



Greater Newark STEM Ecosystem (GSNE)

September 2025 Newsletter, Higher Education Spotlight



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About GSNE

The Newark STEM Ecosystem (Newark STEM), serves the region surrounding Newark, New Jersey, including the counties of Essex, Morris, Passaic, Sussex, Union and Warren. Through understanding the work and activities of our cross-sector partners (our 'stakeholders'), we co-design an educational support system that cultivates STEM and Career Ready Skills to increase the likelihood that all students will be able to join the workforce as STEM literate citizens.

Upcoming Events

October 27, 2025 – Getting Started in the Workforce: Shadowing, visits, externships and Internships

January 15, 2026 – GNSE 3rd Annual Convening at NJIT. – "Creating Collective Impact: Building Collaboration and Community to Build Best-in-Class STEM and Career Connected Learning Programs"

Statewide Information from New Jersey STEM Pathways Network (NJSPN)

Message from the Mother Ship:

NJ STEM Month

NJ STEM Month is an annual March celebration co-hosted by the New Jersey STEM Pathways Network (NJSPN) and Research & Development Council of New Jersey that highlights the Garden State's incredible accomplishments in science, technology, engineering, math and innovation. ALL organizations in the state are called to showcase and celebrate excellent work in STEM for NJ STEM Month by hosting/attending events, publicizing their work to New Jersey policymakers and via engaging on social media (#NJSTEMMonth). For opportunities, including grants, to engage in NJ STEM Month, please visit <https://njstempathways.org/njstemmonth/>.

Join the New Jersey STEM Pathways Network

The New Jersey STEM Pathways Network ("NJSPN"), a strategic public-private alliance, was established to define and guide a STEM vision for cradle to career pathways in New Jersey. The NJSPN is managed by the Research & Development Council of New Jersey. The NJSPN aims to attract, cultivate and retain a 21st century workforce in New Jersey, ensuring the state remains a top global competitor in STEM industry and continues its rich history of innovation. [Join our listserv](#) to receive information about NJSPN including events and grant opportunities.

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NJSPN Events

NJSPN Quarterly Meeting September 19, 2025

AT&T Labs in Middletown, NJ.

Anyone interested in attending can register [here](#). Additionally, we are recruiting STEMineers and NJ STEM Month committee members. To apply to be a STEMineer, they can click on [this link](#).

If they want to be a NJ STEM Month Committee Member, [here](#) is the sign up link. We plan to schedule the first committee meeting for September.

In the News

[Undergrad Exploring Human-Disrupted Ecosystems Becomes NJIT's First Udall Scholar](#)

[NJIT Students Build Shoe Print Database to Help Solve Crimes in NJ and Beyond](#)

[NJIT Awarded State Grant to Bridge Technology Divide in New Jersey](#)



Saturday Morning STEM

Everything you need to know

Saturday Morning STEM (SMS) programs are a five-class series of hands-on experiences designed to introduce middle and high school students to a specific area of study within Science, Technology, Engineering, and Mathematics (STEM).

Options

This Spring we had another increase in enrollment, with 257 students enrolling in our Options for Advanced Academic Achievement program. These courses are taught in the student's high school by high school teachers who meet NJIT qualifications for teaching the respective course. Students earn NJIT credit and an NJIT transcript. The number of enrolled students in Spring 2025 is a 42% increase over Spring 2024. This is following a 40% increase in Spring 2024 over Spring 2023. There is a trend showing a rapid increase in interest for school districts to partner with NJIT to offer dual enrollment courses.

Academy

St. Benedict's Students on the NJIT campus

Academy College Credit Courses for High School Students at NJIT are designed for high-achieving 11th and 12th graders who are interested in earning college credits while still in high school. This Spring, 17 students from St. Benedict's took courses alongside NJIT students.

Early College Preparatory Program (ECPP)

Devonii Reid

Director, Program Operations and Outreach.

Early College Preparatory Programs - Summer

The Early College Preparatory Programs (ECPP) has a total of 404 pre-college students in the application process for a variety of offerings over five weeks in the summer of 2025. These programs include the Women in Engineering and Technology Initiative-FEMME Program, the co-educational ECPP Summer program, a new program for high school juniors and seniors called STEMx, and the concurrent enrollment Academy program.

Program Development and Forensic Science Initiative

Dr. Barbara E. Weller, Senior Director, Program Development and Forensic Science Initiative

Winter/Spring Happenings

We've had another productive year for students. We continued the Forensic Science Day on Campus with the high school seniors in our FRSC 201 Dual Enrollment classes participating in a full day of forensic science activities organized to allow them to become immersed in our campus.

Program Development and Forensic Science Initiative (Con't)

This Spring we provided engaging research sessions featuring Bob Vietrogoski, VanHouten Library research librarian. His interactive sessions lifted the level of academic research and made it fun!

Students from the STEM Innovation Academy of the Oranges determine if a crime has been committed in our Crime Scene Lab apartment during a Forensic Science on Campus Day.

The joint MSI/FSI Special Outreach Event, begun by Dr. Burr-Alexander 6 years ago, was held on March 1st for NJIT-accepted students and their families.

FSI teachers will be leading 3 sessions this year at the 4th Annual NJ Forensic Science Education Conference. The NJFSEC, June 30, July 1 & 2

NJ GEAR UP, College Bound (Con't)

Spring Events

4/1 - 4/3 Spring Middle School Boot Camp

April "LOCAL SUPERMEN EVENT and LOCAL SUPERWOMEN EVENT"

For each event, alumni and/or local residents are invited to speak and encourage this generation of future leaders.

May: 2025 FYE/Senior Luncheon

Unsung Hero Recognition

On Thursday, March 13th, one of our 12th graders, Erbenha Theodale from Central High School, received the Unsung Hero Recognition.

NJ GEAR UP, College Bound

Ozzie A. Williams ; Director, GEAR UP and College Bound at NJIT

Winter Events

Black History Month Activities:

Students learned the power of their economic activity, how they can support their local community by investing into it, and what it takes to plan an urban environment. The middle school English classes also worked on a Black History month activity to develop their research skills. This year we also partnered with NJIT's National Society of Black Engineers, who hosted our 11th-12th grade students at their annual leadership and career conference which took place on February 22nd.

NJGU Community Service Month

Activity: We are partnering with a Newark school to support our military families with Letters of Hope. Also in February, our Saturday program attendees designed welcome cards to bring comfort to long-term patients at Clara Maass Medical Center. The activity was tied to a mentoring session on personal and social development. We hosted a food drive that garnered over 35 nonperishable food items that we donated to the Newark St. John's Soup Kitchen.

NJ Speech and Debate League State Championships:

In March, GU students who are part of the Central HS Speech/Drama/Debate Team distinguished themselves and did us all proud:

Undergrad Exploring Human-Disrupted Ecosystems Becomes NJIT's First Udall Scholar

How do organisms adapt – or fail to adapt – to dramatic environmental changes, particularly those caused by human activity? It's a question driving Environmental Science major Brock Shahinian's ('26) research at NJIT, leading to two of the nation's most prestigious undergraduate honors: a 2025 Goldwater Scholarship and distinction as NJIT's first-ever Udall



[Read More](#)

Special Projects & UBELLs

Dr. Levelle E. Burr-Alexander ; Senior Director for Strategic Planning and Community Initiatives & Veronica Guzman ; Director, UBELLs

Math Success Initiative (MSI) Winter/Spring 2024-2025

2025 Annual Special Outreach Event for NJIT Accepted MSI/FSI Students and their Families

MSI Pre-Celebration of Student Achievement

UBELL Students' Roller Coaster Track Design Challenge

Upcoming Events

Fall 2025 Admissions Events:

Fall Open House I - Sunday, October 12, 2025

Fall Open House II - Sunday, November 16, 2025

School Counselor Appreciation Day - Friday, December 5, 2025

For more information on NJIT majors and the university in general, visit [**This Website**](#)

NJIT Students Build Shoe Print Database to Help Solve Crimes in NJ and Beyond

Forensic science students at NJIT are giving criminal investigators a step up on solving cases, and they're doing it by enlisting the campus community's help through an enticing offer — “lend your soles” for free pizza. The university’s Forensic Science Student Association (FSSA) is hosting pop-up events on campus to collect shoe impressions from willing volunteers in an effort to expand NJIT's Shoeprint Image Capture and Retrieval (SICAR) database — one of only two forensic footwear databases in New Jersey

[Read More](#)



NJIT Students Build Shoe Print Database to Help Solve Crimes in NJ and Beyond

Building Digital Bridges: NJIT's Learning and Development Initiative is leading the Building Digital Bridges program, funded by a New Jersey Department of Labor and Workforce Development grant. This initiative aims to equip underserved New Jersey residents with essential digital skills and prepare them for jobs in the technology-driven economy, according to NJIT News |. The program provides digital literacy training, career coaching, and opportunities to earn industry-recognized certifications like CompTIA ITF+.

[Read More](#)



Early College Preparatory Program (ECPP) (Con't)

Devonii Reid ; Director, Program Operations and Outreach

In the 2025 winter and spring sessions we introduced new topics, including Power Up with Python, Vex Ventures, and CodeQuest, following the current trends seen today. Courses and numbers of enrollees include:

Winter 2025

5th and 6th Grade - Robo Rangers: 20

7th and 8th Grade - Vex Ventures: 17

9th - 12th Grade - Careers in Cybersecurity: 11

Spring 2025

5th and 6th Grade - Robo Rangers: 15

5th and 6th Grade - Engineering Explorers: 13

7th and 8th Grade - CodeQuest: 5

7th and 8th Grade - Engineering Innovators: 12

9th - 12th Grade - Power-up with Python: 12

Each SMS session utilizes real-life STEM-based content and applications to help students gain a better understanding of what STEM education and careers have to offer. Each week the students take part in hands-on activities in the engineering design process and scientific inquiry.

Competitions

The annual New Jersey Regional Science Olympiad competition took place on January 8, 2025. Hosted in partnership with the Newark College of Engineering, the competition welcomed 42 teams and approximately 700 middle and high school students to the NJIT campus for a day filled with STEM-focused competitive events. Read more about the Science Olympiad Event [here](#).

The fifth annual Elementary STEM (eSTEM) Challenge took place on March 20th. A total of 28 elementary school teams proudly displayed their prototypes that were created with the goal of addressing or enhancing natural disaster preparedness, response, or recovery concerns. This was the third year that teams were challenged to build a working prototype using MicroBit processors.

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RUTGERS UNIVERSITY
4-H Youth Development
New Jersey Agricultural Experiment Station



Passaic & Essex 4-H ACAS: Advancing Careers in Agriculture & STEM

Teen Internship Program

This summer, nine teens from Passaic, Essex, Hudson, and Bergen Counties participated in the inaugural NJ Advancing Careers in Agriculture and STEM (ACAS) Internship Program, hosted by Passaic and Essex 4-H. Over the course of the week, the group traveled across New Jersey to explore the diverse opportunities within agriculture and STEM.

Highlights included learning about hydroponics and planting seeds at Passaic County Community College, touring an urban garden that supports local families in Paterson, harvesting mushrooms at an urban vertical farm in Jersey City, exploring Rutgers–New Brunswick and its campus farm, and visiting a local poultry farm to learn about local egg production. Each experience opened new windows into career pathways while fostering teamwork, confidence, and curiosity.

In addition to their travels, the teen interns built leadership, career readiness, and workforce development skills. From organizing schedules and prioritizing tasks to budgeting, writing resumes, and practicing interview techniques, they gained practical tools to prepare for the challenges of tomorrow. It also fostered a supportive environment where interns could build connections, learn, and grow together.



At the end of the week, the interns presented what they had learned in a showcase for friends and family. Reflections from the interns included:

“Throughout this program not only did we gain knowledge on agriculture, STEM, and careers beyond that—we gained a community.” – NJ ACAS 2025 Teen

“At first glance you may not see how Agriculture and Architecture are similar, but they share a common root theme: building systems that sustain life... When I look at my future as an architect, I’m not going to build just buildings, I’m going to build places and spaces for people to feel respected and for the environment to be respected as well.” – NJ ACAS 2025 Teen

Applications for the 2026 cohort will open early 2026. This program was made possible, in part, through the generous support of the Northeast Agricultural Education Foundation, Inc.



Passaic and Essex 4-H are part of the New Jersey 4-H program, a statewide positive youth development program that serves young people in every county. As one of the largest youth development organizations in the U.S., 4-H offers youth opportunities to explore Citizenship, Healthy Living, and STEM through hands-on learning and leadership experiences. 4-H is open to all youth in kindergarten through their first year out of high school.

4-H is one of the many programs offered by Rutgers Cooperative Extension, which connects communities with university-based research and education.

Learn more about Rutgers Cooperative Extension:

<https://extension.rutgers.edu>
Discover local opportunities with Essex 4-H:

<https://essex.njaes.rutgers.edu/4h>
Discover local opportunities with Passaic 4-H:
<https://passaic.njaes.rutgers.edu/4h>

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***Contributions to this article by
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Lyra STEM: Expanding Access to STEM+ Opportunities

At Lyra STEM, we believe every student deserves the chance to see themselves in STEM. As a 501(c)(3) nonprofit, we're on a mission to make STEM+ education exciting, hands-on, and accessible. From career exploration kits to mentorship with real professionals, we're helping students across New Jersey build both confidence and curiosity in STEM and beyond

Lyra's STEM+ Kits Program

Our STEM+ Kits provide hybrid educational modules that combine physical materials with interactive components, all led by young STEM professionals. Each kit is designed around a specific career pathway or topic and includes both structured activities and room for open-ended discussion, helping students unlock the soft skills that are so crucial in STEM+ fields today. These kits are currently being deployed in Newark Public Schools and are adaptable for classrooms, after-school programs, and community events:

- **Career Development Series:** building soft skills like teamwork, public speaking, and college/job readiness.
- **Core STEM Series:** exploring exciting STEM+ fields such as computer science, engineering, and medicine (and what it takes to get there).
- **Entrepreneurship Series:** learning how to build your own startups with elevator pitches, problem-solving, and lean canvas models.
- **Guest Speaker Series:** connecting students with young professionals who share their real-world journeys in STEM.



Introducing our 1:1 Mentorship Program!

This year, Lyra is launching its 1:1 Mentorship Program to connect high school students with young STEM professionals. Through weekly mentorship sessions, students receive personalized guidance on academic pathways, career exploration, and skill development. Schools and districts can partner with Lyra to provide their students with access to mentors who are aspiring engineers, researchers, entrepreneurs, and innovators across industries.

Together, through STEM+ Kits and mentorship, Lyra STEM is equipping students with the tools, networks, and inspiration to pursue fulfilling careers in STEM. We invite educators, schools, and community partners to join us in this mission.

We are so excited to kick off the 2025-2026 school year! If you're interested in our STEM+ Kit Program or 1:1 Mentorship Program, please contact us at lyrastem@gmail.com.