

# About the University

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## New Jersey Institute of Technology

NJIT's history spans the Industrial Revolution to the Information Age. Newark was a factory town when the tuition-free evening school was founded in 1881 to support local industries. The first 90 students - including machinists, draftsmen, carpenters, printers, electricians and clerks - studied algebra, geometry, trigonometry, chemistry, physics and drawing. The range of courses offered is testimony to the fact that, from the beginning, NJIT's programs have provided a broad-based foundation to prepare students for success in the workplace and in life. From those early days, science and technology have been the engines fueling the university's development.

Over time, the university both anticipated and responded to change by expanding its curriculum and mission. Most notably, in 1919 the university established baccalaureate programs in three engineering fields. By 1975, NJIT offered a broad range of undergraduate and graduate degrees including architecture, engineering, computer science, management and other science-oriented programs. All of these programs included significant research and public service components with the goal of providing an academic environment that fosters intellectual depth and breadth, as well as social responsibility.

Today, continuing a fourfold mission of instruction, research, economic development and public service, NJIT is among the leading comprehensive polytechnic universities in the nation. With well over 11,000 students, NJIT is the largest technological university in the New York metropolitan region. The university has state-of-the-art facilities with more than 2 million square feet located on a 48-acre campus in Newark, and a solar observatory in Big Bear Lake, California. With robust distance education programs, NJIT's degree and non-degree programs are available throughout the world.

## NJIT Mission Statement

*On July 1, 2015, NJIT introduced its 2020 Vision --A Strategic Plan to chart the university's course for the next five years, to ensure the transformational change envisioned and academic excellence.*

NJIT is the **state's technological research university**, committed to the **pursuit of excellence** —

- in undergraduate, graduate and continuing professional **education**, preparing students for productive careers and amplifying their potential for lifelong personal and professional growth
- in the conduct of **research** with emphasis on applied, interdisciplinary efforts encompassing architecture and the sciences, including the health sciences, engineering, mathematics, transportation and infrastructure systems, information and communications technologies
- in contributing to **economic development** through the state's largest business incubator system, workforce development, joint ventures with government and the business community, and through the development of intellectual property
- in **service** to both its urban environment and the broader society of the state and nation by conducting public policy studies, making educational opportunities widely available and initiating community-building projects.

NJIT **prepares its graduates** for positions of leadership as professionals and as citizens; **provides educational opportunities** for a broadly diverse student body; responds to needs of large and small businesses, state and local governmental agencies and civic organizations; and **advances the uses of technology** as a means of improving the quality of life.

NJIT offers a **comprehensive array of programs** in engineering and engineering technology, computer science, architecture, applied sciences, mathematics, management, policy studies, and related disciplines throughout New Jersey and the nation.

## NJIT's Six Colleges

NJIT's roots are in engineering education. For more than eight decades since 1919, **Newark College of Engineering (NCE)** has been preparing engineering students to use science, mathematics, technology and problem-solving skills to design, construct, test and maintain products, services and information systems. NCE alumni lead major corporations, hold senior public positions, own their own businesses and teach at universities. NCE offers students a practical, hands-on and rigorous engineering education--one that prepares them to succeed professionally.

NJIT's **New Jersey School of Architecture**, established in 1973, is one of the largest architecture schools in the nation -- nationally recognized for integrating computer technology into its design curriculum. The college's design curriculum was so successful that in 2008 it changed its name to the **College of Architecture and Design**, now comprised of the **New Jersey School of Architecture** and the **School of Art and Design**.

The **College of Science and Liberal Arts (CSLA)**, established in 1982, is at the forefront of many national research activities from solar astronomy to mathematical modeling. CSLA prepares students for professional and public leadership with essential specialized knowledge and social intelligence, including the foundation for careers in law and medicine. Major fields include: applied physics, biology, chemistry, math, environmental science, communications and other liberal arts.

The **Martin Tuchman School of Management**, established in 1988, combines the best of traditional business disciplines (e.g., finance, marketing, accounting, e-commerce) with the power of STEM (science, technology, engineering and mathematics) to develop professionals who are applications-focused and success driven .

The **Albert Dorman Honors College**, established in 1994, offers one of the nation's leading technologically oriented honors programs for students who are prepared to undertake a rigorous and individualized course of study. Through accelerated programs, community service, study abroad and a range of colloquia, students prepare to be leaders, problem solvers and innovators.

The **Ying Wu College of Computing**, established in 2001, provides advanced interdisciplinary information systems, information technology, and computer science degree programs to students on campus and online. Specialized research includes: networking and computer security, big data analytics, bioengineering , bioinformatics, and game development.

## A Public Research University

NJIT is designated as a “Research Intensive” University by the Carnegie Foundation and ranks among the “best national universities” by *U.S. News and World Report*. The university expends more than \$75 million in a panoply of research and development partnerships with industry, government and other universities. NJIT researchers are making important advances in a wide range of areas, including: solar research, nanotechnology, resilient design, tissue engineering and other life sciences, biomedical engineering, cybersecurity, transportation and business management.

As a public research university, NJIT is educating leaders for a technology-driven economy. The university is constantly updating educational programs to emphasize marketplace skills, and redesigning its methods of delivering education. Computing and information technology underpin every facet of the NJIT mission.

## The Digital Campus

As one of America’s most digitally-enabled universities, NJIT is nationally recognized as a pioneer in the use of information technologies from developing complex algorithms to reducing simulation times on large-scale parallel computers, to advancing the frontiers of visualization technology in computer-aided design, to patenting optics-based sensors, to developing computer-based infrastructure management systems, to developing advanced computer-mediated communications systems.

NJIT’s Information Services and Technology (IST) division provides members of the university community with universal access to a wealth of resources and services available over the NJIT network and the advantages of a highly computing-intensive environment. EDUCAUSE has recognized the university for streamlining student processes “with creativity, efficiency, and effectiveness worthy of emulation.”

At NJIT, the latest advances in telecommunications and multimedia technologies are used to enhance the delivery of courses and the overall educational experience, allowing students to experience many aspects of a “virtual university” in a traditional campus setting. Computers and information technology play an important role in virtually every task performed on campus, from cutting-edge research to applying for on-campus student employment. Computers assist in teaching and independent study, campus communication, library research, engineering and architectural designs. Students register for classes, check the status of financial aid, run degree audits, ask questions of academic advisors, and pay their bill – all online. Students can access the tools they need to design new buildings, develop complex solutions to engineering problems or compile detailed management analyses – all by logging on to the NJIT network. With connectivity to Internet2, students have the opportunity to work closely with faculty and researchers as new families of advanced applications are developed for an increasingly networked and information-based society.

NJIT’s multi-gigabit network connects more than 6,500 nodes in classrooms, laboratories, residence halls, faculty and staff offices, the library, student organization offices and others. The campus wireless network blankets the university’s public, classroom and outdoor areas. Both networks provide access to a wealth of shared information services. Included among these are high-performance, multiprocessor servers used for simulation and computational research; disk arrays for storage of large data sets; communication servers for computer conferencing and e-learning, and a digital library with access to over 41,000 online journals. A virtual private network combined with Internet access extends access to network services to faculty, staff and students at home, work, any of the university’s extension sites or throughout the world.

Students, faculty, staff, and alumni receive a single university computing ID (UCID) that authenticates them as members of the NJIT community and authorizes them to role-based campus services. Highlander Pipeline, the NJIT portal, is the starting point for most online services. Students have access to hundreds of computer workstations in public-access computer labs across the campus, supplemented by special-purpose departmental facilities. A healthy mix of Windows, Mac, Linux, and other Unix operating environments support the diverse needs of a technological research university. Campus-wide software licenses provide NJIT faculty and students with the latest versions of the most popular Microsoft products, as well as software tools for virus-protection, statistical analysis, mathematical programming, computer-aided design and visualization, and much more. Advanced software libraries support the computational research needs of faculty and students in mathematics, engineering and the sciences.

The Office of Instructional Technology and Media Services provides several facilities used for live and recorded broadcast of e-courses as well as satellite down-links for a wide variety of video conferences and other educational and public service satellite broadcasts. Several interactive television studio classrooms provide distance learning facilities. Multimedia capability is now being deployed to all areas on campus via network-based video technologies.

In addition to these extensive resources, several departments have special facilities for the support of individual academic programs, including the New Jersey School of Architecture's award-winning Imaging Laboratory that provides students an opportunity to explore new media and images that alter the way buildings are visualized, interpreted and created.

NJIT is one of the founding members and administrative home to NJEDge.Net, New Jersey's higher education network. NJEDge.Net provides collaborative resources and networked information services to its members and affiliates in support of education; research and development; outreach and public service; as well as economic development throughout the state of New Jersey. With 102 connected institutions including all of New Jersey's research universities, NJEDge.Net leverages economies of scale and supports new and emerging technology-enabled forms of inter-institutional collaboration among members and affiliates.

## Library Services

The university's Robert W. Van Houten Library is located in a facility for study, researching, and browsing. The library collection comprises 160,000 volumes of books, conference proceedings, reports, dissertations and theses. In addition, the library receives approximately 1,000 current technical journal titles in printed format and provides customized electronic access to over 41,000 journals in electronic format. Access to journal literature in engineering, science, management, architecture, and other subject areas is provided by a variety of indexing and abstracting services.

In Fall 1997 the Van Houten Library opened the Information Commons, which has many workstations with access to the Internet. CompendexWeb, Proquest Direct, EbscoHost, Scifinder Scholar, IEEEExplore, the ACM Digital Library and Medline are among the many databases that students, faculty and staff may search. These services may also be accessed remotely.

The library provides individualized reference services, literature searches, and instruction on the use of information resources. In addition, students may supplement NJIT library resources by borrowing material from the Newark Public Library and the libraries of Rutgers University--Newark Campus, the University of Medicine and Dentistry of New Jersey, and the eight state colleges of New Jersey. Interlibrary loan arrangements with more distant institutions are also available.

Included among the library's resources is a small museum containing items developed and manufactured by Edward Weston, a scientist, prolific inventor, and a founding member of the university's Board of Trustees. Dr. Weston's rare book collection is also maintained by the library and is available to scholars and other interested in the history of science and technology.

The Barbara and Leonard Littman Library (<http://archlib.njit.edu>), a department of the university's Van Houten Library located in the College of Architecture and Design, maintains a core collection of architecture information materials including books, journals, maps, drawings, models and over 70,000 slides.

A team of highly trained information and research assistants, reference and instructional librarians bridge the gaps between research resources and users. They provide ad hoc assistance in person via the Research Helpdesk at the Van Houten Library and the service desk at the Littman Architecture Library, or by phone (973-596-3210 for Van Houten and 973-596-3083 for Littman), email, and instant messaging. More information about the library can be found at [www.library.njit.edu](http://www.library.njit.edu) (<http://www.library.njit.edu>).

## Consortium with Rutgers-Newark and Rutgers University Biomedical and Health Sciences (RBHS)

NJIT, Rutgers-Newark and Rutgers University Biomedical and Health Sciences (RBHS), New Jersey's university of the health sciences, offer 10 joint master's or doctoral degree programs, placing them as leaders in development of programs to prepare individuals for a world increasingly multidisciplinary and technological in nature.

The three institutions are partners in University Heights Science Park, designed as a mixed-use, multi-sponsor science and technology park. University Heights Science Park is a partnership among academia, the community, private industry, and local, state and federal governments, which provide opportunities to transfer university-based research and technology to public uses. The 50-acre University Heights Science Park is adjacent to the NJIT campus. Each year, thousands of students from NJIT, Rutgers-Newark and Rutgers University Biomedical and Health Sciences take courses at the institutions. NJIT and Rutgers-Newark cosponsor common seasons of theatrical productions, as well as "World Week," and a variety of other cultural and social activities.

## NJIT Campus

Located in the University Heights section of Newark, NJIT's 48-acre campus is adjacent to the campuses of Rutgers-Newark and Essex County College and a short distance from RBHS. The campus is reached easily via interstate highways and public transportation. New Jersey Transit's City Subway stops on campus, the Pennsylvania Railroad Station is five minutes from campus and Newark International Airport is located within five miles of NJIT. NJIT's campus is only 15 minutes from New York City and about 90 minutes from Philadelphia.

The expansion and improvement of NJIT's campus facilities have been vigorous, proceeding pursuant to a carefully drawn long-range plan, providing an environment conducive to accomplishment of the university's mission.

NJIT is adding to its \$1 billion in capital inventory with a \$300 million campus-wide building program that is helping transform research, teaching and campus life. New and renovated facilities, some financed in part by the State of New Jersey Higher Education Capital Facilities Grant Programs, include:

- Central King Building--with state-of-the-art teaching and learning hubs, due in early 2017
- Life Sciences and Engineering Building--a \$19 million facility with a primary focus on biomedical engineering, due in fall 2016
- Wellness and Events Center--a \$100 million facility that will serve the entire campus and house athletics
- Science and Technology Park Parking Facility--a 7-floor parking facility, due in fall 2016.

NJIT's campus is home to some 20 R&D centers supported with industry, state, federal, foundation and university funding. NJIT's three-story Otto H. York Center for Environmental Engineering and Science houses a number of state and federally funded research centers.

The 187,000-square-foot William S. Guttenberg Information Technologies Center houses the Center for Manufacturing Systems and the Multi-lifecycle Engineering Research Center. The building is the site of the Ying Wu College of Computing and industrial and manufacturing engineering instruction and research facilities.

The Campus Center houses the food court, dining room and a more informal eating facility, The Highlander Cafe. In addition, there is a campus theater in which student productions are staged, an athletic field, tennis courts and indoor recreational facilities, including a swimming pool, racquetball courts, weight rooms, track, aerobics room and more. The residence halls provide dormitory and apartment-style coed living accommodations for some 2000 students.