

Career and Technical Education Programs Involve Employers and Higher Education

Examples Across New Jersey

Atlantic County Institute of Technology, Mays Landing **Math, Engineering and Science and Information Technology programs** **Business Partner: FAA Technical Center**

Students in these programs pursue a rigorous course of academic and technical courses including robotics, green technology, web design, database management, and computer programming. The FAA Tech Center provides work-based learning experiences that enable students to apply their skills in a real world environment. The center also helps to guide the curriculum, and provides guest speakers as well as professional development for teachers to keep these programs aligned with industry needs.

Bergen County Technical School, Teterboro **Automotive Design and Engineering** **Business Partner: BMW**

Going beyond a traditional automotive technology program, students study automotive design, engineering, performance, diagnostics and repair, clean air and alternative fuel, as well as computer-assisted design, electronics and pre-engineering. BMW provides hands-on learning opportunities, state-of-the-art equipment and internship opportunities. The automaker has brought their H7 Hydrogen car and their full electric MINI-E to the school so that students could learn about these cutting-edge green technologies. Students can earn A.S.E. certification as well as college credit.

Burlington County Institute of Technology **Electronics, Pre-engineering Programs** **Business Partner: Radwell International**

Radwell International sells and repairs industrial, electrical, and electronic control devices such as timers, counters, photoelectric sensors, circuit breakers, PLCs, motors and any device used to make machinery. BCIT has worked closely with the Radwell Company for the past 15 years; company representatives serve on BCIT's district advisory council. Every year, Radwell hires between 2 and 4 co-op students from our electronics and pre-engineering program, and 30 BCIT graduates currently work full-time for the company. Radwell is also a huge supporter of the BCIT Foundation.

Camden County Technical Schools, Pennsauken and Gloucester Township **Electrical, Plumbing and HVAC Technology** **Business Partner: Sanders Home Services**

Sanders Home Services helps to guide construction trade programs at Camden County Technical Schools by providing representation on the program advisory boards for the electrical, plumbing, and HVAC programs, which together enroll over 200 students a year. Sanders Home Services has hired approximately 15 cooperative education and full-time employees from the Camden County Technical Schools. The company has donated equipment, presented in classrooms, hosted field trips and even provided recommendations to the school district regarding its facilities.

**Cape May County Technical Schools, Cape May Court House
Academy of Travel, Tourism, Event Planning & Marketing (AOTT)**

**Business Partners: Wildwood Convention Center, Cape May Department of Tourism, and Hotel
Lodging Association of Atlantic City**

The tourism agencies in and around Cape May County provide numerous experiential and employment pathways and student learning activities, including job shadowing, attendance at industry conventions, and employment. Tourism professionals judge student projects, and they include students in opportunities for event planning, economic strategy meetings, and celebrity events. Recognizing the importance of preparing students for future jobs in the hospitality industry, the Hotel Lodging Association of Atlantic City invites students to sit in on various industry workshops and events throughout the region, and the association also offers scholarships to students.

**Cumberland County Technical Education Center, Bridgeton
Welding Technology**

Business Partner: Keen Compressed Gas Company

Keen Compressed Gas Company, a leading supplier of gas products and welding equipment and supplies, works closely with Cumberland County TEC by providing industry experts to educate students on new welding technologies and protocols, and offering professional development to the program instructor. Keen will provide all consumable materials and impartial judges when the school hosts an upcoming SkillsUSA competition in welding fabrication for 17 student teams from throughout the state.

**Essex County Vocational-Technical Schools, Newark Tech
Business Program**

Business Partner: IRONBOUND USA

IRONBOUND USA, a socially conscious lifestyle company that manufactures apparel and accessories, is engaging Newark Tech students in product development and marketing experiences to prepare them for employment in business careers. What began as part-time jobs for six students soon doubled, and then expanded further to involve 40 rising seniors in a summer program. The students work on “parallel product development” in the district’s new Technology Enhanced Active Learning (TEAL) Center, an innovative hands-on environment where students can harness technology to solve problems, design solutions and create prototypes. The Newark Tech students work with IRONBOUND USA to develop a marketing plan, and business presentations that successfully develop the teamwork and communication skills that will be essential for all types of careers. Juniors in the business cluster are already working with IRONBOUND USA to prepare for the upcoming summer parallel product development experience.

**Gloucester County Institute of Technology, Sewell
Welding Program**

Business Partner: Ironworkers Local 399

With the union’s guidance as part of the program advisory committee, GCIT keeps its welding program aligned with the requirements for the Ironworkers’ apprenticeship program and American Welding Society certification. Secondary and post secondary students are recruited to be apprentices in the Ironworkers Union, which has hired a GCIT graduate as the apprenticeship welding instructor.

**Hunterdon County Polytech, Flemington
Auto Technology Program**

Business Partner: Flemington Car and Truck Country

Flemington Car and Truck Country partners with Polytech to provide all seniors in the auto technology program with a one week, full-time, work-based learning experience. The company assigns a mentor to each student and

they rotate through different parts of the business, including sales, parts, and repair, throughout the week. Owner Steve Kalafer is one of Polytech's most involved and enthusiastic supporters. "Most people don't realize there is a shortage of automotive technicians, and those jobs pay at higher levels than many other positions in all sorts of industries. The ASE program and certifications allow these students to become young adults who can pay taxes, buy homes and provide for their families," he said.

**Hudson County Schools of Technology, North Bergen
Manufacturing and Design Program**

Business Partner: Eastern Millwork Inc.

Andrew Campbell, Founder and CEO of Eastern Millwork Inc. (EMI) in Jersey City, NJ, is working with High Technology High School to develop an apprenticeship program that will prepare students for careers in industrial design and advanced manufacturing. EMI's early collaborations were with German manufacturers of woodworking machines and material, which fostered the company's awareness of the German dual education model of higher education and training. By partnering with High Technology High School and NJIT, Eastern Millwork is seeking to expose students to opportunities in advanced manufacturing, and the rewarding careers that are available in this industry.

**Mercer County Technical Schools
Health Careers Center (Adult), Hamilton**

Business Partner: Springpoint Senior Living

Mercer County Technical Schools' Health Careers Center partnered with the nonprofit Institute of Wonderful Women Working for Empowerment (IWWWE) to develop an "experiential program" that would help health careers students gain the practical experience needed to enter the workforce. Most health care facilities are looking for professionals with one to two years nursing experience, and this was a barrier to employment for adult students. The paid internships offered by Springpoint Senior Living enable students to gain the experience they need to become employed as newly-certified health care professionals.

**Middlesex County Vocational-Technical Schools, East Brunswick and Piscataway
Welding and Machine Tool Technology programs**

Business Partner: White Marine

The Middlesex County Vocational-Technical Schools welding program prepares students to earn the American Welding Society's Level 1 Welder certification. The owner of White Marine, a graduate of MCVTS's welding technology program, employs students from both the welding and machine tool technology programs through cooperative education that allows students to gain work experience as part of their high school program. Students successfully completing the welding program of study also have the opportunity to earn up to 6 college credits through an articulation agreement with Ohio Technical College.

**Monmouth County Vocational School District
Culinary Education Center, Asbury Park**

Business Partners: Sheraton Hotel and Seabrook Village

The Sheraton Hotel in Eatontown and Seabrook Village in Tinton Falls house two Culinary Education Center culinary arts classrooms, providing yearlong externship experiences for over 60 secondary students. This partnership unites occupational training instructors and industry mentors to co-teach at a work-based training site for the development of high academic and workplace technical training skills for culinary students. Numerous other employers provide exemplary externship experiences for culinary students.

**Morris County Vocational School District
Academy for Health Care Sciences, Denville**

Business Partner: Arden Courts

College Partners: Rutgers University-School of Biomedical Sciences and County College of Morris

Arden Courts, an assisted living facility, provides job shadowing and mentoring opportunities for Health Care Sciences students under the guidance of their instructors and the Arden Courts staff. Students visit the facility in clinical rotations and have an opportunity to develop communication, professionalism and observation skills. Arden Courts also conducts student workshops in occupational therapy, physical therapy, nutrition, recreational therapy, nursing and social work that provide students with an understanding of affiliated health care careers. In partnership with the Rutgers University-School of Biomedical Sciences, students in this rigorous, four-year, full-time program have the opportunity to earn 28 college credits in courses such as Anatomy and Physiology, Medical Terminology and Dynamics of Health Care, and students also have the option to attend County College of Morris in their senior year.

Ocean County Vocational-Technical Schools

Marine Trades (Toms River) and Custom Cabinet-making (Jackson)

Business Partner: Viking Yacht

Students in the cabinet-making and marine trades programs learn hands-on technical skills and have opportunities for work-based learning thanks to partnerships with local employers including Viking Yacht. The company actively recruits graduates in areas such as carpentry, cabinetmaking, electrical wiring, welding and research and development. Viking Yacht also supports many OCVTS programs by donating supplies and equipment, offering scholarship money, serving on the OCVTS General Advisory Committee and over the years has allowed over 4,000 students to tour their state-of-the-art facilities.

Passaic County Technical Institute, Wayne

Academy of Finance

Business Partner: Columbia Bank

This “school-within-a school” is certified by the National Academy Foundation to prepare students for careers and further studies in the financial industry. Columbia Bank sponsored and installed a full-service bank branch and “living classroom” right in the school’s main lobby, offering real-world training to students who work alongside the branch manager. Columbia has also assisted in the development of curriculum by playing a major role in the program advisory council. The partnership opens up a wide variety of career paths in finance, investment banking/financial planning and insurance. Columbia Bank offers comprehensive employment training to Academy of Finance students in the summer months, and many students continue working at the bank while in college.

Salem County Vocational-Technical Schools, Woodstown

Academy for Energy Applications

Business Partner: PSEG Nuclear

College Partner: Salem Community College

Students learn the engineering of power generation and apply the principles of chemistry and physics in their study of traditional and alternate energy, along with plant operations from machinery to system design. PSEG, the lead business partner for the academy, developed the curriculum based on the principles and skill competencies taught in their own corporate training program. Atlantic City Electric and South Jersey Gas assisted with the initial development and implementation. The academy was created in tandem with Salem Community College's associate's degree in Nuclear Energy Technology,

and students who take dual credit classes in Electrical Science, Industrial Maintenance, and other areas can earn 27 college credits at no cost.

Somerset County Vocational-Technical School, Bridgewater

Academy for Health and Medical Sciences

College Partner: Raritan Valley Community College

The Academy for Health and Medical Sciences provides talented students who want to focus on the health sciences the opportunity to earn both a New Jersey high school diploma and an Associate's Degree in General Science from Raritan Valley Community College as part of their high school experience. Students take an intensive four-year sequence of honors courses, with most of the science, upper level-math and upper level humanities courses being offered at the collegiate level for dual credit. All of the program graduates have continued their studies at a four-year college or university, with some students accepted into prestigious, accelerated BS/MD programs.

Union County Vocational Technical Schools, Scotch Plains

Academy of Information Technology

Business Partner: Novo Nordisk

College Partner: NJIT

This small career academy is focused on information technology and business. In addition to a rigorous academic program, students can earn certifications in Microsoft Office, CompTIA A+, Oracle Database and Sun Java Programming while still in high school. They can also earn up to 35 credits from NJIT. There are numerous other career programs in four additional schools at this location including Academy for Health and Medical Sciences, Magnet High School for Math, Science and Technology, construction trades, design, and exercise physiology.

Warren County Technical School, Washington

Automotive Technology

Business Partners: Rossi Chevrolet and Smith Motors

College Partner: Warren County Community College's

Both automotive dealerships are active advisory board members for Warren Tech's high school program, as well as the Warren County Community College's automotive program, which uses the school's facilities and teachers in the evening. Both business partners were instrumental in getting the new college program started. The partnerships with the automobile dealerships enable high school and college automotive students to shadow their employees and they have hired several of graduates over the years.