

The **New Jersey Society of Professional Engineers**, a State Society affiliate of the National Society of Professional Engineers, is an association that is...

- ♦ ...committed to safeguard the public's health and safety by ensuring that the practice of engineering is performed by properly qualified individuals in accordance with New Jersey statutes and regulations.
- ♦ ...organized to serve the needs of Professional Engineers, Engineers-in-Training, and other engineering graduates of an ABET-accredited curriculum on the licensure track.
- ♦ ...dedicated to establishing, observing, and enforcing the highest ethical standards.
- ♦ ...devoted to the non-technical issues of all Professional Engineers - regardless of employment or engineering discipline.
- ♦ ...engaged in focusing public attention on the functions and accomplishments of Professional Engineers.

For more information about NJSPE go to www.njspe.org.
For more information about the National Society go to www.nspe.org.

The **NJSPE Educational Foundation** is a tax-exempt organization dedicated to enhancing career opportunities in the engineering profession for pre-college students and college graduates. The Foundation conducts activities such as the following in pursuit of its goals:

- ♦ MATHCOUNTS competition for middle grade students
- ♦ Career guidance by working engineers for high school students, including the annual Career Day event
- ♦ Scholarships for students pursuing engineering college curricula
- ♦ Ongoing continuing education courses to maintain competencies, providing Professional Development Hours for licensure renewal
- ♦ Extended leadership development training to augment technical skills through the Institute for Professional Leadership
- ♦ Provides volunteers for other student programs, including Future City and *FIRST* Robotics Competition

For more information about the NJSPE Educational Foundation go to www.njpse.org

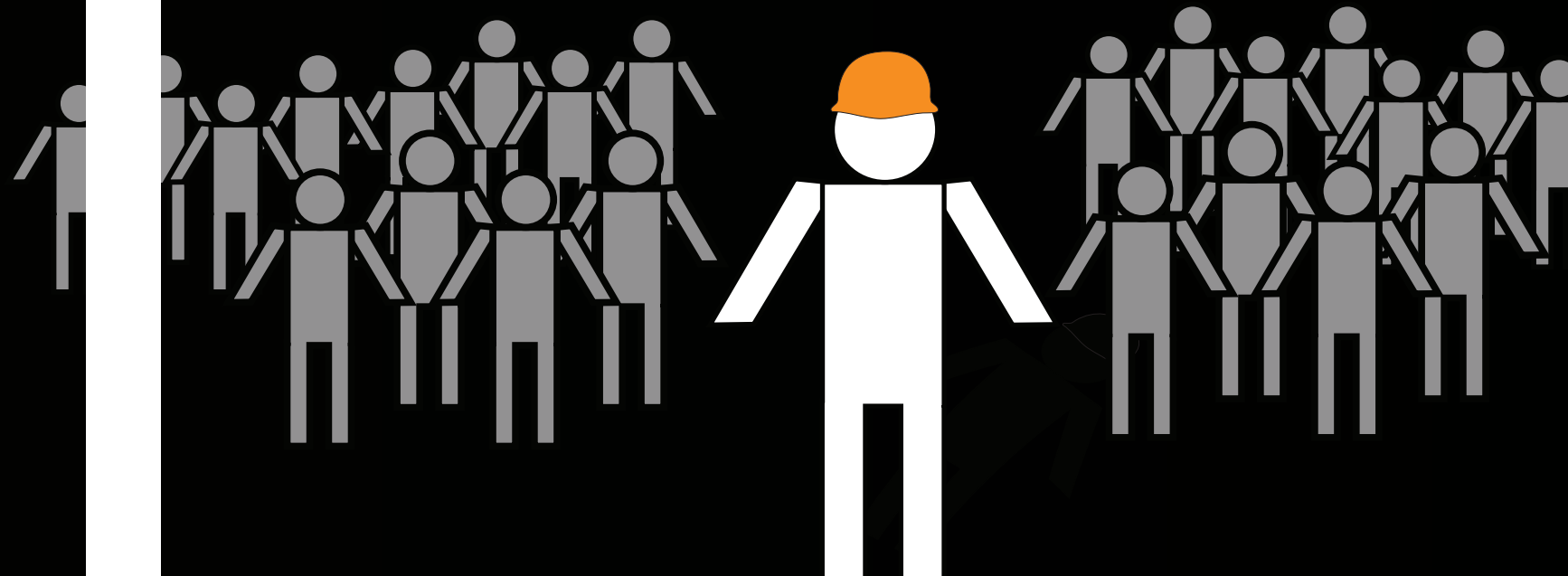
2025

Piscataway, New Jersey Rutgers University Busch Campus Weeks Hall

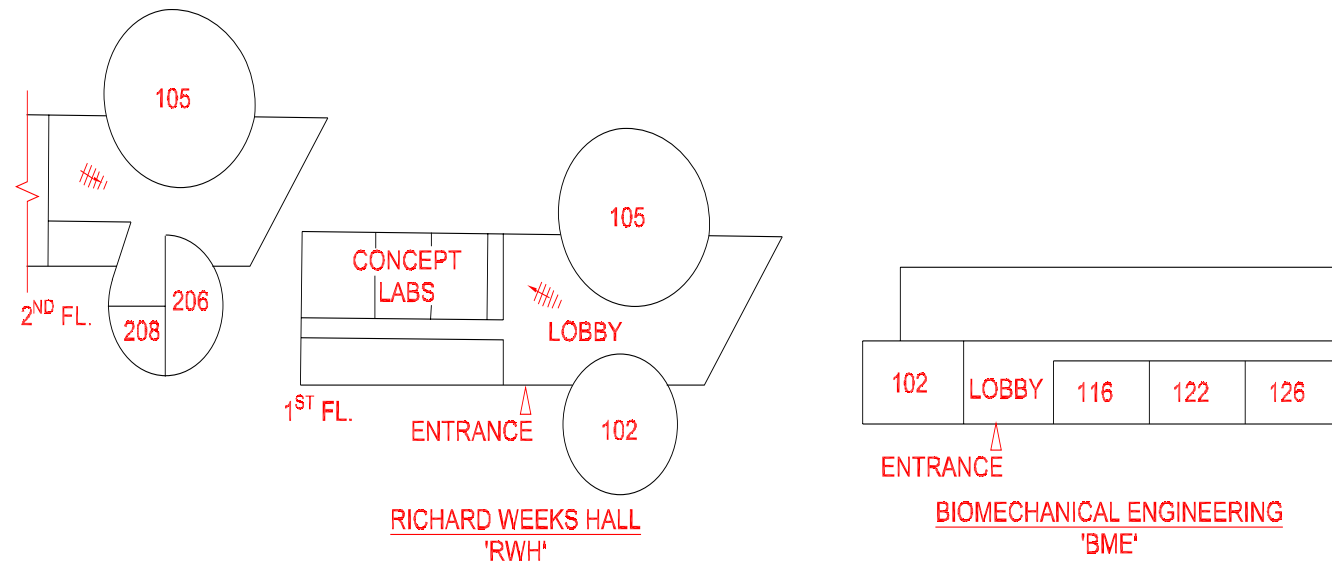
ENGINEERING

"No profession unleashes the spirit of innovation like engineering. From research to real-world applications, engineers constantly discover how to improve lives by creating bold new solutions that connect science to life in unexpected, forward-thinking ways. Few professions turn so many ideas into so many realities. Few have such a direct and positive effect on people's everyday lives. We are counting on engineers and their imaginations to help us meet the needs of the 21st century."

-National Academy
of Engineering



Welcome to Engineering Career Day 2025



2025 Engineering Career Day
www.njspe-careerday.org

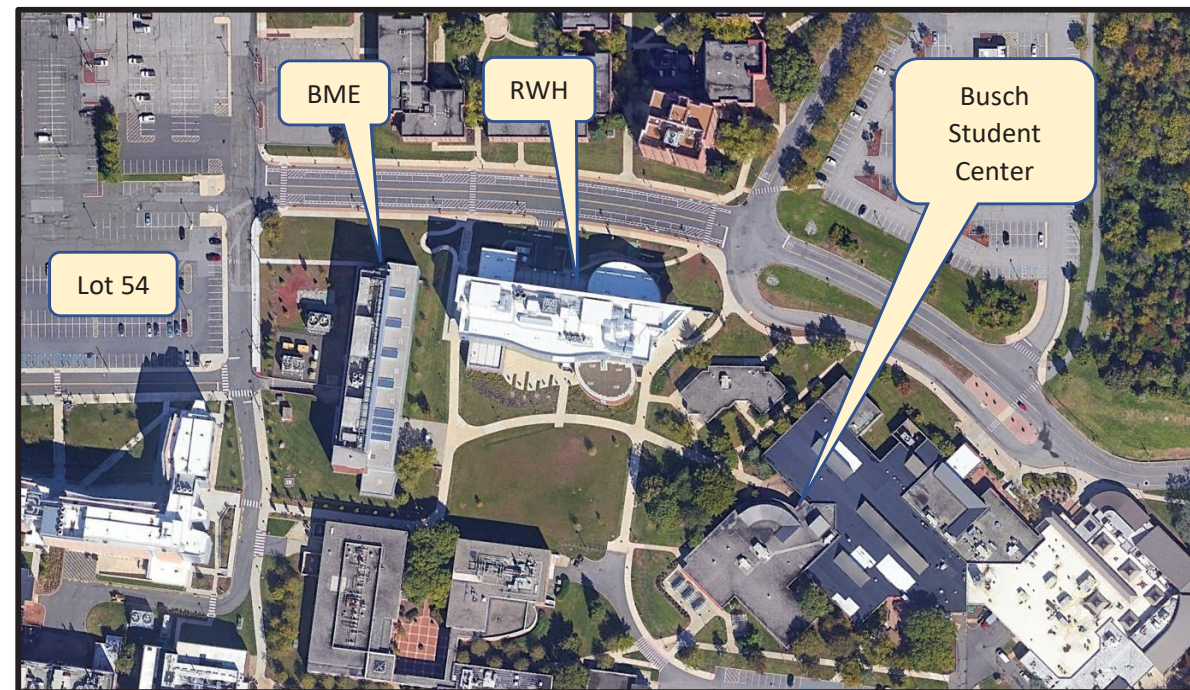
A Program of the NJSPE Educational Foundation

Career Day Committee

Chairman – Michael Testa, PE
Treasurer – Richard Adelsohn, PE
Facilities - Chris Jerome
High Schools – Mark Rohmeyer, PE
Enterprises – Joseph Michiels, PE. Matthew Alboum, PE
Colleges & Universities – Diano Tarabocchia
Logistics – Diano Tarabocchia
General Sessions – Elissa Commins, PE
Member – Carolyn Feigin, PE, PP

A Special Thanks to:

Frank H. Lehr Associates
The Office of the Ocean County Engineer
Brick Township Engineering Department
BL Companies
Morgan Municipal
Dewberry Engineers, Inc
CellGain
ARH Associates



Accredited Programs Leading to Degrees in Engineering in New Jersey

New Jersey Institute of Technology

Newark, New Jersey (www.njit.edu)

- ❖ Biomedical Engineering (BSBME)
- ❖ Chemical Engineering (BS)
- ❖ Civil Engineering (BS)
- ❖ Computer Engineering (BS)
- ❖ Electrical Engineering (BS)
- ❖ Industrial Engineering (BS)
- ❖ Mechanical Engineering (BS)

Rowan University

Glassboro, New Jersey

(www.rowan.edu)

- ❖ Biomedical Engineering (BSBME)
- ❖ Chemical Engineering (BS)
- ❖ Civil Engineering (BS)
- ❖ Electrical and Computer Engineering (BS)
- ❖ Mechanical Engineering (BS)

Fairleigh Dickinson University

Teaneck, New Jersey (www.fdu.edu)

- ❖ Computer Science (BS)
- ❖ Electrical Engineering (BS)
- ❖ Information Technology (BS)
- ❖ Mechanical Engineering (BS)

Stevens Institute of Technology

Hoboken, New Jersey

(www.stevens-tech.edu)

- ❖ Chemical Engineering (BE)
- ❖ Civil Engineering (BE)
- ❖ Computer Engineering (BE)
- ❖ Electrical Engineering (BE)
- ❖ Engineering (BE)
- ❖ Engineering Management (BE)
- ❖ Environmental Engineering (BE)
- ❖ Mechanical Engineering (BE)

The College of New Jersey

Ewing, New Jersey (www.tcnj.edu)

- ❖ Biomedical Engineering (BSBME)
- ❖ Civil Engineering (BSCE)
- ❖ Computer Engineering (BSCoE)
- ❖ Electrical Engineering (BSEE)
- ❖ Engineering Sciences (BS)
- ❖ Mechanical Engineering (BSME)

Rutgers University

New Brunswick, New Jersey

(www.rutgers.edu)

- ❖ Bioresource Engineering (BS)
- ❖ Ceramic Engineering (BS)
- ❖ Chemical Engineering (BS)
- ❖ Civil Engineering (BS)
- ❖ Electrical and Computer Engineering (BS)
- ❖ Industrial Engineering (BS)
- ❖ Mechanical Engineering (BS)

Monmouth University

West Long Branch, New Jersey

- ❖ Software Engineering (BSEE)

Princeton University

Princeton, New Jersey

- ❖ Aerospace Engineering (BS)
- ❖ Chemical Engineering (BS)
- ❖ Civil Engineering (BS)
- ❖ Electrical Engineering (BS)
- ❖ Mechanical Engineering (BS)



Dewberry®

Dewberry has been a leader in the planning, design, and program management professions for the last half-century. We work in partnership with public and private sector clients locally, regionally, and nationally. Our multi-disciplinary staff includes engineers, architects, planners, surveyors, environmental scientists, and many specialized experts. Dewberry offers clients an integrated service approach with a commitment to value and performance. At Dewberry, we are supporting the electric vehicle revolution by providing program management, planning, engineering design, permitting, and construction oversight to deploy charging stations in the U.S.

Langan provides an integrated mix of engineering and environmental consulting services in support of land development projects, corporate real estate portfolios, and the energy industry. Our clients include developers, property owners, public agencies, corporations, institutions, and energy companies around the world.

LANGAN



GREELEY AND HANSEN

A TYLin Company

Greeley and Hansen Walt will share his journey of discovery, purpose, and impact in the civil & environmental engineering sector, with a focus on water, climate, and community. Walt Walker is Vice President and Equity Practice Leader at Greeley and Hansen, A TYLin Company. He has more than 18 years of experience in management, planning, and design

of water, wastewater and solid waste infrastructure, as well as experience in climate action and master planning. As Greeley and Hansen’s firmwide Equity Practice Leader, Walt partners with utility leaders to accelerate equitable water management; and planning, design, and implementation of programs with a community-centered focus. Walt is co-founder and Chair of NYWEA’s Diversity, Equity, & Inclusion Committee. He is also a member of NACWA’s Environmental Justice Committee and the US Water Alliance. Walt is a registered Professional Engineer in NJ/NY/PA and is an Envision Sustainability Professional

BL Companies, an employee-owned firm, is a leader in delivering high-quality, integrated architecture, engineering and related services to public and private clients for land development, building design, and infrastructure projects. Founded in 1986 as a small transportation planning and civil engineering firm, BL Companies has grown to become a leading multi-discipline firm sought for our quality, creativity and expertise in producing successful project outcomes. We are dedicated to total client satisfaction. Our success is founded in our employee owners and a culture that inspires, challenges and insists on nothing short of professional excellence



UTILITIES
 MUNICIPAL UTILITIES AUTHORITY

Brick Township Municipal Utilities Authority (The Brick Township Municipal Utilities Authority (BTMUA) was created by the Brick Township Council on February 6, 1969 for the purpose of providing wastewater collection services and water treatment and distribution services for the Township of Brick. In addition, the BTMUA sells bulk water to Point Pleasant Beach Borough, Point Pleasant Borough and Lakewood Township MUA.

Johnson and Johnson MedTech In collaboration with clinicians and healthcare experts around the world, Johnson and Johnson MedTech develops innovative surgical technologies and solutions to help address some of the most pressing health challenges of our time, such as metabolic disease, cardiovascular disease, and cancer. Lindsay Mitchell will be presenting her work as a Biomedical Engineer. She has worked in the medical device industry for 5 years and will share about the product she has helped put on the market. Ms. Mitchell will discuss what classes would be necessary to take for Biomedical engineering and what areas someone with a degree might be able to work in. She will also discuss the future of Biomedical engineering and upcoming areas of interest.

**Johnson&Johnson
MedTech**



CellGain is a leading expert in turn-key in-building wireless solutions, specializing in public safety for large venues. Since 2005, we’ve delivered seamless wireless coverage to critical infrastructure, including transit systems, airports, tunnels, campuses, and other high-traffic environments where reliable communication is essential. From design and engineering to testing and deployment, CellGain provides customized solutions that meet all required approvals—quickly and efficiently. Our Fiber-to-Antenna System (FTAS) ensures multiple agencies can communicate without interference while optimizing space, time, and costs. With major projects like World Trade Center Tower 4, LaGuardia Airport, the San Francisco Metro Transit Authority, Montclair State University, and the new JFK Terminal 4, CellGain is a trusted partner in public safety and life safety communications, helping first responders and emergency personnel stay connected when it matters most.

Public Service Enterprise Group Inc. (PSEG) is a predominately regulated energy company headquartered in Newark, N.J. Established in 1903, the company has long had a key role in fueling New Jersey’s economy and supporting the state’s quality of life.Public Service Electric and Gas Co. (PSE&G) is New Jersey’s largest provider of electric and natural gas service. As of February 2025, PSE&G serves 2.4 million electric customers and 1.9 million gas customers. PSEG Long Island operates the electric transmission and distribution system of the Long Island Power Authority, with 1.1 million customers. PSEG Power is an energy supply company that integrates the operations of its nuclear generating assets with its fuel supply functions.



Accredited Programs Leading to Degrees in Engineering Technology in New Jersey

Burlington County College

Pemberton, New Jersey (www.bcc.edu)

- ❖ Electronic Engineering Technology (AS)

DeVry University

North Brunswick, New Jersey (www.devry.edu)

- ❖ Electronic Engineering Technology (BSEET)
- ❖ Electronic Engineering Technology (AS)

Essex County College

Newark, New Jersey (www.essex.edu)

- ❖ Civil Construction Engineering Technology (AAS)
- ❖ Manufacturing Engineering Technology (AAS)
- ❖ Manufacturing/ Mechanical Engineering Technology (AAS)

Farleigh Dickinson University

Teaneck, New Jersey (www.fdu.edu)

- ❖ Civil Engineering Technology (BS CivET)
- ❖ Construction Engineering Technology (BS ConET)
- ❖ Electrical Engineering Technology (BSEET)
- ❖ Mechanical Engineering Technology (BSMET)

Morris County College

Randolph, New Jersey (www.ccn.edu)

- ❖ Electronic Engineering Technology (AAS)
- ❖ Mechanical Engineering Technology (AS)

New Jersey Institute of Technology

Newark, New Jersey (www.njit.edu)

- ❖ Construction Option in Engineering Technology (BS)
- ❖ Electrical & Computer Option in Engineering Technology (BS)
- ❖ Manufacturing Option in Engineering Technology (BS)
- ❖ Mechanical Option in Engineering Technology (BS)
- ❖ Surveying Option in Engineering Technology (BS)

Passaic County Community College

Passaic, New Jersey (www.pccc.edu)

- ❖ Electronic Engineering Technology

FUNCTIONS OF ENGINEERING

RESEARCH AND DEVELOPMENT: R&D Engineers usually work with fundamental scientific principles to design practical solutions for real-life situations. Creativity is fundamental to their work. They often work on teams with scientists and handle some of the more practical aspects of the invention process. Their focus is to improve upon what has already been invented and to apply new technologies to new or different applications. Individuals performing this function enjoy working alone or in small teams. They usually acquire degrees above the Baccalaureate level.

DESIGN: Design Engineers apply fundamental research, using math, science and knowledge of engineering principles. The end result achieved by design engineer is a blueprint for a safe, functional and cost effective solution. They may work in teams with other design professionals including engineers, architects and technicians. Although not a requirement, many earn at least one graduate degree in a chosen field of specialization.

SYSTEMS ENGINEERING: These are engineers who look at the “big picture” of engineering projects. Their role is to integrate into a complete system the individual sub-systems of the Design Engineer. For example, in a major aeronautical project, the Systems Engineer would ensure the appropriate integration of the structure, propulsion, controls, aerodynamics, and related design sub-systems. They may obtain an advanced degree in engineering or in another area.

APPLICATIONS: These engineers work in manufacturing and field operations to apply the work products of the two preceding functions. They may be the people in charge of factories, specifying what equipment and materials will be used in products and processes. They usually have responsibility for the safety of the workers in the factory or field as well as the safety of the products being made or systems being implemented. Advanced degrees are optional.

SALES: Engineers that like to meet people and solve their technical problems make the best sales engineers. Their customers are usually other engineers that need specialized help with complicated equipment for their factories or for their difficult projects. These engineers travel a lot and are constantly meeting people because of the demand for their special products or services. In many cases, these engineers opt to earn an advanced degree in business.

SPECIALTY ENGINEERS: These include Consulting Engineers who are retained to provide technical expertise with a difficult problem or for a solution that the hiring entity does not possess internally. Patent attorneys are almost always engineers who pursue legal education. Marketing professionals frequently build on an undergraduate engineering degree.

FIELDS OF ENGINEERING

TRADITIONAL: Bachelor Degrees in Chemical, Civil, Electrical, Industrial, and Mechanical Engineering have been the norm.

SPECIALTY: More recently, students are pursuing undergraduate engineering degrees in fields like Acoustics, Aeronautics, Bio-Medicine, Construction, Energy, the Environment, Heating and Cooling, Pharmacy, Structures, and many others.

Alternatively, depending on the function pursued by an engineer with a Bachelor's degree, one may obtain specialized, academic training by earning graduate degree(s) in one or more of these or other fields.

PROFESSIONAL ENGINEER: Engineers performing certain types of work -especially DESIGN and APPLICATIONS- are required, by state laws protecting the public's health and welfare, to be licensed by passing two exams and acquiring a requisite amount of experience.

