



# THE CENTER FOR PRE-COLLEGE PROGRAMS

*Inspiring Young Minds for College Access and Success in  
Science, Technology, Engineering and Mathematics (STEM)  
since 1979*

Serves over  
**4,300**  
elementary &  
secondary  
students yearly



Talent Search serves  
**728** Newark  
6<sup>th</sup>-12<sup>th</sup> graders  
annually



**971** high school  
students taking  
Dual Enrollment  
courses during  
the year

**80%**  
of Upward Bound  
seniors enrolled  
in college last year



**95%** of  
seniors  
completing Math  
Success  
Initiative  
accepted to NJIT



**1,200**  
students  
competed in  
CPCP-  
sponsored  
competitions

Over **80** UBELLs  
students have  
pursued post-  
secondary  
education in the  
past 3 years



**423** students from  
**43** Newark K-8  
schools attended 1<sup>st</sup>  
Newark STEM Day



**95%** of  
NJGEARUP / College  
Bound seniors enroll  
in post-secondary  
education

**12** years hosted  
Bernard Harris  
Summer Science  
Camps



**468** teachers from  
over **30** districts  
annually participate  
in Professional  
Development



**1,900**  
4<sup>th</sup>-12<sup>th</sup>  
graders in **23**  
summer  
programs of 1-6  
weeks



## **NEW JERSEY GAINING EARLY AWARENESS AND READINESS FOR UNDERGRADUATE PROGRAMS (NJ GEAR UP) / NEW JERSEY COLLEGE BOUND (NJ COLLEGE BOUND)**

Offers educational support and assistance to Newark middle and high school students to help them prepare for, enroll in, and successfully graduate from a college or university. Beginning in 2020, services include college freshmen. The programs are jointly funded by grants from the U.S. Department of Education and the State of New Jersey through the Office of the Secretary of Higher Education. Students participate in a 4- to 6-week summer program and/or a 20-week academic-year program, including Saturday instruction, field trips, college tours, tutoring, mentoring, counseling, STEM instruction, and other support services. Participants also have in-school and after-school tutoring during the school year at designated target high schools: Central, East Side, Barringer, and Weequahic; and middle schools: Hawkins Street, Belmont Runyon, Lafayette Street, Ridge Street, Sussex Avenue, and Wilson Avenue.

## **UPWARD BOUND FOR ENGLISH LANGUAGE LEARNERS (UBELLs)**

Addresses the needs of low-income high school students where English is not the primary language as they make their way toward first-generation admission to college. In addition to attending academic classes in math and science, UBELLs students receive support in achieving competence in English and instruction in goal setting, study skills and time management. Charged with enhancing students' college readiness and success, UBELLs also preps parents unfamiliar with the college process through financial aid and enrollment counseling. UBELLs services are free, as are books, instructional supplies, field trips, meals and tickets for public transportation. The program is provided for 20 weeks during the academic year and 6 weeks over the summer for students from Barringer and East Side High Schools. UBELLs is a federally-funded collaboration among NJIT and the Newark Board of Education (Newark BOE) and is designed for students in 9<sup>th</sup> through 12<sup>th</sup> grades.

## **TRiO PROGRAMS**

Federally funded collaboration between NJIT and Newark Public Schools, designed for students in 6<sup>th</sup> through 12<sup>th</sup> grades.

### **Upward Bound**

Serves 9<sup>th</sup>- to 12<sup>th</sup>-grade low-income students between the ages of 13 and 19, who will be the first generation in their families to attend college. The goal is to increase the rate at which participants enroll in and graduate from institutions of higher learning. The free program features an academic-year component that meets on-campus on Saturdays throughout the school year, as well as a six-week intensive, residential summer component. Students take classes in literature, composition, science, math, foreign language, art, computer science, architecture, psychology and more. Field trips are included as well, both during the school year and over the summer.

### **Talent Search**

Helps prepare middle school students for high school and high school students for college or a career of their choice. Participants are primarily from low-income households and are potentially first-generation college students. It is the intent of the free program to have students enroll as 6<sup>th</sup> graders and continue on until high school graduation. During the academic year, as well as through a summer enrichment program, students are provided with the necessary instruction and motivation to succeed. They also develop test-taking skills and take part in computer classes and cultural, social and recreational activities.

## **NJIT/NEWARK MATH SUCCESS INITIATIVE (MSI)**

Identifies select 12<sup>th</sup> grade students from partner high schools to strengthen their mathematics knowledge, skills, and preparation for STEM majors. The goal is to support students for potential admission to NJIT ready to take at least calculus. The first cohort of students began in July 2019. The program is a collaborative among the NJIT President's Office through the Center for Pre-College Programs (CPCP) and the College of Science and Liberal Arts (CSLA), the Newark Board of Education (Newark BOE), and the City of Newark.





## EARLY COLLEGE PREPARATORY PROGRAMS

Tuition and donor-funded programs, designed for students who have completed 4th through 11th grades.

### Academy College Courses for High School Students

Provides high-achieving high school students, grades 10 to 12, the opportunity to earn college credits. Students earn NJIT credit and receive an NJIT transcript. Credits may be transferable to other universities. Small classes meet at NJIT on Saturdays during the academic year and Monday-Thursday for a 5-week period during the summer.

### Options for Advanced Academic Achievement

Offers an opportunity for qualified high school students from partner schools to earn college credits at their school during the academic year. Courses are taught by high school teachers who are approved by NJIT as adjunct faculty members. The courses adhere to the same syllabus, textbook, and prerequisites as the on-campus course. Students receive an NJIT transcript.

### On-Campus Programs

#### Saturday Morning STEM Programs

Provides middle (grades 5-8) and high school students (grades 9-12) with five Saturday morning STEM enrichment classes. There are five Saturday Morning STEM sessions (Fall 1, Fall 2, Winter, Spring 1, and Spring 2). Topics focus on a variety of engineering disciplines, technology, computer science, mathematics, and sciences.

#### STEM-Focused Co-educational Summer Program

Prepares high-achieving students who have completed grades 4 to 11 to succeed in STEM fields. Themes by grade include: Environmental Science and Engineering (4th); Aeronautical Engineering (5th); Mechanical and Industrial Engineering (6th); Computer and Electrical Engineering (7th); ExCITE (6th & 7th); Biomedical Engineering (8th); Chemical and Materials Engineering (9th); and Robotics (8th and 9th).

#### STEMx for High School Students (New - Summer 2024)

Offers a series of immersive, one-week experiences for students currently in 10th and 11th grade. Participants can choose between two weekly topics and engage in one or more weeks based on their interests. Led by NJIT faculty experts, the program ensures a solid foundation in the chosen topic(s) and provides insights into college and career pathways related to the featured fields of study.

### Women in Engineering and Technology -

#### FEMME Summer Program

Encourages girls who have completed grades 4 - 9 to explore STEM fields. The 5-week summer experience includes classroom discussions, laboratory experiments, projects, and fields trips; and focuses on the following engineering themes by grade: Environmental Science and Engineering (4th); Aeronautical Engineering (5th); Mechanical and Industrial Engineering (6th); Computer and Electrical Engineering (7th); Biomedical Engineering (8th); and Chemical and Materials Engineering (9th). Parallel co-ed programs are also available.

### Competitions

#### Elementary STEM Competition (eSTEM)

Engages teams of students in grades 3 - 5 and their teacher-coaches in a STEM competition exclusively for elementary students. With a focus on introducing elementary students from underserved and underrepresented school communities to STEM competitions, NJIT provides a structured and supported environment where teams work directly with an NJIT student mentor and use engineering logbooks and other supplies provided by the Center for Pre-College Programs.

Each year a new challenge is announced and teacher coaches receive professional development on any new technology as well as the engineering design process. Teams employ the fundamentals of engineering design to research, design, build, and share a working prototype of a device that can solve a real-world problem.

#### New Jersey Science Olympiad

NJIT serves as a New Jersey regional site for this national competition. Each year CPCC hosts middle and high school teams from across the state to compete in a wide range of science events. Supported by volunteers drawn from NJIT students, faculty, and staff as well as employees from a variety of New Jersey businesses and industries, teams engage in wide-ranging activities that nurture science inquiry.



## PROFESSIONAL DEVELOPMENT

Develops and expands professional learning to support student growth across STEM fields. All professional development sessions, in person or virtual, feature active engagement, collaboration, hands-on learning, theory, practice, formative and summative assessment techniques, and connections to the New Jersey Student Learning Standards. Emphasis is on available, age-appropriate materials and classroom-ready lessons to build capacity for STEM learning in schools/districts, particularly among underserved and underrepresented student populations.

## FAMILY PROGRAMS

Encourages families to learn STEM topics along with their children, STEM Family Programs provide hands-on, minds-on learning in an engaging, collaborative setting for 3<sup>rd</sup> through 8<sup>th</sup> graders and their significant adults. All materials are supplied and are readily available so families can continue explorations at home. Some previous topics for family workshops include: Give Me a Hand: building assistive technologies/biomedical engineering, Code Saves the World: computer coding and gaming to solve problems, and CSI-NJIT: forensic science techniques.

## FORENSIC SCIENCE INITIATIVE (FSI)

Uses Forensic Science to prepare high school science students for broader STEM college work and careers. Also prepares high school teachers to teach Introduction to Forensic Science at their schools, which gives high school seniors a preview of college-level work and expectations.

### FOR MORE INFORMATION

#### General Information

[info-cpcp@njit.edu](mailto:info-cpcp@njit.edu)

#### New Jersey GEAR UP/College Bound

[NJGUCB@njit.edu](mailto:NJGUCB@njit.edu)

#### Upward Bound for English Language Learners (UBELLs)

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#### TRiO Programs

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#### Early College Preparatory Programs

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#### Professional Development and Family Programs

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