT. The activity will occupy 20,000 square feet of the multi-purpose building. The funds requested are for fit-out to accommodate the specialized facility needs of each of the program elements: flexible conferencing, breakout and prototyping space for ideation; re-configurable healthcare delivery simulation environments for test, evaluation and demonstration of new solutions; modern co-working space for start-ups, traditional office space for emerging companies and for the Healthcare Innovation Lab program staff and leadership.

Summary of Budget Needs for Institute for Healthcare Delivery

Priority Requests ($000's)	Total $
Institute for Healthcare Delivery	$5,000
Total	**$5,000**

3) IT Infrastructure and Cybersecurity Support

This request seeks resources to provide lifecycle replacement for key components of the university's IT infrastructure, to strengthen the university's information security defenses, raise awareness of cybersecurity threats, and to strengthen the university's overall business continuity efforts for ensuring that IT business and technical services can be resumed within required and agreed business timescales.

Information technology remains an intrinsic part of the campus culture, as vital a part of the university's infrastructure as the bricks and mortar of its physical plant. But unlike bricks and mortar, the useful life of the university's IT infrastructure ranges from four to seven years before obsolescence begins to stifle innovation. Extended delays with reinvestment in a lifecycle replacement cycle risk significant interruption of critical campus services. Infrastructure support for technology is a key objective of the *2020 Vision—Strategic Plan for NJIT.*

Investments in IT infrastructure will provide renewal for the campus wired and wireless networks, high-performance computing and "big data" resources used in research, and the public computing labs and classroom technology used in teaching and learning.

A recent Global CEO Outlook report by KPMG identified cyber as the most unpredictable risk there is – more unpredictable than national disasters. Routine vulnerability testing and cybersecurity awareness programs are among the most important aspects of any organization's cyber-preparedness program. In FY18 NJIT doubled the cybersecurity insurance policy for additional protection. Resources are requested to launch in FY19 an annual program of vulnerability testing of NJIT systems and to conduct a robust cybersecurity awareness program among students, faculty, and staff.

Maintenance of critical IT services at agreed service levels is a critical output of enterprise risk management. Included within this request is funding to test outsourcing of the university's ERP and enterprise web services into the Amazon Web Services (AWS) cloud infrastructure. Successful demonstration of deployment to the AWS cloud will eliminate the need for significant capital upgrades for UPS (uninterruptible power supply) and generator services in the central campus data center currently targeted for FY19 and lifecycle server replacements scheduled for FY20. Successful deployment to the AWS cloud will also eliminate the risk of IT service outages for those services reliant on premise-based infrastructure.

Summary of Budget Needs for the NJIT IT Infrastructure and Cybersecurity Support

Priority Requests ($000's)	Total $
IT infrastructure Renewal	$1,223
Cybersecurity Support	$127
AWS Cloud Testing	$150
TOTAL	**$1,500**

4) State Authorized FTE's

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 subsequent State budget processes, the authorized FTE count was reduced to 1,187.

NJIT continues to display significant growth in enrollment, research, and operations. Total operations have grown from $259 Million in FY09 to $518.8 Million in FY18, an increase of $259.8 million, or 100.3%. Total student headcount has increased from 11,344 in FY09 to 14,764 for FY18, a growth of 30.1%.

Our FY19 budget request includes 126 additional professional staff FTEs to support and also enable NJIT to partner with industry to create research and development opportunities for technological solutions to our society's most pressing challenges. NJIT is also requesting recognition of our UCAN Teaching/Research Graduate Assistants which currently total 340; these doctoral students work 20 hours a week would equate to an additional 195 FTEs. Therefore NJIT requests that our State Authorized FTE count be increased to 1,508, an increase of 321 above our current 1,187 FTE count.

Summary of State Authorized FTE Budget Request

Priority Request	FTE
State Authorized FTE Increase	321

STATE OFNEW JERSEY
DEPARTMENT OF THE TREASURY
OFFICE OF MANAGEMENT AND BUDGET
FISCAL YEAR 2019
PLANNING DOCUMENT BUDGET INITIATIVE FORM (BIF)
For

DEPARTMENT OF STATE
NJ INSTITUTE OF TECHNOLOGY

Title: **Institute for Applied Materials Science and Engineering**

Type: Growth

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

Space Needs: No Effect **Rank:** 1

Initiative Description:

NJIT is one of 32 polytechnic universities in the United States and is New Jersey's public comprehensive STEM University. It enrolls more than 11,500 students annually in bachelor's, master's, and doctoral degree programs; expends approximately $140 million on research activity, and generates an economic impact of more than $1.74 billion on the State of New Jersey each year. The university'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. The Institute for Applied Materials Science & Engineering and the Institute for Healthcare Delivery will form an innovation complex. This complex will serve as a beacon for economic growth for the greater Newark area and the State of New Jersey.

The goal of the IAMSE is to facilitate and accelerate the research to market pathways from academic basic and applied research to entrepreneurial technology development to demonstrate commercialization feasibility for meeting the industry and market needs. The proposed resource infrastructure will provide critical research facilities for the development of advanced materials, smart nano-engineered concrete, cement and composite materials, polymers, and nanotechnologies with fabrication of sensors, devices, and systems for applications in healthcare, biomedical, pharmaceutical, environmental, infrastructure construction, renewable/solar energy, and manufacturing areas. Along with externally funded academic research, IAMSE will be used in education and training programs for STEM students to prepare them to meet the growing workforce needs in NJ materials science, engineering and technology industry. Working with industry and NJII, IAMSE will act as research engine for the technology translation and validation with pre-commercial prototypes of advanced materials, sensors, and devices for faster growth in NJ economy and STEM jobs.

Impact

Building on our STEM educational programs and our economic impact of more than $1.74 billion on the state of NJ each year. This complex will serve as a center of innovation in the area of Material Science, Engineering and Technology Research and Commercialization.

EDC is already operating at full capacity so new space is needed to accommodate growth of the healthcare-related startup community. The space needs to be highly flexible and reconfigurable so that it can provide open co-working space for classic start-ups but also retain small, growing enterprises that are beyond start-up mode but still benefit from access to the ideation and technology demonstration resources of the NJII centers.

The goal of the IMSETR is to facilitate and accelerate the translational pathways from academic basic and applied research to entrepreneurial technology development to demonstrate commercialization feasibility for meeting the industry and market needs. The proposed laboratory resource infrastructure will provide critical research facilities for the development of advanced materials, polymers and nanotechnologies with fabrication of sensors, devices and systems for applications in biomedical, pharmaceutical, environmental, renewable/solar energy, and manufacturing areas. Along with externally funded academic research, IMSETR will be used in education and training programs for STEM students to prepare them to meet the growing workforce needs in NJ material science and technology industry. Working with industry and NJII, IMSETR will act as research engine for the technology translation and validation with pre-commercial prototypes of advanced materials, sensor and devices for faster growth in NJ economy and STEM jobs.

Out-year Considerations

NJIT is requesting a one-time increase of $7,000,000 needed to purchase, renovate and operate the facility.

Language

FY Funding

	FY 2019	FY 2020	FY 2021	FY 2022
Total Fiscal Year Funding:	$0	$7,000	$7,000	$7,000

STATE OFNEW JERSEY
DEPARTMENT OF THE TREASURY
OFFICE OF MANAGEMENT AND BUDGET
FISCAL YEAR 2019
PLANNING DOCUMENT BUDGET INITIATIVE FORM (BIF)
For

DEPARTMENT OF STATE
NJ INSTITUTE OF TECHNOLOGY

Change:	$7,000	$0	$0	$0
Total FY Budget Request:	$7,000	$7,000	$7,000	$7,000

STATE OFNEW JERSEY
DEPARTMENT OF THE TREASURY
OFFICE OF MANAGEMENT AND BUDGET
FISCAL YEAR 2019
PLANNING DOCUMENT BUDGET INITIATIVE FORM (BIF)
For

DEPARTMENT OF STATE
NJ INSTITUTE OF TECHNOLOGY

Title: **Institute for Healthcare Delivery**

Type: Growth

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

Space Needs: Increase **Rank:** 2

Initiative Description:

NJIT delivers its economic development mission through its 5.01c3 corporation, the New Jersey Innovation Institute (NJII). NJII is pioneering new models of business cluster formation through its i-Labs that were created to serve the needs of specific industry verticals that are challenged by changing market dyanmics and disruptive technologies. These verticals include Biotechnology & Pharmaceutical Production, Civil Infrastructure, Defense & Homeland Security, Financial Services and Healthcare Delivery Systems. Each uses a common framework for engaging creative, emerging businesses, university faculty and student entrepreneurs and established large companies to work through a stuctured innovation process. This proposal seeks assistance to create the needed infrastructure for a consolidated approach to bringing innovation to the delivery of high quality, affordable and accessible healthcare to the citizens of New Jersey and gowing the cluster of companies that wil contribuite to that vision.

NJII has successfully developed an applied "Innovation as a Service" model as a technique for bridging the gap between commercial sector problems and the innovative capacity of the university and small business communities. It is a three-step sequence beginning with the formation of ideas (ideation), moves prospective solutions to scaled test and evaluation, and finishes with commercialization. In each stage, NJII has piloted unique tools and services that facilitate collaboration from open innovation to supply chain based production. The physical facilities that this funding would support would provide for the co-location of incubated/accelerated companies, specialized facilities decicated to idea generation, test and evaluation, and the ongoing technology development and deployment of new healthcare technology that the NJII staff and NJIT faculty conduct. In toto, it comprises an innovation ecosystem for healthcare delivery that would be without parallel.

Impact

In 1988, NJIT created the Enterprise Development Center (EDC) that now stands as the state's oldest technology business incubator and one of the largest university-run establishments in the country. It has developed a portfolio of services that accelerate the growth of new companies into mature revenue generating enterprises. EDC now hosts over 90 companies that have created over 700 jobs and attracted nearly $140M in private investment, and show a post-incubation survival rate of nearly 85%. This new facility will leverage that expertise to focus on the needs of one high-growth business sector and create a high concentration or related firms whose growth is driven by the needs of the State's healthcare providers, rate payers and supporting industries.

The NJII Healthcare i-Lab has already pioneered programs for healthcare cluster growth with a JP Morgan Chase $3M Small Business Forward grant that focuses on small companies with at least $250K/yr of revenue. The NJII Health IT Connections program guided over 100 companies in the last three years to achieve 46% annual revenue growth and over 40% annual employee growth through its acceleration program. These services molded around the Design & Collaboration and Healthcare Integration Centers serve as the magnet to attract high-performing companies in the healthcare delivery sector.

To EDC is already operating at full capacity so new space is needed to accommodate growth of the healthcare-related startup community. The space needs to be highly flexible and reconfigurable so that it can provide open co-working space for classic start-ups but also retain small, growing enterprises that are beyond start-up mode but still benefit from access to the ideation and technology demonstration resources of the NJII centers.

Out-year Considerations

NJIT is requesting a one-time increase of $5,000,000 needed to renovate and operate the facility.

Language

FY Funding

	FY 2019	FY 2020	FY 2021	FY 2022
Total Fiscal Year Funding:	$0	$5,000	$5,000	$5,000

Change:	$5,000	$0	$0	$0
Total FY Budget Request:	$5,000	$5,000	$5,000	$5,000

STATE OFNEW JERSEY
DEPARTMENT OF THE TREASURY
OFFICE OF MANAGEMENT AND BUDGET
FISCAL YEAR 2019
PLANNING DOCUMENT BUDGET INITIATIVE FORM (BIF)
For

DEPARTMENT OF STATE
NJ INSTITUTE OF TECHNOLOGY

Title: **IT Infrastructure and Cybersecurity Support**

Type: Growth

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

Space Needs: No Effect **Rank:** 3

Initiative Description:

This request seeks resources to provide lifecycle replacement for key components of the university's IT infrastructure, to strengthen the university's information security defenses, raise awareness of cybersecurity threats, and to strengthen the university's overall business continuity efforts for ensuring that IT business and technical services can be resumed within required and agreed business timescales.

Information technology remains an intrinsic part of the campus culture, as vital a part of the university's infrastructure as the bricks and mortar of its physical plant. But unlike bricks and mortar, the useful life of the university's IT infrastructure ranges from four to seven years before obsolescence begins to stifle innovation. Extended delays with reinvestment in a lifecycle replacement cycle risk significant interruption of critical campus services. Infrastructure support for technology is a key objective of the 2020 Vision—Strategic Plan for NJIT.

Impact

Investments in IT infrastructure will provide renewal for the campus wired and wireless networks, high-performance computing and "big data" resources used in research, and the public computing labs and classroom technology used in teaching and learning.

Out-year Considerations

Maintenance of critical IT services at agreed service levels is a critical output of enterprise risk management. Included within this request is funding to test outsourcing of the university's ERP and enterprise web services into the Amazon Web Services (AWS) cloud infrastructure. Successful demonstration of deployment to the AWS cloud will eliminate the need for significant capital upgrades for UPS (uninterruptible power supply) and generator services in the central campus data center currently targeted for FY19 and lifecycle server replacements scheduled for FY20. Successful deployment to the AWS cloud will also eliminate the risk of IT service outages for those services reliant on premise-based infrastructure.

Language

FY Funding

	FY 2019	FY 2020	FY 2021	FY 2022
Total Fiscal Year Funding:	$0	$1,500	$1,500	$1,500
Change:	$1,500	$0	$0	$0
Total FY Budget Request:	$1,500	$1,500	$1,500	$1,500

STATE OFNEW JERSEY
DEPARTMENT OF THE TREASURY
OFFICE OF MANAGEMENT AND BUDGET
FISCAL YEAR 2019
PLANNING DOCUMENT BUDGET INITIATIVE FORM (BIF)
For

DEPARTMENT OF STATE
NJ INSTITUTE OF TECHNOLOGY

Title: State Authorized FTE

Type: Growth

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

Space Needs: No Effect **Rank:** 4

Initiative Description:

NJIT continues to display significant growth in enrollment, research, and operations. Total operations have grown from $259 Million in FY09 to $518.8 Million in FY18, an increase of $259.8 million, or 100.3%. Total student headcount has increased from 11,344 in FY09 to 14,764 for FY18, a growth of 30.1%.

Impact

As the university continues to grow we need to add additional faculty and staff, as we are approaching our State authorized FTE maximum of 1,187.

Out-year Considerations

Our FY19 budget request includes 126 additional professional staff FTEs to support and also enable NJIT to partner with industry in order to create research and development opportunities for technological solutions to our society's most pressing challenges. NJIT is also requesting recognition of our UCAN Teaching/Research Graduate Assistants which currently total 340, these doctorial students work 20 hours a week would equate to an additional 195 FTEs. Therefore NJIT requests that our State Authorized FTE count be increased to 1,508, an increase of 321 above our current 1,187 FTE count.

Language

FY Funding

	FY 2019	FY 2020	FY 2021	FY 2022
Total Fiscal Year Funding:		$0	$0	$0
Change:	$0	$0	$0	$0
Total FY Budget Request:	$0	$0	$0	$0

Position:

Saving initiative start date: 7/1/2017

Position Type	Positions #	Positions $	Comments
Increase FTE	321	$0	
Total Positions	321	$0	

SECTION 5

CAPITAL BUDGET

NEW JERSEY INSTITUTE OF TECHNOLOGY
FY 2019 CAPITAL BUDGET REQUEST

Executive Summary

The FY19 Capital Budget Request of the New Jersey Institute of Technology was crafted to meet the priorities of our strategic plan, 2020 Vision: A Strategic Plan for NJIT. The request has been prepared for submission to the New Jersey Commission on Capital Budgeting and Planning in accordance with State guidelines. While the submission was crafted with all of the strategic priorities as a basis, we specifically focus on the strategic priority of investments, which is outlined below:

> Investments: NJIT will ensure that the human, physical and technological resources for student learning and faculty research have the highest priority. The university's faculty will continue to grow in numbers and renown. They will work in the best laboratories with the highest-quality equipment and technology infrastructure. All classrooms will accommodate a variety of instructional layouts and will offer the latest technology. A multiyear campus plan for student learning, faculty, research and community investment will propel NJIT to state, regional, national and international prominence.

Chartered by the State of New Jersey in 1881 as Newark Technical School, NJIT has grown into a major research University and premier educational institution. The University has grown it enrollment from 6,300 students in 1979 to11,551 in fall 2017, which is an all-time high for NJIT. This growth has been accomplished without compromising quality of the NJIT student. Students entering in the 2017 fall semester had average SAT scores for critical reading and mathematics of over 1200 and 33% were from the top 10% of their high school class. Research has grown during the same period from $375,000 to over $140,000,000 making NJIT one of the preeminent research universities in the region.

To continue the growth trajectory in both education and research, the NJIT FY19 request reaches across all aspects of the University as we work to steward our existing resources as well as adding new facilities. As the State of New Jersey's only polytechnic university, NJIT has facilities that require more resources and technology than the traditional educational institution. The total request outlines $405,600,000 in capital projects through 2025. The FY19 projects range from $5,000,000 to renew our existing capital assets, a priority of the 2020 Vision, to a $62,100,000 investment to covert Tiernan Hall into an IDEAS center to transform and modernize this building to suit the needs of our Chemistry and Environmental Science, Physics, and Chemical, Biological, and Pharmaceutical Engineering students.

NJIT has continued to invest in it is physical assets in order to deliver on our promise of a premier educational experience to our highly competitive students. The FY19 request is in alignment with our strategic plan and our facilities mission to provide a healthy, safe and helpful campus experience for students, parents, faculty, staff and alumni. We will maximize the use of human and financial resources to create an environment for learning, research, and innovation for the NJIT family through the incorporation of teamwork, communication, and creativity. The projects requested herein will continue the good work of the institution for generations of students to come.

Department Priority Summary Report- All Fund Sources

Department Priority	Project Title	Organization	Project Number	FY 2019	FY 2020	FY 2021	FY 2022 - 2025	Total
75 C	**New Jersey Institute of Technology**							
	CURRENT/DEFERRED MAINTENANCE	NJIT - NEW JERSEY INSTITUTE OF TECHNOL	838	$5,000	$10,000	$15,000	$20,000	$50,000
2	THE IDEAS CENTER: INNOVATION, DESIGN,	NJIT - NEW JERSEY INSTITUTE OF TECHNOL	1230	$62,100	$0	$0	$0	$62,100
3	LIBRARY	NJIT - NEW JERSEY INSTITUTE OF TECHNOL	324	$7,750	$10,000	$20,000	$38,250	$76,000
4	MODERNIZATION OF LABORATORY AND INS	NJIT - NEW JERSEY INSTITUTE OF TECHNOL	1091	$0	$6,500	$0	$0	$6,500
5	ACADEMIC BUILDING	NJIT - NEW JERSEY INSTITUTE OF TECHNOL	27	$0	$0	$39,000	$39,000	$78,000
6	EXPANSION OF THE LIFE SCIENCES AND EI	NJIT - NEW JERSEY INSTITUTE OF TECHNOL	1253	$0	$0	$5,000	$55,000	$60,000
7	ENGINEERING FACILITY EXPANSION	NJIT - NEW JERSEY INSTITUTE OF TECHNOL	1254	$0	$0	$0	$65,000	$65,000
8	LAND ACQUISITION	NJIT - NEW JERSEY INSTITUTE OF TECHNOL	24	$0	$0	$0	$8,000	$8,000
		Department Total		$74,850	$26,500	$79,000	$225,250	$405,600

Project Status Report

Capital Improvement Projects FY2011 - FY 2017

(000's)

New Jersey Institute of Technology

NJIT - NEW JERSEY INSTITUTE OF TECHNOLOGY

Project Name	Proj No.	Start Year	Status	Total Available	General	Bond	Federal	Other
LABORATORIES, CLASSROOMS, AND STUDIO FOR STEM	32	2013	Continuing	79,137	0	66,342	0	12,795
CENTER FOR INTEGRATIVE LIFE SCIENCES	33	2014	Continuing	19,000	0	13,500	0	5,500
WELLNESS EVENTS CENTER	34	2015	Continuing	102,000	0	92,000	0	10,000
PARKING DECK	35	2015	Completed	23,800	0	23,800	0	0
INTEGRATED MARKERSPACE	36	2016	Continuing	20,000	0	20,000	0	0
TOTAL FOR: NJIT - NEW JERSEY INSTITUTE OF TECHNOLOGY				**$243,937**	**$0**	**$215,642**	**$0**	**$28,295**
Department Totals				**$243,937**	**$0**	**$215,642**	**$0**	**$28,295**

Capital Project Report by Org & Priority

10/26/2017

Project Number:	**838**	***Project Title:***	CURRENT/DEFERRED MAINTENANCE
Project Type:	**A06** Preservation-Other	***Department:***	NEW JERSEY INSTITUTE OF TECHNOLOGY
		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 projects include, but are not limited to, the following: Campus wide roof replacements ($10 Million), Elevator modernization/upgrade in several buildings ($3.5 Million), Sidewalk and roadways ($2 Million), Window replacement in Campbell, Cullimore, Colton, Tiernan, and Faculty Hall ($12.5 Million), and HVAC modernization in Cullimore Hall ($5 Million).

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	$50,000
Total Estimated Cost:	**$50,000**

PRIOR YEARS' APPROP.	FUND TYPE	(000's) FY-2019	FY- 2020	FY- 2021	FY 2022 - 2025	TOTAL PROJECT COST
	General	$5,000	$10,000	$15,000	$20,000	$50,000
	TOTALS	**$5,000**	**$10,000**	**$15,000**	**$20,000**	**$50,000**

Capital Project Report by Org & Priority

10/26/2017

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 two large lecture halls, 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	$50,000
FURNISHING AND FIXTURES	$5,890
FEES	$6,210
Total Estimated Cost:	**$62,100**

(000's)

PRIOR YEARS' APPROP.	FUND TYPE	FY-2019	FY- 2020	FY- 2021	FY 2022 - 2025	TOTAL PROJECT COST
	Bond	$55,890	$0	$0	$0	$55,890
	Other	$6,210	$0	$0	$0	$6,210
	TOTALS	**$62,100**	**$0**	**$0**	**$0**	**$62,100**

Capital Project Report by Org & Priority

10/26/2017

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 - NJIT NEWA

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	$56,300
FURNISHING AND FIXTURES	$10,000
OTHER	$1,700
FEES	$8,000
Total Estimated Cost:	**$76,000**

(000's)

PRIOR YEARS' APPROP.	FUND TYPE	FY-2019	FY- 2020	FY- 2021	FY 2022 - 2025	TOTAL PROJECT COST
	General	$7,750	$10,000	$20,000	$38,250	$76,000
	TOTALS	**$7,750**	**$10,000**	**$20,000**	**$38,250**	**$76,000**

Capital Project Report by Org & Priority

10/26/2017

Project Number:	**1091**	***Project Title:***	MODERNIZATION OF LABORATORY AND
Project Type:	**E03** Construction-Renovations and Rehabilitation	***Department:***	NEW JERSEY INSTITUTE OF TECHNOLOGY
		Organization:	NJIT - NEW JERSEY INSTITUTE OF TECHNOLOGY
Department Priority:	**4**	***Facility Name:***	NEW JERSEY INSTITUTE OF TECHNOLOGY
New Project:	Yes	***Project Location:***	NEW JERSEY INSTITUTE OF TECHNO

PROJECT DESCRIPTION AND JUSTIFICATION

The frontier areas of science and engineering are increasingly dependent upon experimental studies, after decades in which computer modeling and simulation were the dominant tools. Nano-systems technology and molecular biology are examples in which the underlying scientific principles are not well enough understood to use model based approaches to discovery. Hands-on and eyes-on are needed and this requires a new generation of analytic and imaging systems to support both research and instruction. The expansion of this research will be incorporated into existing renovated space.

PROJECT ANNUAL OPERATING IMPACT (000's)

IMPACT	INCREASE	DECREASE
No	$0	$0

EXPLANATION:

Renovation of existing space.

PROJECT PHASE	*ESTIMATED COST (000's)*
CONSTRUCTION	$5,000
FURNISHING AND FIXTURES	$585
OTHER	$265
FEES	$650
Total Estimated Cost:	**$6,500**

(000's)

PRIOR YEARS' APPROP.	FUND TYPE	FY-2019	FY- 2020	FY- 2021	FY 2022 - 2025	TOTAL PROJECT COST
	General	$0	$6,500	$0	$0	$6,500
	TOTALS	**$0**	**$6,500**	**$0**	**$0**	**$6,500**

Capital Project Report by Org & Priority

10/26/2017

Project Number:	27	***Project Title:***	ACADEMIC BUILDING
Project Type:	E04 Construction-Other	***Department:***	NEW JERSEY INSTITUTE OF TECHNOLOGY
		Organization:	NJIT - NEW JERSEY INSTITUTE OF TECHNOLOGY
Department Priority:	5	***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 NJITs growth.

PROJECT ANNUAL OPERATING IMPACT (000's)

IMPACT	INCREASE	DECREASE
Yes	$1,714	$0

EXPLANATION:

Additional operating and maintenance costs.

PROJECT PHASE	*ESTIMATED COST (000's)*
CONSTRUCTION	$60,000
FURNISHING AND FIXTURES	$7,800
OTHER	$2,200
FEES	$8,000
Total Estimated Cost:	**$78,000**

(000's)

PRIOR YEARS' APPROP.	FUND TYPE	FY-2019	FY- 2020	FY- 2021	FY 2022 - 2025	TOTAL PROJECT COST
	General	$0	$0	$39,000	$39,000	$78,000
	TOTALS	**$0**	**$0**	**$39,000**	**$39,000**	**$78,000**

Capital Project Report by Org & Priority

10/26/2017

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:	**6**	***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 24,000 GSF 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	$50,000
FURNISHING AND FIXTURES	$4,500
OTHER	$500
FEES	$5,000
Total Estimated Cost:	**$60,000**

PRIOR YEARS' APPROP.	FUND TYPE	(000's) FY-2019	FY- 2020	FY- 2021	FY 2022 - 2025	TOTAL PROJECT COST
	Bond	$0	$0	$5,000	$55,000	$60,000
	TOTALS	**$0**	**$0**	**$5,000**	**$55,000**	**$60,000**

Capital Project Report by Org & Priority

10/26/2017

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:	7	***Facility Name:***	
New Project:	Yes	***Project Location:***	

PROJECT DESCRIPTION AND JUSTIFICATION

The Newark College of Engineering remains NJITs 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	$50,000
FURNISHING AND FIXTURES	$5,850
OTHER	$2,650
FEES	$6,500
Total Estimated Cost:	**$65,000**

PRIOR YEARS' APPROP.	FUND TYPE	(000's) FY-2019	FY- 2020	FY- 2021	FY 2022 - 2025	TOTAL PROJECT COST
	Bond	$0	$0	$0	$65,000	$65,000
	TOTALS	**$0**	**$0**	**$0**	**$65,000**	**$65,000**

Capital Project Report by Org & Priority

10/26/2017

Project Number:	**24**	***Project Title:***	LAND ACQUISITION
Project Type:	**D04** Acquisition-Other	***Department:***	NEW JERSEY INSTITUTE OF TECHNOLOGY
		Organization:	NJIT - NEW JERSEY INSTITUTE OF TECHNOLOGY
Department Priority:	**8**	***Facility Name:***	NEW JERSEY INSTITUTE OF TECHNOLOGY
New Project:	Yes	***Project Location:***	NEWARK

PROJECT DESCRIPTION AND JUSTIFICATION

A critical element of the campus master plan is to acquire a limited amount of land to permit the construction of new facilities and to complete the campus edge at the intersection of Central Avenue and Martin Luther King BLVD. The area is within the Campus Gateway Development Plan, which is a subset of the City approved Broad Street Station District Redevelopment Plan. NJIT is the designated Redeveloper by the City of Newark. In addition, acquisition of another adjacent, strategically located property allows for future campus expansion exists on the west side of campus. Each will enhance the capabilities of NJIT and accommodate growth.

PROJECT ANNUAL OPERATING IMPACT (000's)

IMPACT	INCREASE	DECREASE
No	$0	$0

EXPLANATION:

PROJECT PHASE	*ESTIMATED COST (000's)*
OTHER	$8,000
Total Estimated Cost:	**$8,000**

PRIOR YEARS' APPROP.	FUND TYPE	(000's) FY-2019	FY- 2020	FY- 2021	FY 2022 - 2025	TOTAL PROJECT COST
	General	$0	$0	$0	$8,000	$8,000
	TOTALS	**$0**	**$0**	**$0**	**$8,000**	**$8,000**